



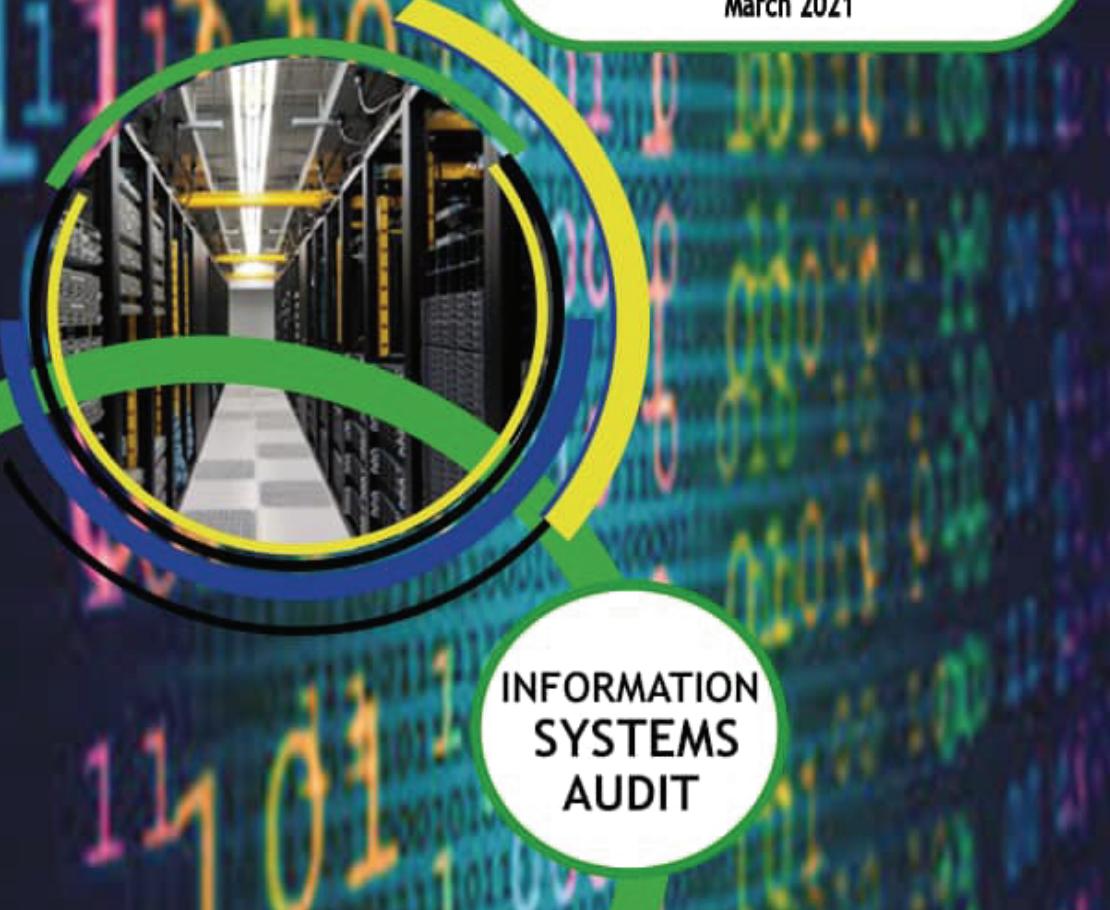
THE UNITED REPUBLIC OF TANZANIA



## NATIONAL AUDIT OFFICE

ANNUAL GENERAL REPORT OF THE  
CONTROLLER AND AUDITOR GENERAL FOR  
THE FINANCIAL YEAR 2019/20

March 2021



INFORMATION  
SYSTEMS  
AUDIT





UNITED REPUBLIC OF TANZANIA  
NATIONAL AUDIT OFFICE



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Ref.No. FA 27/249/01/2019/20

28 March 2021

Your Excellency, Hon. Samia Suluhu Hassan,  
The President of the United Republic of Tanzania,  
State House, P.O. Box 1102,  
1 Julius Nyerere Road,  
Chamwino,  
**40400 DODOMA.**

Your Excellency,

**RE: Submission of Annual General Report of the Controller and Auditor General on the Audit of Information Systems for the year ended 30<sup>th</sup> June 2020**

Pursuant to Article 143(4) of the Constitution of the United Republic of Tanzania of 1977 (as amended from time to time) and Sec. 34 (1) (c) of the Public Audit Act No. 11 of 2008, I hereby submit to you my Annual General Report on audit of information systems for the year ended 30<sup>th</sup> June 2020.

I submit.

Charles E. Kichere  
Controller and Auditor General  
Dodoma, United Republic of Tanzania.



## **Mandate**

The statutory mandate and responsibilities of the Controller and Auditor General are provided for under Article 143 of the Constitution of the URT of 1977 (as amended from time to time) and in Section 10 (1) of the Public Audit Act, 2008.

## **Vision**

To be a highly regarded Institution that excels in Public Sector Auditing.

## **Mission**

To provide high quality audit services that improves public sector performance, accountability, and transparency in the management of public resources.

## **Core values**

In providing quality services NAO is guided by the following Core Values:

<b>Objectivity</b>	We are an impartial organization, offering services to our clients in an objective and unbiased manner.
<b>Excellence</b>	We are professionals providing high quality audit services based on standards and best practices.
<b>Integrity</b>	We observe and maintain high standards of ethical behaviour, rule of law and strong sense of purpose.
<b>People focus</b>	We value, respect and recognize interest of our stakeholders.
<b>Innovation</b>	We are a learning and creative public institution that promotes value added ideas within and outside the institution.
<b>Results Oriented</b>	We are an organization that focuses on achievement based on performance targets.
<b>Teamwork spirit</b>	We work together as a team, interact professionally, and share knowledge, ideas and experiences.

## **We do this by: -**

- ✓ Contributing to better stewardship of public funds by ensuring that our clients are accountable for the resources entrusted to them;
- ✓ Helping to improve the quality of public services by supporting innovation on the use of public resources;
- ✓ Providing technical advice to our clients on operational gaps in their operating systems;
- ✓ Systematically involve our clients in the audit process and audit cycles; and
- ✓ Providing audit staff with adequate working tools and facilities that promote independence.

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## ABREVIATIONS

AFDB	African Development Bank
AFROSAI-E	African Organization of Supreme Audit Institutions of English-Speaking Countries
AICC	Arusha International Conference Centre
API	Application Programme Interface
AQRB	Architects and Quantity Surveyors Registration Board
ARIS	Academic Registration Information System
ARUWASA	Arusha Urban Water Supply and Sanitation Authority
ASC	Annual School Census
BAKITA	Baraza la Kiswahili Tanzania
BCP	Business Continuity Plan
BRELA	Business Registrations and Licensing Agency
CAG	Controller and Auditor General
CAWM	College of African Wildlife Management
CBMS	Central Budget Management System
CDTF	Cotton Development Trust Fund
CFC	Center for Foreign Relations
CFR	Centre for Foreign Relations
CMT	Change Management Team
CMVRS	Car and Motor Vehicles Registration System
COASCO	Co-operative Audit and Supervision Corporation
COBIT	Control Objectives for Information and Related Technologies
CPB	Cereals and Other Produce Board of Tanzania
DAWASA	Dar es Salaam Water and Sewerage Authority
DDCC	Destination Digital Command Centre
DFID	Department for International Development
DICT	Directory of Information and Communication Technology
DIT	Dar es Salaam Institute of Technology
DLS	Driving License Validation
DMI	Dar es salaam Maritime Institute
DNS	Domain Name System
DROMAS	Development of District Roads Management System
DRP	Disaster Recovery Plan
DUWASA	Dodoma Urban Water Supply and Sanitation Authority
EA	Enterprise Architecture
ECTS	Electronic Cargo Transit System
EFDMS	Electronic Financial Data Management System
eGA	e-Government Authority

EPZA	Export Processing Zones Authority
ERMS	Electronic Resource Management System
ERP	Enterprise Resource Planning
ETDCO	Electrical Transmission and Distribution Construction and Maintenance Company
EWURA	Energy and Water Utilities Regulatory Authority
FCC	Fair Competition Commission
FFARS	Facility Financial Accounting and Reporting System
FY	Financial Year
GARI-ITS	Government Audit Recommendation Implementation Information Tracking System
GCC	General Conditions of Contract
GePG	Government e-Payment Gateway
GFS	Government Finance Statistics
GIZ	Germany Development Fund
GL	General Lager
GLICA	Gaming Licensing, Inspection and Compliance Applications
GoTHOMIS	Government of Tanzania Health Operations Management Information System
GPSA	Government Procurement Services Agency
GREMS	Gaming Regulatory Electronic Monitoring System
IAE	Institute of Adult Education
ICT	Information Communication Technology
ID	Identification
IFMS	Integrated Financial Management Systems
ILMIS	Integrated Land Management Information System
IMEI	International Mobile Equipment Identity
INTOSAI	International Organization of Supreme Audit Institutions
IPSAS	International Public Sector Accounting Standards
IRUWASA	Iringa Water Supply and Sanitation Authority
ISACA	Information Systems Audit and Control Association
ISO/IEC	International Organization for Standardization/ International Electrotechnical Commission
IT	Information Technology
ITIL	Information Technology Infrastructure Library
KADCO	Kilimanjaro Airport Development Company Limited
KASHWASA	Kahama Shinyanga Water Supply and Sanitation Authority
LAAC	Local Authority Accounts Committee
LAN	Local Area Network
LGA	Local Government Authorities

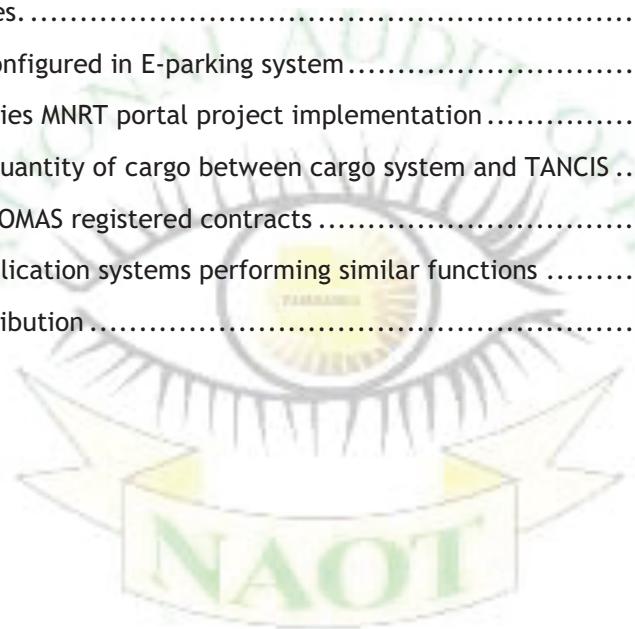
LGRCIS	Local Government Revenue Collection System
LPO	Local Purchase Order
MIS	Management Information System
MJNUAT	Mwalimu Julius Nyerere University of Agriculture and Technology
MLHHS	Ministry of Land Housing and Human Settlement
MNMA	Mwalimu Nyerere Memorial Academy
MNRT	Ministry of Natural Resources and Tourism
MoCU	Moshi Co-operative University
MoFP	Ministry of Finance and Planning
MOLIS	Ministry of Lands Information System
MSCL	Marine Services Company Ltd
MSD	Medical Stores Department
MU	Mzumbe University
MUHAS	Muhimbili University Of Health And Allied Sciences
MUSE	Mfumo wa Ulipaji Serikalini
MUST	Mbeya University of Science and Technology
NACTE	National Council for Technical Education
NAOT	National Audit Office of Tanzania
NBAA	National Board of Accountants and Auditors
NBS	National Bureau of Statistics
NCAA	Ngorongoro Conservation Area Authority
NECTA	National Examination Council of Tanzania
NEMC	National Environment Management Council
NHC	National Housing Corporation
NICTP	National ICT Policy
NIDA	National Identification Authority
NIMR	National Institute for Medical Research
NLIC	National Land Information Centre
NMT	National Museum of Tanzania
NSDI	National Spatial Data Infrastructure
NTRS	Non-Tax Revenue System
OAS	Online Application System
OLA	Operation Level Agreement
ORS	Online Registration System
OSIM	Online Students Information Management system
PAC	Public Accounts Committee
PLANREP	Planning and Reporting System
POAS	Port Operation Application System
PO-PSMGG	President's Office, Public Service Management and Good Governance

PO-RALG	President's Office - Regional Administration and Local Government
POS	Point-of-Sale
PPRA	Public Procurement Regulatory Authority
PRMS	Property Rate Management System
PSPTB	Procurement and Supplies Professionals and Technicians Board
PSSF	Public Service Social Security Fund
QUALIMIS	Quality Information Management System
RAS	Regional Administrative Secretariat
RDP	Remote Desktop Protocol
RGS	Revenue Gateway System
RPO	Recovery Point Objective
RTO	Recovery Time Objective
SARIS	Student Academic and Registration Information System
SBM	Shipping Business Management
SBMS	Shipping Business Management System
SLA	Service Level Agreement
SNAO	Swedish National Audit Office
SoD	Segregation of Duties
SOUWASA	Songea Urban Water Supply and Sanitation Authority
SRS	System Requirements Specification
SUA	Sokoine University of Agriculture
SUV	Sport Utility Vehicle
SUWASA	Singida Urban Water Supply and Sanitation Authority
TAE	Technical Assistance to Exporters
TALA	Tanzanian Tour Companies with Tourism Licence
TANAPA	Tanzania National Parks Authority
TANCIS	Tanzania Customs Integrated System
TANePS	Tanzania National electronic Procurement System
TANESCO	Tanzania Electric Supply Company
TARURA	Tanzania Rural and Urban Roads Agency
TASAC	Tanzania Shipping Agencies Corporations
TAWA	Tanzania Wildlife Management Authority
TAWIRI	Tanzania Wildlife Research Institute
TBC	Tanzania Broadcasting Corporation
TBS	Tanzania Bureau of Standards
TCB	Tanzania Coffee Board
TFDA	Tanzania Food and Drugs Authority
TFS	Tanzania Forest Service
TGDC	Tanzania Geothermal Development Corporation

TICTS	Tanzania International Container Terminal Services
TIE	Tanzania Institute of Education
TIN	Taxpayer Identification Number
TIRA-MIS	Tanzania Insurance Regulatory Authority - Management Information System
TMA	Tanzania Meteorological Agency
TOS	Terminal Operations System
TPA	Tanzania Ports Authority
TPA/OSC	Tanzania Ports Authority/One Stop Centre
TRA	Tanzania Revenue Authority
TRIS	TARURA Revenue Information System
TTB	Tanzania Tourist Board
TZS	Tanzanian Shilling
UNSPSC	United Nations Standard Products and Services Code
URT	United Republic of Tanzania
USAID	United States Agency for International Development
USD	United States Dollar
VAT	Value Added Tax
VLAN	Virtual Local Area Network
WB	World Bank

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## PREFACE



This Annual General Report for information systems is a summary of results on the audits of information systems for the year ended 30<sup>th</sup> June 2020. The annual general report was prepared and submitted to the President of the URT in accordance with Article 143 of the Constitution of the URT of 1977 (as amended from

time to time) and Sect. 34(1) & (2) of the Public Audit Act No. 11 of 2008. It contains a summary of the main findings that were issued in detailed management letters and audit reports to the managements of MDAs, LGAs and PAs. It is my expectation that the report would assist the Government of URT to rectify identified challenges in adoption of ICT and implementation of ICT initiatives.

Pursuant to Article 143(2)(c) & (4) of the Constitution of the URT of 1977 (as amended from time to time) the Controller and Auditor General is required to audit at least once a year and submit to the President of the URT every report he makes that is later tabled to the Parliament. Operational independence of the NAOT has improved following the enactment of the Public Audit Act No.11 of 2008 and the Public Audit Regulations of 2009. However, there is a need of improvement for working resources in order to effectively discharge my constitutional mandate and obligations.

I hope that the Government, Parliament, Development Partners and the Public in general will find this report useful in knowing how ICT initiatives are managed by the Accounting Officers. In this regard, I will appreciate to receive feedback and comments from audited entities within 21 days of issuance and receipt of the reports for future improvement.

A handwritten signature in black ink, appearing to read "Charles E. Kichere".

Charles E. Kichere

**The Controller and Auditor General,  
Dodoma, United Republic of Tanzania.**

**March 2021**

## **ACKNOWLEDGEMENTS**

I appreciate the support given to my office by the key stakeholders that enabled us to carry out our constitutional obligation; they include the Parliamentary Committees such as Budget Committee, Public Accounts Committee (PAC), and Local Authority Accounts Committee (LAAC). I also appreciate the support from Paymaster General, Accounting Officers in respect of MDAs, Local Government Authorities (LGAs) and Public Authorities (PAs) who oversee ICT initiatives.

My sincere appreciation goes to all NAOT staff for their dedicated hardworking and due diligence to accomplish this constitutional commitment. It is my hope that they will continue to provide efficient and effective audit services in order to enhance transparency and accountability in the collection and use of public resources.

I would like to extend my special appreciation to the development partners particularly the National Audit Office of Sweden (SNAO), World Bank (WB), African Development Bank (AFDB), Germany Development Fund (GIZ), Department for International Development (DFID), USAID and all other well-wishers who contributed their funds for capacity building and working resources towards modernization of audit functions.

Lastly, I would like to thank the Printer for expeditiously printing this report.

## **EXECUTIVE SUMMARY**

The Government of the United Republic of Tanzania recognizes that effective use of information and knowledge is a critical factor for rapid socio-economic growth, in its aspiration to become a middle-income country by 2025. This is evident by various ICT initiatives taken by Government entities to improve operation efficiency in cost effective manner in achieving their strategic objectives. However, not all such initiatives have been effectively managed and coordinated to ensure return on investment and value delivery.

The report provides a summary of main findings derived from information systems audits of 64 individual audits in which 59 audits were conducted as part of financial audits, and five audits were conducted as separate information systems audits and their reports were issued to the respective Accounting Officers. The audits aimed at ascertaining the level of compliance with the applicable e-Government laws, policies, standards and guidelines to ensure value delivery of ICT initiatives through strategic alignment, effective risk management and internal controls. The conducted audits also evaluated the reliability of information from IT application systems which have an impact on the financial statements of the audited government institutions; assessed efficiencies in the use and management of application systems; and assessed applications' resilience to ensure availability, data integrity, and confidentiality. The following are the main findings from the audits conducted.

### **1. Application systems control weaknesses.**

#### **(a) Accounting system MUSE**

In the financial year 2019/20 I assessed effectiveness of application controls of the MUSE accounting system which is a newly developed accounting system used by government entities to replace the former government financial management system IFMS Epicor. In my review I noted the following control weaknesses:

##### **Inappropriate configuration of system Imprest Management:**

The issued and unretired imprests are recorded and reported as receivables before the posting of voucher and payment process is completed. This practice creates ghost debtors and mislead preparation of financial statement.

### **Inappropriate recording of System ledgers for prepayment transactions:**

prepayment process cycle does not record some of sub ledgers account in the system. I noted that, when processing prepayments, the system only records transaction ledgers during the final stage of prepayments (processing payments) which is debiting expenditure items and crediting bank accounts/cashbook ignoring capturing of Accounts receivables ledgers (advanced transaction) at initial stages of prepayments transaction cycle. This practice creates ghost assets and mislead preparation of financial statement.

### **Inadequate controls over the use of system Control Accounts (Suspense Accounts and Clearing Accounts):**

My review of transactions and balances of the system's control accounts noted that, the system allows users to pass transactions including adjustments through controls accounts outside regular procedures and noted, existence of suspense and clearing control accounts with outstanding balances. Normally, control accounts such as clearing accounts and suspense accounts are used for temporary recording of transactions before they are posted to permanent accounts (ledger accounts). Such control accounts should be "zeroed out" at the end of the accounting period, otherwise in case there are balances in such ledgers, they should be supported and disclosed in the face of financial statements. However, my review of financial statements noted balances in the control accounts which were not disclosed.

### **System Users (Accountants) unable to preview the accounts (Ledgers Accounts)**

I noted that, despite the system setup in the back-end is configured to ensure transactional completeness by effecting required ledger accounts , the front end users do not have access to preview the debited or credited ledger accounts prior to posting of the transactions. This restricts data validation during data entry and can results into erroneous posted ledgers in the books of accounts as a results financial statements can be misstated.

### **MUSE Functionality gaps leading non-compliance with IPSAS Standards**

I noted that, the current commitment control setup restricts a transaction to go through and being affected in the books of accounts unless there is a fund balance to the respective line item. This setup assumes cash basis

accounting practice and prevents capturing and recording of accounts creditors contrary to IPSAS 1 para 7 which requires recognition of expenditure when incurred and not only when cash available and paid.

(b) **Other application systems**

**Lack of aging analysis for debtors and creditors in accounting systems**

I reviewed Votebook accounting system at NHC and noted that the system lacks accounts payable aging analysis which illustrates accuracy and completeness of payable balances reported in financial statement.

I also, reviewed Sage AccPac accounting system at MNMA and note that the account package could not generate student debtors ageing schedule which facilitates monitoring and control over collection of student debtors to assess the recoverability of accounts receivable. Further, I noted that the system reported summarized transactions from the general ledger which do not add up to balances reported in the trial balance.

**Procurement systems.**

In 2018 the URT Government through PPRA rolled out the Unified e-Procurement System, Tanzania Electronic Procurement System (TANePS). My review of the system and its operation noted the following weaknesses

PPRA lack capacity and roadmap to take over the system since they have not received the intellectual property rights of the system and ownership of source codes thus PPRA cannot implement changes to the system without involvement of supplier. Also, PPRA has no access to TANePS server and database, therefore, monitoring and detection of the unauthorized activities are performed by vendor at server and database levels. Further the technical staff of the PPRA have not been trained on the system yet.

The system lacks dashboard as a real-time monitoring tool; hence there are no adequate controls that can be used to validate Products and Services Code (UNSPSC), to check procurement approvals, estimated contract against the procurement methods and threshold specified in the Annual Procurement Plan (APP). Further, the system lacks automatic alignment between tendering technique and the number of tendering stages. Furthermore, the system allows procuring entity to perform some tendering steps offline.

### **Budget systems.**

In the financial 2019/20, I assessed effectiveness of application controls of two budget application systems, namely Budget portal used by NCAA and Central Budget Management System (CBMS) used by MDAs and managed by the Ministry of Finance and Planning and noted that there is lack of control in restricting budget above ceiling, absence of budget approval by the accounting officer in the system as well as lack of authorization of reallocation within the system and failure of budget commitment controls.

### **Local Government Revenue Collections Information System (LGRCIS)**

LGRCIS lack automatic calculation of service levy, building permit fee and penalties in the system; failure of the system to generate correct unbanked figures, Mismatch of business license duration between LGRCIS and business license regulations; failure of the system to retain transaction history for lost and defective POS devices; ICT officers use reset credentials of revenue accountants and use them to pass adjustments, adjustments initiated and approved by the same person; Manipulation of POS device date by revenue collectors to hide collections from the report and Revenue collectors with more than one payer identification number.

### **Government of Tanzania Hospitals Management Information Systems (GoTHOMIS)**

My review of GoTHOMIS general controls noted the following concerns: Non-integrated of system with GePG; leading to, payments for health facilities to be collected manually; backup copies of the system database are stored in the office of medical officers; non configuration of database audit logs; computer hosting the system being located at unrestricted areas, such as at the reception; and unrestricted access to the system's server.

### **Safari Portal**

During the audit of Ngorongoro Conservation Area Authority (NCAA), I reviewed safari portal an application used by the Authority in revenue collection and noted that the systems allows re-activation of permits without authorization; lack of automatic TALA license verification whereby 411 tour operators had invalid TALA licenses, Inadequate tare weight validation; non verification of local registered vehicle in determining vehicle fees; and non-review and approval of the reasons given to the exited permits without being charged.

## **ITAX, Electronic Cargo Tracking System (ETCS), and Non-Tax Revenue System (NTRS)**

My review of tax application systems at TRA covered ITAX, Electronic Cargo Tracking System (ECTS) and Non-Tax Revenue System (NTRS) noted the following weakness; incorrect configuration of rules for recognition of accrued revenue to generate IPSAS receivable reports in ITAX. I also noted tax receivable figures without corresponding debit number which signifies that such amount was not generated from the system.

ECTS lack alerts categories for information and actionable for easy handling of bulk; non review of alerts to establish accountability of third parties such as drivers and tracking devices vendors who have contractual obligations.

On NTRS I noted existence of taxpayer with multiple payer identification numbers hence resulted to unrealistic tax receivables; and existence of properties with zero or negative Principal besides rateable amount for all municipals in Dar es Salaam region being TZS 10,000 for normal , and TZS 50,000 for each storey.

## **Land Management Information Systems**

I assessed the effectiveness of application controls of land management information systems at Ministry of Land Housing and Human Settlement (MLHHS) and noted there is linkage between spatial and non-spatial data in MOLIS and MOLIS v3 application systems; inadequate controls in verification of past payment; lack of segregation of duties for lot management; and handling of land related claims /queries outside of the system.

## **Ministry of Natural Resources and Tourism - MNRT Portal**

I reviewed MNRT portal at Ministry of Natural Resources and Tourism and noted check in and out of permits at gates of National Parks is not properly monitored this poses a risk of revenue loss in case of overstay in the Park and create a loophole for being utilized again without payment. I also, noted 12 visitors utilized service for free and 21 pairs of applications sharing permit number which implies one permit was issued without payment. I further noted that the system lack functionality for verifying overstayed permits were exited without being charged. Furthermore, I noted absence of electronic means for effective management of manual check-in and out in case of system unavailability; and the system generate multiple control numbers per services provided to the same customer.

## **TPA-Terminal Operating System**

TOS application system is application software used by TPA to manage port operations for international vessels importing and exporting cargo. My assessment of controls of the system noted that the number of days a cargo has been in storage is not automatically calculated by the system instead it is determined manually, which is subjected to human errors and misstatement, difference between actual date of arrival and departure of vessel for calculation of port charges is calculated manually during creation of final invoice. Similarly, dhow wharf and Lighter Quay billing is not automated; the information is entered manually. Also, some of the cargoes do not have details of destination country which makes it difficult to identify number of days for free storage.

## **TBS- Online Application System**

I reviewed Online Application System (OAS) that enable TBS customers to submit applications online for destination Inspection, PVoC, Conditional Release, Premise Registration, Product Registration and Technical Assistance to Exporters (TAE). My review revealed that system does not have control to prevent sample from being tested before payment, the system is not designed to automatically prevent application from going to the stage of receiving sample in case payment of fee has not been done. I also noted that calculation of fees is done manually outside the system which is subjected to human errors and intentional mistakes.

## **2. Implementation of Government Financial Management Systems**

My assessment on the implementation of government financial management systems revealed unclear directives on implementation of government financial management systems whereby there is contradiction on which financial management system government entities can opt between MUSE and ERMS application systems. Both applications are authorised to be used in the Government.

## **3. Cyber security controls.**

My review of cyber security controls in government entities noted the occurrence of Ransomware attacks incidents in three entities. The malware encrypted system and user files in application servers and resulted to loss of data and downtime of systems. I also, noted that the Government entities are not conducting information security awareness trainings to their staff.

Information security awareness trainings is vital for raising staff awareness on cyber-security issues and can help to protect institutions against cyber-attacks, as humans are the weakest link and often tend to be entry point of such attacks. Further, my review noted that some entities do not have information security officers.

#### **4. Application Systems Acquisition, Development, and Maintenance.**

I reviewed application systems acquisition, development, and maintenance process in public institutions to assess compliance with e-Government Guidelines for Development, Acquisition, Operation and Maintenance of e-Government Applications and noted delays in completion of major strategic ICT acquisitions. I have noted that the delays are caused by funding issues and inadequate project management; lack of adequate project documentations; failure to track costs of development which constitute value of the application system; and lack of coordination in managing acquisition and development.

I also noted concerns in level of integration between government major application systems, such as electronic procurement system (TANePS) with government accounting MUSE, budgeting systems CBMS, and Planrep.; underutilization of application systems; existence of duplicate application systems performing same or similar functions; and incomplete automation some core and supporting functions

#### **5. Information Technology General Controls.**

My assessment of IT general controls noted concerns in alignment of ICT with organization's strategic goals; effective resources management; business continuity and disaster recovery plans; violation of segregation of duties for ICT functions; application systems change management controls; ineffective management of ICT third parties/vendors; and inadequate ICT service delivery and incidents management.

I also noted weaknesses on the management of ICT governance and management assessment i.e., on the strategic planning and policies formulated; ICT organisation and reporting structure; formation and operationalisation of ICT steering committees; and ICT Risk governance and management.

Whereas, in business continuity and disaster recovery plan I noted the lack Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP); lack of

adequate training to BCP and DRP teams; lack of BCP and DRP periodic tests and regular review and update thereof; absence of offsite location for backup data and lack of documentation of data backup and recovery procedures.

I also assessed effectiveness of application change management controls and noted lack documented application systems change management procedures; noncompliance with application change management procedures or policy; and nonseparation of development, test, and production environment.

## **6. Management of ICT service providers, ICT service delivery and incident management**

I reviewed management of ICT service providers, ICT service delivery and incident management and noted some entities that do not have Service Level Agreement (SLA) with service providers; lack of or ineffective ICT incident handling procedures; and lack of Operational Level Agreement (OLA) between ICT department and management or business users. OLA establishes benchmark for measuring ICT service delivery such as infrastructure performance, timely end user support and systems availability.

## CHAPTER ONE

### BACKGROUND INFORMATION

#### 1.0 INTRODUCTION

Government entities have been increasingly utilizing ICT in their operations in recognition of the remarkable benefits that it brings in achieving strategic objectives timely and in cost effective manner. This attributes to increasing dependence on ICT and introduction of new risks that need to be effectively managed. Therefore, it raises a need for auditing controls associated with ICT initiatives in place and management of ICT operations to ensure continuity, reliability and security. An Information Technology (IT) audit is the assessment of effectiveness of organization's ICT governance, controls of application systems, general controls surrounding application systems and controls related to security of information being processed.

My audits of information systems in Government institutions for the financial year ended 30<sup>th</sup> June 2020 had the following objectives.

- Ascertaining the level of compliance with the applicable e-Government laws, policies, standards and guidelines to ensure value delivery of ICT initiatives through strategic alignment, effective risk management and internal controls;
- Evaluating the reliability of information from IT application systems which have an impact on the financial statements of the organizations;
- Checking if there are instances of inefficiencies in the use and management of application systems; and
- Obtain assurance on whether the application systems are secure to ensure availability, data integrity and confidentiality.

This general report provides a summary of main findings derived from 64 individual audits conducted whose audit reports have been issued to the audited entities.

## **1.1 Audit Mandate and Responsibilities of the Controller and Auditor General**

I am required by Section 10 of the Public Audit Act No. 11 of 2008, among others, to satisfy myself on whether collection of public monies safeguard public interest, and that all expenditure of public monies has been properly authorized and applied to the purposes for which they were appropriated and that the laws, directions and instructions applicable thereto have been duly observed; and economy, efficiency and effectiveness have been achieved on the use of public resources.

My responsibility is to evaluate ICT controls to determine whether they are working efficiently and effectively and provide reliable information to users and properly managed to achieve their intended benefits.

I am required by Section 10 (2) of the Public Audit Act No. 11 of 2008 to satisfy myself that:

- Accounts have been prepared in accordance with the appropriate accounting standards and legal framework;
- Reasonable precautions have been taken to safeguard the collection of revenue, receipt, custody, disposal, issue and proper use of public property; and
- Law, directives and instructions applicable thereto have been duly observed and expenditures of public money have been properly authorized.

## **1.2 Scope and Applicable Audit Standards**

### **1.2.1 Scope of Audit**

The conducted audits covered the evaluation of the application controls, ICT governance, ICT project management, ICT risk management, ICT general controls and other audit procedures considered necessary in arriving at an audit conclusion. The audits were carried out based on risk, therefore the audit findings are

confined to the extent that records, documents and information that were made available to me for audit purposes.

#### **1.2.2 Applicable Auditing Standards**

NAOT is a member of the International Organization of Supreme Audit Institutions (INTOSAI) and the African Organization of Supreme Audit Institutions of English-Speaking Countries (AFROSAI-E).

In conducting my audit, I complied with ethical requirements of planning and performing of the audit to obtain reasonable assurance on whether the information systems controls are adequate and effective. In this regard my audits were in accordance to AFROSAI-E Information Technology Audit Guideline - 2017, National ICT Policy: 2016, e-Government act No. 10 of 2019, Tanzania e-Government standards and guidelines, ISACA standards, COBIT 5, and ISO/IEC 27002: 2013 an international standard for Information technology security techniques.

#### **1.3 Organization of the Report**

This general report is structured into nine chapters as follows: Chapter one is an introduction covering audit mandate rationale of the audit, responsibilities of the Controller and Auditor General, scope and applicable audit standards; Chapter two presents implementation status of prior year's audit recommendations; Chapter three covers assessment of effectiveness of application control for accounting systems and revenue application systems; Chapter four covers review of implementation of government financial management systems; Chapter five covers cyber security controls ; chapter six covers review of acquisition and development of information systems; chapter seven covers assessment of potential application system integration and harmonization while chapter eight covers IT general controls. General conclusion and recommendations are presented in Chapter nine.

## CHAPTER TWO

### 2.0 IMPLEMENTATION OF PRIOR YEAR AUDIT RECOMMENDATION

This chapter summarizes implementation status and actions taken by accounting officers towards my audit recommendations issued in previous years' Annual Audit reports per Section 40 (4) of the Public Audit Act No.11 of 2008.

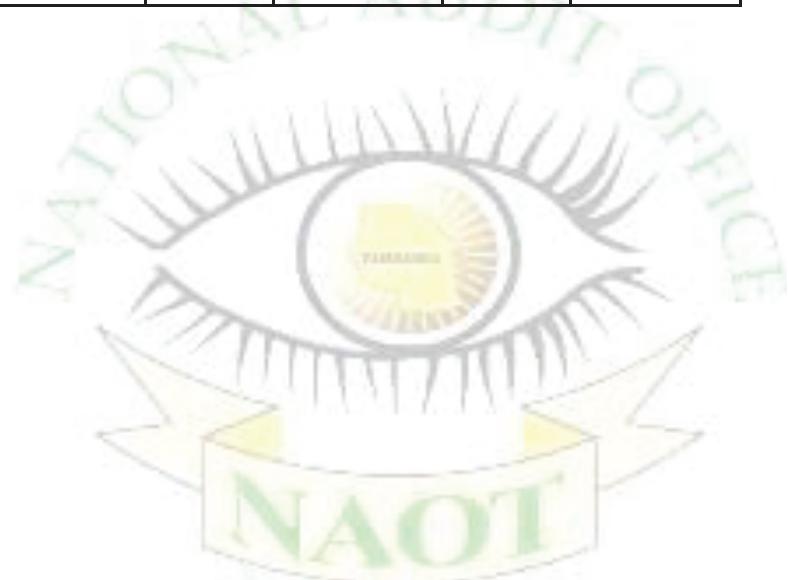
For the financial year 2018/19 a total of 187 recommendations were issued to 49 entities. Analysis of implementation status on the issued recommendations shows that 38.3 percent were implemented compared to 21 percent in 2017/18; 59.6 percent were not implemented compared to 78 percent in 2017/18; and 2.1 percent were overtaken by event compared to 1 percent in 2017/18. This indicates that there is a slight improvement in the implementation of CAG recommendations. Nevertheless, the overall Implementation status is not satisfactory owing to the inadequate management follow-up to address the outstanding audit recommendations.

**Table 1: Description of implementation status**

Status	Explanation
Implemented	When the audited entity provides sufficient and appropriate evidence of implementation of all elements of the recommendations.
Not Implemented	When the audited entity provides evidence, which does not support the meaningful movement towards the implementation of a recommendation or no evidence is provided where implementation might take time, and it is in progress, but there is nothing that can be measured
Overtaken by event	When the recommendation made has been taken over by other circumstances which are likely to make the recommendation irrelevant or has less impact at that time

**Table 2: Summary of the implementation status of prior years' recommendations**

Recommendation status	2017/18		2018/19	
	Number	Percentage	Number	Percentage
Implemented	16	21	72	38.3
Not Implemented	60	78	112	59.6
Overtaken by event	1	1	4	2.1



## CHAPTER THREE

### 3.0 INFORMATION SYSTEMS APPLICATION CONTROLS

During the financial year 2019/20, I assessed effectiveness of controls in application systems that manage business operations in selected government entities. The assessment covered accounting, budgeting, procurement and revenue collection application systems. In my assessment, I noted control weaknesses associated with controls in accounting, procurement, budgeting and revenue. The identified weaknesses are relating to noncompliance with relevant laws, regulations and standard operating procedures, loss of revenue and potential misstatement in the financial statements of respective entity.

#### 3.1 CONTROL WEAKNESSES OF ACCOUNTING SYSTEMS

##### 3.1.1 Application control weaknesses of MUSE accounting system

In the financial year 2019/20 I assessed effectiveness of application controls of the MUSE accounting system which is a newly developed accounting system used by government entities to replace the former government financial management system IFMS Epicor. In my review I noted the following control weaknesses:

###### a) Inappropriate configuration of system Imprest Management

During my system review I noted inappropriate configuration of system Imprest Management whereby issued and unretired imprests are recorded and reported prior the posting of voucher and payment process is completed. My review of issued and unretired imprest report noted that the report includes imprest whose payment vouchers have not been processed. Moreover, the system does not have all ledgers to accommodate the imprest cycle during imprest issuing, issuing payment vouchers, final payments and retirement. It was not clear shown which accounts/ ledgers where being affected at each stage of imprest management process.

I am concern that reports are showing record of imprest receivables while in actual sense no payment has been done to a

person and this situation lead to misleading reports (management reports and financial statements).

**I recommend Ministry of Finance and planning to enhance the system such that imprest are not recognized and reported as issued until completion of payment process**

**b) Inappropriate recording of System ledgers for prepayment transactions**

My review of the MUSE accounting system revealed that prepayment process cycle does not record some of sub ledgers account in the system. It was noted that, when processing prepayments, MUSE only records transaction ledgers during the final stage of prepayments (processing payments) which is debiting expenditure items and crediting bank accounts/cashbook ignoring capturing of Accounts receivables ledgers (advanced transaction) at initial stages of prepayments transaction cycle. My further review to confirm if ledgers which are supposed to be affected at initial stage were affected noted that the system does not mechanism to demonstrate. Also, my review of reports found that, the reports were showing there are prepayments records (Assets) while in reality (Actual practice) no payment were made (Advanced). This becomes difficult to establish when receivables shall be recognized and settling of obligation by the other part shall be recognized.

I am of the view that lack of proper records of accounting transactions in the system can attribute to misstatement in the financial statements.

**I recommend Ministry of Finance and Planning to**

- (a) Investigate whether all accounts/ledgers and their balances have been captured for prepayments; and**
- (b) Configure the system to support proper posting of all ledgers in the system for prepayment.**

**c) MUSE Functionality gaps leading non-compliance with IPSAS Standards**

Tanzania adopted International Public-Sector Accounting Standards from 1 July, 2004, for local, central governments and Public authorities. The move was underpinned by the adoption of International Standards on Auditing by the National Board of Accountants and Auditors (NBAA). All reporting entities in the public sector have to apply IPSAS-based accrual accounting.

During the review of the MUSE system which is currently in use I noted that the system is not used to record accurately Accounts payable liabilities. The current commitment control setup checks availability of Budget balances and Fund Balances to line items before allowing transaction to go through. The commitment control requires the availability of budget balances and Fund Balances to line items before it allows transaction to be effected. This practice is contrary to IPSAS which requires recognition of expenditure when incurred and not when cash is paid.

I recommend Ministry of Finance and planning to enhance MUSE to facilitate proper recording and reporting of IPSAS compliant accrual transactions.

**d) Inadequate controls over the use of system Control Accounts (Suspense Accounts and Clearing Accounts)**

Control Accounts are summary accounts in the general ledger. Their purpose is to keep the general ledger clean of any details. These accounts contain aggregated totals for transactions that are individually stored in subsidiary-level ledger accounts. Control accounts are most commonly used to summarize accounts receivable and accounts payable, since these components contain a large volume of transactions, and so need to be separated into subsidiary ledgers, rather than cluttering up the general ledger with too much detailed information.

The balance of control account should match the total for the related subsidiary ledger. Posting into all control accounts must be completed before the books can be closed at the end

of a reporting period; otherwise, transactions may be stranded in a subsidiary ledger. Examples of control accounts are Clearing Accounts and suspense accounts which are used to temporarily record transactions before they are posted to permanent accounts. Both suspense and clearing accounts are “zeroed out” periodically because such accounts are required to be closed at the end of the fiscal year.

My review of transactions and balances of the MUSE control accounts noted System allows users to pass transactions including adjustments through system controls accounts outside regular procedures and I noted outstanding balances of control accounts.

I am concerned that unauthorized transactions may be passed using control accounts and general ledger Journal entries without formal authorization leading to misstatement in the financial statements.

**I recommend Ministry of Finance and planning to**

- (a) Investigate all control accounts and their balances to ensure there were no unauthorized transactions passed during the period; and**
  - (b) Institute strict controls over control accounts and General Ledger journal entries in MUSE including limiting access to pass transactions.**
- e) Non-generation of financial statement within the system**

Review of the system noted that entities cannot prepare financial statements within the Muse system contrary to requirement under Public Finances Act No.6 of 2001 requiring financial statements to be prepared through systems.

In view of the large number of transactions committed by Entities through MUSE, it is obvious that the quality of financial reporting would be greatly enhanced through the use Muse system to generates final accounts reports

I am concern that without using system for preparation of financial statements, the records/statements are prone to errors, omission and can be easily manipulated leading to misstatement

**I recommend Ministry of Finance and planning to ensure MUSE generates financial statements for proper records and accurate reporting of financial statements**

**f) System Users (Accountants) unable to preview the accounts (Ledgers Accounts)**

During my system review I noted that, users of the system had no access to preview the accounts (Ledgers accounts affected) prior to posting the transactions. Further I noted most of accounts have been setup on the system background where user (Front office user) cannot be able to preview and see accounts or the line items ledgers which are affected in the books of accounts.

I am of the view that failure of users to see effected ledger accounts limits them from validating posting of transactions in the books of accounts which prepare Financial Statement. This will cause adjustments in the books of accounts and can mislead the preparation of financial statements.

**I recommend Ministry of finance and planning to enhance the system such that for every posting of transaction in the books of accounts user can preview or see ledger accounts which will be affected**

**3.1.2 Application control weaknesses of Votebook, Sage AccPac Accounting System, Sage Pastel Evolution, QuickBooks Accounting System, Front Accounting System, and Advance Accounting System.**

I also reviewed accounting systems of SUA, NHC, NECTA, MNMA, CDTF, ARUWSA and NCAA to assess effectiveness of controls for assurance of accuracy of financial statements, my review noted weaknesses related to absence of functionalities in the systems to generate financial reports, differences between general ledger and trial balance, ineffective management of assets, lack of segregation

of duties, excessive rights granted to users and user access limitation due to licensing concerns.

**a) Application control weaknesses of Votebook**

I have reviewed Votebook accounting system at NHC and noted lack of Accounts Payable Aging analysis, this analysis is important during preparation and reporting of financial statement as it illustrates accuracy and completeness of payable balances reported in financial statement. I have also noted concerns in segregation of duties, where I noted 9 out of 29 journal vouchers relating to sales of houses and plots worth TZS 796.69 million were prepared, reviewed, and approved by the same person in the accounting system.

On inquiry, I was informed by the management that the accounting system has no capacity to do payable age analysis, and manual age analysis that currently is being done is prone to errors.

I am of the view that this can lead to failure to identify and report corporate long outstanding payables. I am also of a view that inadequate segregation of duty in the system can lead to inappropriate authorisation of journal vouchers.

I also made a review on the same accounting system at SUA and noted existence of users with access rights of cashier were granted access for performing bank reconciliation, which violates principle of segregation of duties whereby cashier role and bank reconciliation should be separated. I also noted that ICT staff have been granted business roles such as Debt Management and LPO management which violates principle of least privilege whereby users should be granted access rights as per their responsibilities.

**I recommend**

**(a) The management of NHC to ensure that aging analysis is generated from the accounting system for accuracy and completeness of the balances reported on the financial statement;**

- (b) The management of NHC to ensure proper segregation of duties during the process of authorization of journal voucher in the accounting system; and
  - (c) The management of SUA to revoke access rights of identified users which violate segregation of duties and establish mechanisms to periodic review user access rights in application systems to ensure users have been granted access rights in accordance to their responsibilities.
- b) Application control weaknesses of Sage AccPac accounting system

In my review of Sage AccPac accounting system at MNMA, I noted the system could not generate student debtors ageing schedule which facilitates monitoring and control over collection of student debtors. Therefore, I was unable to easily assess the recoverability of accounts receivable. Moreover, during the review of general ledgers and the trial balance on sample basis, I noted that the accounting system produces general ledgers of account balances in summary form, whereby a number of transactions are summed up and reported as a single entry over a particular month or period, instead of individual detail entries. Casting of summarized transactions or entries from the general ledgers noted instances where the reported summarized transactions from the general ledger do not add up to balances reported in the trial balance as per column G in Table 3. However, my further review of detailed student debtors report from the Online Students Information Management system (OSIM) revealed that the total balance of students' debtors agrees with the total ending balance reported in the trial balance.

**Table 3: Difference between General Ledger and Trial Balance**

General Ledger: Code & name	Opening balance (TZS)	Total Summarized	Total Summarized Credits (TZS)	Ending balance of summarized transactions	Ending balance per trial balance from ACCPACC	Difference (TZS)
		Debits (TZS)				
	A	B	C	D	E	G (D - E)
655-Students debtors	1,681,468,903	10,255,227,400	7,056,678,403	4,880,017,900	1,961,754,875	2,918,263,025
322-Advertisement	-	74,380,660	-	74,380,660	96,857,600	22,477,000
418-Personnel emolument	-	8,597,173,548	-	8,597,173,548	8,644,708,905	47,535,357

*Source: Sage AccPac General Ledger and Trial balance*

I am concerned that these anomalies make managerial reports for monitoring and control over student debtors not readily available and general ledger balances are not accurate for decision making.

I recommend the management of MNMA to ensure the accounting systems generate ageing reports of student debtors and details of all transactions in each ledger.

c) Application control weaknesses of Sage Pastel Evolution accounting system.

My other review of Sage Pastel Evolution accounting system at NECTA revealed that there is no integration between the Accounting suite and the fixed asset module, the method used by the vendor is not adequate since it is still manual whereby the fixed asset module is installed separately from the accounting suite which contains GL resulting to manual transfer of asset values between the two modules. Also, security features such as password complexity, Account lockout and password expiry of the software were not set as per the best industrial standards. Moreover, the system version installed was 7.20.2.000 of 2016 which is outdated and not supported by vendor.

I am of the view that lack of automated integration between accounting suite and fixed asset module can result into human

errors that can lead to misstatement in financial statement. Also, the use of unsupported version of accounting system can lead to failure to resolve issues.

**I recommend the management of NECTA to configure the accounting system such that the fixed asset module is automatically integrated with Sage evolution Accounting Suite.**

**d) Application control weaknesses of QuickBooks accounting system**

Also, my review of QuickBooks accounting system at SOUWASA found that the system does not have control levels (maker-checker mechanism) on posting, review and approval of entries, as a result, when data entry is done by one person it goes direct to general ledger without being checked or approved by the senior official. I also noted that the accounting system window for receiving stock is open to all users instead of being restricted to stores personnel only. As a result, anyone accessing the stores window can receive stock without awareness of the store personnel. This control weakness on inventory has resulted to incidences where the store personnel find inventory already posted in the system without physically seeing the goods and delivery documents.

I did the same review at ARUWSA and observed that there was no segregation of duties in the accounting systems whereby one person can prepare post and reverse the same transaction. The accounting System has not been configured to prevent the same person to make an entry and reversal of the same entry without approval from a supervisor.

I am concerned that inadequate segregation of duties in accounting systems attribute to risk of material misstatement of the financial statements due to fraud and/or human errors with a possible manipulation of the financial reporting processes due to recording of unauthorized journal entries and adjustments in the system.

I recommend:

- (a) the management of SOUWASA to ensure that control levels are instituted in the QuickBooks accounting system to avoid errors and other irregularities while using the system. But also controls on receiving and issuing of inventory on the system are restricted to responsible personnel; and
  - (b) the management of ARUWASA to implement segregation of duties controls in the accounting system.
- e) Application controls weaknesses of Front Accounting System

Furthermore, in my review of Front Accounting system at Cotton Development Trust Fund (CDTF) I found that the system does not allow multiple users login concurrently, therefore, only one user can login to the system at once. Users of accounts department have been using an account of former finance Manager who no longer works for the fund. I am of the view that this is caused by limited number of licenses.

I am concerned that this limits efficiency of accounts and finance operations as only one staff can use the system at once, also the use of one user account for all users eliminates accountability in the system.

I recommend the management of CDTF to liaise with the vendor of the system to acquire more licenses.

- f) Application controls weaknesses of Advance Accounting System

I conducted information systems audit at NCAA and noted that the Authority is using Advance accounting system. The system is integrated with another system named Budget portal which is used for budgeting and initiating payments. Payments to suppliers and staff are initiated and approved in budget portal then after approval payment details are automatically sent to the Advance accounting system to be processed and posted in books of accounts.

My walkthrough of the functionalities of the Advance accounting system and its integration with budget portal noted the following control weaknesses:

- System allows payment for impress request to be done using travel request modality resulting to expensing of impress which eliminates the need for retirement. It was noted that the same form is used for initiating payment for impress and travelling requests, this form has two input fields for each type of request which requires request number from budget portal to be filled in the respective input field depending on the type of request. The system treats payment depending on which input field has been filled, therefore, if the traveling request number input field is filled then the system will automatically treat the payment as travelling request, thus, expense the amount. Likewise, if the imprest request number field is filled then the system will treat payment as impress and enforce retirement for that payment. However, it was noted that the system does not prevent user from continuing creating payment voucher when impress request number is entered in the travel request number field, thus, the payment is treated as travelling request which eliminates the need for impress retirement;
- The system allows the procurement officer to change amount of air ticket request which overrides approvals that have already been done in the budget portal. This was allowed to make actual cost of ticket to be entered, however, we are concern that the change of amount need to be verified by authority before proceeding with payment voucher creation;
- During LPO creation, user is required to enter request number for respective purchase from budget portal, however, system allows user to enter amount greater than total amount of the approved request in the budget portal;
- During creation of LPO, the system requires user to enter purchase request number from Budget portal but it does not limit user to only use purchase related request number

instead user can use any request number if the request has been approved;

- User can change account code and payment amount for per diem during payment voucher creation which overrides controls of budget portal;
- Transaction reversal does not automatically return the committed fund to respective budget code, instead refund of respective budget code has to be done manually whenever transaction reversal is passed;
- Verification and authorization for issuing of store items is not being implemented in the system, which is subjected to misuse, whereby user can issue items without proper authorization and approvals. Issuing of items is done by one person in the system after requisition form has been filled and approved outside the system, thus does not limit user to issue items in the system without approved requisition form; and
- Reversal of payment transactions in the Advance accounting system portal does not update status of request in the budget portal. All payments are initiated in budget portal and after approval they are sent to the Advance accounting system for payment, however, in a case where payment is cancelled/reversed in the Advance accounting system feedback is not sent to the Budget portal to update status, instead the request for that payment remains as paid.

I am of the view that these weaknesses are caused by improper system configurations and failure to thoroughly establish required controls during customization of the system.

I am concern that the noted control weaknesses can attribute to incompleteness and inaccurate transactions and potential misstatements in the NCAA financial statements.

I recommend that the management of NCAA has to:

- (a) strengthen controls in the Advance accounting system to prevent payment voucher creation in case payment of impress request is done as payment for travel request;
  - (b) enhance the Advanced accounting system to prevent editing or changing of amount during LPO creation to ensure approved amount of purchase request in the Budget portal is not overridden. In line with this actual amount for purchase request should be entered in budget portal and there should be a mechanism to authorize the final amount;
  - (c) ensure system should restrict changing of payment amount and account code for per-diem during payment voucher creation to prevent overriding of approvals done in budget portal;
  - (d) enhance the Advance accounting system to automatically return funds to respective budget code after transaction reversal;
  - (e) implement requisition and approval of items from store in the budget portal before accounted in the Advanced accounting system; and
  - (f) implement feedback from the Advance accounting system to the budget portal in case of reversal or cancellation of payment in the Advanced accounting system.
- g) Control weaknesses of the Facility Financial Accounting and Reporting System (FFARS)

FFARS is an accounting system used to manage revenue and expenditures of health facilities and schools in LGAs. The system was internally developing and managed by PO-RALG. My walkthrough of the system revealed that the system does not have audit trail that records user action for accountability in case of misuse. I also noted that there is no approval of adjustments

in the system, instead such approval is done outside the system which does not limit users from performing adjustment inside the system without approval. In addition, the system does not have reports showing adjustments passed.

I am concerned that these weaknesses can contribute to unauthorized adjustments and failure to establish accountability of actions done by users in the system.

**I recommend the PO-RALG to enhance the system such that adjustments are approved within the system and develop audit trail to track user actions in the system.**

### **3.2 CONTROL WEAKNESSES OF PROCUREMENT SYSTEM (TANePS)**

In 2016 the URT's Government through PO-PSMGG and PPRA entered a contract with European dynamics for the design, development, supply, installation, configuration, and capacity building for hardware and software for the Unified e-Procurement System (TANePS). The system is in use since 2018.

I reviewed the system and its operation and noted issues in contract implementation; generation of reports for managerial use; non-automation for some procurement processes; input validation; alignment between tendering technique and the number of tendering stages; and system administrator access rights.

#### **a) Ineffective contract implementation**

My review of system acquisition, development, and maintenance with a focus on PPRA's capacity to take over technical maintenance, support, and management of the system noted the following: -

- PPRA has no capacity to take over the system up to the time of audit in September, 2020, which was evidenced by solely relying on supplier for changes to be made in the system, but also PPRA technical staff were not involved in the design and development process as specified in the contract;

- The Purchaser (PPRA) had not received the intellectual property of the system, ownership of source codes of the system has not been handed over to PPRA despite the expirations of two years warrant period since supply of the system contrary to GCC 15.4 of the contract. Thus, PPRA cannot implement changes to the system without involvement of supplier;
- Undetailed coverage of technical staffs training in the submitted training and Change Management Plan (D13), as Para 2.4 of the plan states that “detailed training will be scheduled to enable the technical staff of PPRA and other relevant supporting organizations to assume responsibility for the running of the TANePS system” of which no evidence was found to substantiate its occurrence; and
- PPRA has no clear and documented road map for system take over.

I am concerned that the noted issues threaten the system's sustainability due to over-dependency on the suppliers. I am also worried that the system maintenance may become cost-ineffective to the Government due to vendors' annual maintenance charges, which is now USD 129,381.10 VAT inclusive.

I recommend PPRA management to ensure: -

- (a) Source code is immediately handed over to PPRA in line with the technical team's formation to initiate technology transfer before the end of the post warrant service period on December 2021;
- (b) Vendors conduct technical training to PPRA technical team, to assume responsibility of supporting and maintaining the TANePS system; and
- (c) The Authority to prepare a road map for the system take-over, detailing prerequisite issues for smooth takeover of the system.

**b) Uncontrolled access of vendor to TANePS production server and database**

My audit for TANePs found that vendor of the system has access to the application production server and database while the system was already commissioned, and two years warrant period and 24 Months post warrant service period have passed. Vendor should be provided access on need basis but up to the date of audit September 2020 production server and database administration functions were done by the vendor.

Production server and database administration roles being fully performed by the vendor implies that PPRA cannot do anything in the server and the database without consulting the vendor. Moreover, my review noted that PPRA has no access to TANePS server and database, therefore, the Authority cannot monitor and detect unauthorized activities performed by vendor at server and database levels.

I recommend PPRA Management to:

**(a) ensure access of vendor to production server and database is revoked and PPRA retains full access control of the system;**

**(b) vendor access should be granted on need basis; and**

**(c) ensure that accounts that have access to production server and database are known and their activities are reviewed periodically.**

**c) Insufficient Reports for Decision Making**

One of the functions of PPRA as stated in Section 9(b) of the Public Procurement Act 2011, is to monitor and report on the performance of the public procurement systems in the United Republic of Tanzania and advise on desirable changes. In fulfilling the stated function, Section 36(l) of the same Act requires Accounting Officers to submit to the Authority a list of contracts awarded, annual procurement plan and a list of blacklisted firms.

My review of the system noted that the system lacks a mechanism for tracking and determining the number of Procuring Entities (PE) which have submitted Annual Procurement Plans (APP). I also noted that the system lacks dashboard: a real-time monitoring tool which shows the total number of PEs, number of PEs which have submitted APPs, number of PEs which have not submitted APP, and executed contracts at both national and entity level.

I am concerned that lack of reports for managerial use, including but not limited to the reports mentioned above, undermines the system's purpose in helping the Authority to attain its objectives.

**I recommend PPRA management to: -**

- (a) develop a dashboard which, at a glance, can provide a summary of the total number of PEs, number of PEs which have submitted APPs, number of PEs which have not submitted APP, and executed contracts at both national and entity level; and
  - (b) identify all other vital reports for managerial use and enhance the system to generate them.
- d) Non-automation of some procurement processes

I reviewed the automation level for important stages of the procurement process and its associated activities, in which I noted that the following tendering processes are not automated.

- (i) Minor and micro procurement methods are handled out of the system.
- (ii) A compliance checks in which the Authority verifies compliance with regards to:
  - Tender numbering system;
  - Non-procurable items in approved APP, such as Electricity Bills, Water Bills, Coffins;

- Splitting of requirements;
- Packaging of procurements;
- Methods of Procurement; and
- Processing time/dates.

(iii) Activities by procuring entities which are: -

- Tender board approval functionality in the system; and
- Initiation of user requisition for goods /services or works.

I am of the view that the automation of the processes mentioned above will enhance the system's effectiveness and efficiency by reducing errors in the tendering process.

I am also concerned that handling minor and micro procurement methods out of the system, denies the Authority's visibility and ability to assess compliance of procuring entities in executing minor and micro procurements.

I recommend the PPRA management to:

- (a) enhance the system to accommodate the minor and micro procurement methods and provide guidelines for their application into e-procurement; and
- (b) analyse and automate compliance checklist, tender board approval, and initiation of user service/goods requisition to ensure accuracy, effectiveness, and integrity of the procurement process.

**e) Inadequate Input validation controls**

The United Nations Standard Products and Services Code (UNSPSC) uniquely identify products specified in the APP. At the same time, the bid price is one of the critical values which are used in bid evaluation.

I reviewed input validation controls in TANePS, and noted that: -

- The system lacks adequate controls to validate United Nations Standard Products and Services Code (UNSPSC).
- The system does not validate and restricts non-numerical data types and null values from being entered in the "Bid price field".
- The system does not check the estimated contract against the procurement method and threshold specified in the Annual Procurement Plan.

I am concerned that lack of adequate input data validation controls to bid price and UNSPC code can lead to loss of integrity and incompleteness of data and information.

I recommend the PPRA management to:

- (a) implement proper validation controls to ensure that bid price, UNSPC codes are properly validated during the bid application process and submission of APP; and
  - (b) enhance the system to ensure that it checks and verifies contract amount entered during tender creation against the procurement method and threshold specified in the Annual Procurement Plan.
- f) Lack of automatic alignment between tendering technique and the number of tendering stages

The system allows two types of tendering techniques: Pre-qualification and Invitation to bid. In the pre-qualification technique, a PE identifies and shortlist the tenderers in the first stage, and then in the second stage invites the shortlisted tenderers to bid. Whereas in the invitation to bid technique, a procuring entity prepares tender notice and invites tenderers to submit priced offers, with respect to tender requirements.

I reviewed the tender workspace creation process in the TANePS application. I noted that the procurement technique and the number of stages is entered as separate values such that the number of stages overrides procurement technique. In case user

(Procuring Entity) mistakenly specifies one as the number of stages for pre-qualification technique, the system will treat the tender as an invitation to bid. On the other hand, if the user specifies two as the number of stages for an invitation to bid technique, the system will treat the tender as pre-qualification.

I am of the view that the noted concern can cause system inefficiency as in the case of mismatch between procuring technique and number of stages, there will be tender workflow break down which requires manual intervention to proceed.

**I recommend the PPRA management to enhance the system such that it automatically determines the required number of stages depending on a selected technique.**

**g) Control weakness associated with defining tender workflows**

In defining tender workflow, a procuring entity can opt to perform some tendering steps online or offline. Offline mode was designed for handling emergency tenders and tenders which have confidentiality requirements.

My review of the tender creation process noted that the system does not have controls to restrict normal tenders from being conducted offline.

I am worried that the lack of controls to restrict offline mode for normal tenders can be misused to perform some activities offline to bypass procurement processes controls.

**I recommend the PPRA management to enhance the system such that tender workflow for handling emergency tenders and tenders with confidentiality requirements, is separated from the normal tender workflow.**

**h) ICT officers (system administrators) perform business roles**

ISO 27002: 2013 as best practice in Para 11.2 requires an organization to have a formal procedure to control access rights to information systems and services. User access rights should be

granted on least privileges and principle and the need to know the basics.

My review of granted system users' access rights noted that system administrators had been granted roles that allowed them to approve supplier registration, procuring entities, and perform payment reconciliation.

I am concerned that roles such as approving supplier registration, procuring entities, and payment reconciliation granted to the system administrators contravene the defined system administrators' responsibilities as explained in the scheme of service for PPRA staff. I am also concerned that the assignment of business-related responsibilities to system administrators violates the segregation of duties principle and pose a risk of failure to hold them accountable in case of deliberate or accidental misconducts.

I recommend the PPRA management to relieve system administrators from the business-related roles and ensure proper segregation of duties and conform to the service scheme for PPRA staff.

### 3.3 CONTROL WEAKNESSES OF BUDGETING SYSTEMS

In the financial year under review, I assessed effectiveness of application controls of two budget application systems named Budget portal used by NCAA and Central Budget Management System (CBMS) used by MDAs and managed by the Ministry of Finance and Planning. My assessment noted concerns related to lack of control to restrict budgeting above ceiling, lack of budget approval by the accounting officer in the system, lack of authorization of reallocation within the system and failure of budget commitment controls as described below.

#### 3.3.1 Application control weaknesses of CBMS

- (a) **Lack of system control on restricting submission of budget under or over the budget ceiling.**

Section 5 of the Budget Act No. 11 of 2015 requires that the Plan and Budget Guidelines shall set out fiscal objectives based on

criteria which include maintaining a ceiling on fiscal deficit including grants. Likewise, budget guidelines for the preparation of plans and budget requires the Ministry of Finance and Planning to provide ceilings to all Votes to guide them in the preparation of budget estimates. Accounting Officers are required to adhere to the approved budget ceilings for and allocate resources in line with their priorities.

My walkthrough of CBMS application system in testing effectiveness control to restrict budgeting above ceiling by setting the ceiling for vote 45 and submit the budget above the ceiling and observed that the budget was successfully submitted. Furthermore, I extracted reports for approved budget from CBMS to verify if there are votes with approved budget above the ceiling and noted the existence of approved budget which is above the ceiling for RAS Dar es salaam.

I am of the view that lack of system control to validate the submitted budget against ceiling result into usage of a budget that is above the approved budget by the parliament.

**I recommend management of MOFP to review and fix this weakness to ensure that the budget submitted by entities is checked against the approved budget ceiling.**

**(b) Lack of budget approval within CBMS application system**

Section 22 of budget act of 2015 requires public entities to prepare and submit the budget to the permanent secretary for scrutiny and approval. Whereas section 18(1)(a) on powers of the accounting officers, includes to ensure that budget of votes is prepared in accordance with plan and budget guideline.

However, during my review of budget submission in the CBMS I found that the system has no functionality that allows accounting officer to review and approve a budget before submission. Currently, the appointed budget officer submits the budget in the system without verification and approval of accounting officer within the system.

I am of the view that this is caused by weakness of business workflow design and definition of requirements.

I am concerned that lack of budget verification and approval within the system can result into incorrect budget due to human errors or intentional violations. Also, this eliminates accountability of accounting officers within the system.

**I recommend the Ministry of Finance and Planning to enhance CBMS to include approval functionality for integrity and accountability of the submitted budget.**

### **3.3.2 Application control weaknesses of the budget portal**

In my review of the budget portal at NCAA I conducted a walkthrough of the portal to assess effectiveness of budgetary controls and noted the following weaknesses.

- Lack of verification of user department for budget reallocation whereby Planning department effects and commits reallocation of budget based on approved reallocation outside the system, however, the process of committing reallocations in the system does not involve verification by user department to confirm that such reallocations have been committed in the system as per approved document, this can lead to wrong commitment of reallocation in the system resulted from intentional or unintentional errors;
- Failure of budget commitment controls whereby the review of itemized report noted negative balances for some of the budget items which implies that the system allows expenditure that exceeds fund allocated; and
- The portal does not correctly calculate fund and budget balances which can mislead users.

I attribute these weaknesses with failure to thoroughly establish required controls during development of application system.

I am concerned that these weaknesses of controls can attribute to misleading reports which can result to errors and omissions in financial statements.

**I recommend the management of NCAA to:**

- (a) implement verification of user department for budget reallocation in the Budget portal;
- (b) investigate system failure to prevent commitment and expenditure to be more than fund allocation; and
- (c) enhance the system to ensure correctness of fund balances.

### **3.4 CONTROL WEAKNESSES OF REVENUE AND TAX APPLICATION SYSTEMS**

During the audit of financial year 2019/2020, I assessed controls effectiveness of various revenue and tax collection application systems. My assessment aimed at providing assurance on efficiency of collecting and reporting revenue. My assessment noted the following findings:

#### **3.4.1 Local Government Revenue collection system (LGRCIS)**

LGRCIS is an information system that is used to collect own source revenue of Local Government Authorities. Revenue is collected through Point of Sale (POS) devices assigned to revenue collectors of respective revenue source. These devices are connected to the Local Government Revenue Collection Information System (LGRCIS) and they are configured to synchronize revenue transactions with the LGRCIS in real time. Revenue collectors are periodically required to request for bills from revenue accountants depending on cash collected and bank them.

My walkthrough of the system to assess effectiveness of application and security controls to provide assurance on completeness and accuracy of LGAs revenue noted the following weaknesses.

**a) Lack of automatic calculation of service levy, building permit fee and penalties in the system.**

My walkthrough of the LGRCIS application system to assess effectiveness of collection of service levy, building permits and penalty resulted from late renew of business licenses noted assessment of service levy, calculation of building permit fee and determination of penalties are done manually outside the system. LGRCIS has no functionality to automatically do calculations based on required parameters for the mentioned revenue sources.

I attribute this by failure to identify key controls and ineffectiveness in defining user requirements.

This attribute to manual calculations which is subjected to intentional and unintentional human errors that can lead to loss of revenue.

I recommend the PO-RALG to implement automated calculation of service levy, building permit fees and penalty for late renew of business license in the LGRCIS.

**b) Incorrect system unbanked figure**

During my audit of application controls of LGRCIS, I conducted a walkthrough to establish effectiveness of the system to determine unbanked amount, in my walkthrough I used transition history of sampled revenue collector in Kongwa District Council. I extracted the following reports for the revenue collector with payer ID 308600000330: Revenue collected from Miscellaneous Sources, Payment history and defaulters list. From the reports it was noted that as at 7<sup>th</sup> August, 2020 when I extracted reports the revenue collector collected total of TZS 186,342,100.00 and banked a total of TZS 111,727,353.00 resulting to unbanked amount of TZS 74,614,747.00. However, according to the report of defaulters from the system, this revenue collector had unbanked the amount of TZS 78,982,847.00 which is TZS 4,368,100.00 more than actual unbanked amount.

I am of the view that this is caused by inadequate testing of the system during design and development.

I am concerned that this attributes to unrealistic defaulters and reported revenue figure.

**I recommend the PO-RALG to enhance the system such that it reports realistic unbanked figures.**

**c) Mismatch of business license duration between LGRCIS and business license regulations**

My review of the process to register and renew business license on LGRCIS application system noted that the system has been configured such that business licenses expire at the end of financial year 30<sup>th</sup> June. However, the business license regulations require business license to expire one year from the date of registration without following financial year. Business license fee is paid annually thus at every 30<sup>th</sup> June the system recognizes receivables from the fee to be paid after expiration of the license resulting to unrealistic receivables.

I attribute this to the delay in enhancement of the system to align with new business license regulations.

I am concerned that this leads to recognition of full revenue instead of partial for licenses that are yet to expire as at 30<sup>th</sup> June.

**I recommend the PO-RALG to ensure LGRCIS is enhanced to align with the new business license regulations.**

**d) Registered POS devices without transactions since their registration**

POS device is only issued and configured on request when there is a need, thus all issued and configured POS devices should not be idle instead they should be transacting and sending transactions to the LGRCIS system.

My review of list of registered POS devices at Ilala MC noted existence of 14 POS devices which had no transactions since their registration, these POS devices were not found in the list of lost and defective devices, thus, they were active and in use. I am concerned that these POS devices may be used to collect revenue without transactions being synchronized with LGRCIS application leading to loss of revenue. Table 4 is a list of registered POS devices without transactions since registration.

**Table 4: Registered POS devices without transactions since registration**

S/N	Device Number	IMEA	Revenue source
1	269	352482033267497	Soko la Ilala
2	272	352482033267588	Soko la Ilala
3	603	355554100090700	AIFOLA PRIME TRADERS LTD
4	680	355554100579389	SATEK TRADING CO. ILALA
5	142	355615077262877	Soko la Ilala
6	258	357213087892145	Anatoglo
7	81	357784041278977	Taka Buguruni
8	136	357784041279678	SHERIA
9	691	357903100279961	GREEN WASTE PRO LTD
10	688	357903100741424	GREEN WASTE PRO LTD
11	159	358264072982127	Gerezani Ward Ilala
12	433	358765080708783	M.P. ENVIRONMENT CO.LTD
13	678	865709040143844	Mazingira
14	161	869661020224563	Gerezani Ward Ilala

*Source: List of registered POS and POS transaction reports*

I am of the view that this is caused by lack of regular monitoring of POS devices.

I am concerned that there is a possibility that these POS devices are used to collect revenue without council's awareness since they do not send transaction to LGRCIS leading to revenue loss.

I recommend the PO-RALG to (a) centrally identify registered POS devices which have not been transacting for all LGAs (b) inquire explanation from LGAs which have such POS devices and investigate to ensure there is no revenue loss.

e) System bug whereby users are directed to different council during login

My interview with revenue accountants revealed cases whereby LGRCIS application system directs users of the system to different council after login to the system. During the audit of Bariadi DC the revenue accountant explained that this happened twice to her, the first time she did not notice that she was logged in different LGA other than Bariadi DC as a result she created a bill while she was directed to a different LGA and later she could not find that bill, this implies that the bill she created was registered to the council to which she was directed.

On inquiry with the PO-RALG, the audit revealed that this is caused by System bug whereby session management is not working properly during the time of large traffic.

This has resulted to transactions that are not recognized by LGAs since when user is directed to a different LGA whatever transaction done, it will be recorded in the cashbook of the other LGA.

I recommend the PO-RALG to rectify the problem and find a permanent solution to session handling bug.

f) Failure of the system to retain transaction history for lost and defective POS devices

Every POS must be registered and configured in the LGRCIS before it can be used. The following details are captured during POS registration: IMEI number and the device number which is a unique number assigned to the PoS device. When a POS machine is issued to a revenue collector IMEI and device number are linked to a payerID, which is a unique identification number assigned to every authorised revenue collector. IMEI number is used to identify all transactions done by a POS device since its

registration, whereas PayerID keeps records of transactions made by an individual revenue collector and a payment history.

My review of LGRCIS POS collection reports noted that in a case where the LGA reuses the device number of a lost or a defective POS device during registration of new POS device, the system overrides the IMEI number of the new POS device with the IMEI number of the lost or defective POS device. This leads to transferring of all transaction records of the lost or defective POS device to a newly registered POS device. Further scrutiny identified that the system replaces the payerID of revenue collector of the lost or defective POS with the payerID of the revenue collector of the newly registered POS. The transfer transaction means that all unbanked transactions of revenue collector of a lost or defective POS are transferred to revenue collector of the newly registered POS.

For instance, I noted a reported lost POS device with device number 229 which was initially used by a revenue collector with payer ID 201900827198. After a loss report of the POS device, the council re-assigned a device number ‘229’ to another device with IMEI number 359183093016484 used by a revenue collector with a payerID 2019001826976. The former revenue collector’s transaction history was transferred to the later collector without leaving a trace of the former revenue collector’s transaction records.

I am concerned that the noted deficiencies lead to loss of POS device and revenue collector’s transaction history and inappropriate transfer of payment history and unbanked transaction to other revenue collectors.

**I recommend the PO-RALG to enhance the system to prevent reuse of a device number so as to retain transaction and payment history of POS device and revenue collector.**

**g) ICT officers use reset credentials of revenue accountants and use them to pass adjustments**

In LGRCIS adjustments are passed in case there are errors in cash collection transactions posted by revenue collector, such

adjustments can either reduce or increase the unbanked amount of the respective revenue collector.

I reviewed transaction adjustments of Bariadi District Council and noted cases whereby adjustments were initiated and approved by the same person. During my interview with revenue accountants and trade officers who were involved in identified cases of initiating and approving adjustments I was informed that they are not aware of these adjustments, they further informed me that during the time these adjustments were passed they were not in the office, they further informed me that there were cases whereby they could not login to the system while they used correct password.

My further review of audit trails for ICT officers of the council noted that one ICT officer was involved in resetting passwords of revenue account and trade officer then use the credential to adjust transactions.

I attributed the noted incidents to the lack of adequate controls in user accounts creation and user access management. Councils ICT officers have been vested with powers and privileges for user accounts creation and access rights management without control and supervision.

**I recommend the PO-RALG to establish controls in user accounts creation and access rights management such that user account creation or changing of account's credentials must be formally requested and approved by the respective head of units. In addition, there should also be regular reviews of privileged user accounts.**

**h) Noncompliance with segregation of duties and least privilege in initiating and approving adjustment**

In my review of transaction adjustment at various LGAs, I noted lack of segregation of duties whereby adjustments are initiated and approved by the same person. Also, I observed that ICT officers and internal auditors perform adjustments in the system, which violates the principle of least privilege whereby users

should have minimum access rights to perform actions based on their responsibilities.

I attribute this to inadequate controls in granting access rights to users, I am concerned that this can lead to fraudulent and loss of revenue.

**I recommend the PO-RALG to**

- (a) Implement prevent controls in the system such that users cannot approve adjustment that was initiated by him/her**
- (b) Conduct regular review of user access rights to ensure each user has proper access rights based on operations responsibilities.**

**i) Manipulation of POS device date by revenue collectors**

During the audit it was noted that revenue collectors were changing date of POS devices to later or earlier dates than current year to prevent the device to capture current date as transaction date. This result to POS transactions to have different **dates from the date when transaction was captured, as a result, LGCIS receives transactions which have later or earlier dates than the current date or actual financial year.**

I attribute this to lack of effective restrictions in accessing POS configuration and system use of POS date instead of current date of the server hosting the system.

This has resulted to transactions with later or earlier dates since the current financial year do not appear in the revenue collector's unbanked transactions (report of defaulters). This is because the system generates reports within date range of current financial year. Therefore, this leads to unrealistic reports of defaulters.

**I recommend the PO-RALG to**

- (a) restrict access to configuration of POS; and**

**(b) use date of server hosting the system as transaction date instead of date of POS device.**

**j) Revenue collectors with more than one payer identification number**

My review of operation of LGRCIS and utilization of POS devices noted that revenue collectors issued POS device need to have unique identification number (payerID) which is used to identify transactions associated with that revenue collector since one POS can be used by more than one revenue collector. During registration and configuration of POS payerID is linked with the POS which is issued to the respective revenue collector. However, review of POS transactions noted existence of revenue collectors with more than one payer ID, as a result it leads to difficulty in tracking transactions and banking whereby a revenue collector can bank using a different payerID from the one used to collect.

This is attributed by lack of mechanism to detect duplicate payerID during registration of revenue collector in the system.

I am concerned that this can lead to unrealistic defaulters and difficulty in tracking collections versus amount banked for individual revenue collector.

**I recommend the PO-RALG to establish mechanism to prevent double registration of cash collectors.**

**k) Human errors in posting POS transactions leading to suspicious adjustments**

Review of POS transactions and their adjustments noted human errors, such as same transaction posted more than once, transaction with unrealistic amount and cash collectors entering payerID in the amount field.

I am of the view that this is attributed to the lack of effective input validation control in POS devices such that POS can record transaction but fails to print receipt thus revenue collector will create again the same transaction for the second time to get a

printed receipt resulting to duplicate transactions. Also, another cause is lack of training to cash collectors as most of them have not received proper training on the use of POS devices.

This is attributed to the need to adjust transactions which is used as a loophole to pass fictitious adjustments leading to loss of revenue.

**I recommend the PO-RALG to implement effective input validation controls in POS devices to reduce human errors and ensure proper training to revenue collectors.**

**I) Weaknesses of user access and application change management**

I reviewed application change management procedures and noted that changes were implemented in the system without observing e-Government standards for development, acquisition, operation, and maintenance of e-Government applications (eGAEXT/APA/005). The guidelines require public institutions to appropriately document change initiation, escalation, approval, testing, and implementations. I further noted that there was no documentation of implemented changes. Implementation of changes without following proper procedures and documentation can result to introduction of security breaches and disruption of operations.

My further review of user access controls revealed the use of generic user accounts to access the system and database which eliminates accountability in case of system misuse. I also noted uncontrolled use Privilege user account that is used for initial setup and configuration of the system, the account is shared whereby system administrators have been used to create other generic user accounts without proper procedures.

I attribute this weakness to lack formal documented user access management for requesting, approving and reviewing user access rights.

I recommend the PO-RALG to:

- (a) review all system users and remove user accounts with generic names at PO-RALG and Council level and prohibit generic accounts in the system;
- (b) reset and change the credentials of privilege account and ensure that the new credentials are maintained by director of ICT and the Local Government director. It should also ensure that the use of the account when need arises is appropriately authorised and the reason for such use is well documented;
- (c) prepare, operationalise, and enforce guidelines for user registration and user access management at the ministerial level; and
- (d) comply with system change management at both PO-RALG level and councils' level.

### 3.4.2 GoTHOMIS

Ministry of Finance circular No.3 of 4<sup>th</sup> September 2017 directed government institutions to ensure that all government money should be collected through Government electronic Payment Gateway (GePG). The Permanent Secretary PO-RALG directives to the Regional Administrative Secretaries of 19<sup>th</sup> March 2019, regarding the security and management of GoTHOMIS information, required ICT officers to ensure that backup of the GoTHOMIS database is taken at the end of each business day for recovery purpose in case of a disaster. The same directive requires ICT officers to send weekly copies of the GoTHOMIS database backup to the PO-RALG ICT department. The same directive requires Regional Administrative Secretaries to ensure that all ICT equipment for GoTHOMIS is maintained securely and safely.

Government of Tanzania Health Operations Management Information System (GoTHOMIS) is an application system used for operations of health facilities in LGAs, the system generates bills for payment of services provided. My review of IT general controls surrounding GoTHOMIS application system in Ilala, Temeke, and Lindi Municipal

Councils; Kibaha and Masasi Town Councils; and Kilwa District Council noted the following concerns.

- a) The system is not integrated with GePG thus Payments for health charges are collected manually, and a cashier deposits the collected amount in the council's bank account;
- b) Backup copies of the system database are stored in the office of medical officer in charge within the same building as the production server room which subjects both backup data and operational data to the same risk;
- c) Non-performance of daily backup and failure of LGA ICT officer to send backup copies to PO-RALG weekly. Also, PO-RALG does not have mechanism to follow up to ensure copies of backup are submitted by ICT officers;
- d) Lack of restrictions to access database of the system and database audit log has not been configured to monitor user activities;
- e) Server hosting the system is located at unrestricted areas such as at the reception, also in some of the health facilities access to the computer which hosts the system is not restricted whereby the computer does not require username and password; and
- f) System Administrators use shared account to login into the system instead of using individual accounts for accountability.

I am concerned that these weaknesses can contribute to loss and misappropriation of revenue, failure to recover data in case of disaster and failure to make ICT officers accountable for actions performed in the database of the system.

I recommend the PO-RALG to:

- (a) integrate GoTHMIS with GePG to ensure that collection of health facilities charges is done through GePG;
- (b) ensure LGAs stores backup copies in locations that are not subjected to the same risks as the production environment;

and conduct regular follow up to ensure backup data are sent to PO-RALG;

- (c) restrict access to database of the system and ensure database audit logs are configured;
- (d) restrict access to areas where computer hosting the system is located; and
- (e) ensure system administrators use individual accounts to login to the system.

#### **3.4.3 Land Management Information Systems**

In the year under review, I did assessment of effectiveness of application controls of land management information systems at Ministry of Land Housing and Human Settlement (MLHHS). The Ministry has three application systems for managing land management operations: MOLIS which is used in Kigamboni, Temeke, and Ilala Municipalities, MOLIS v3 which is used in other regions outside Dar es salaam, and ILMIS which is used in Kinondoni, Ilala, Ubungo, Temeke Municipalities and Kigamboni District Council. The following weaknesses were noted.

- a) **Lack of linkage between spatial and non-spatial data in MOLIS and MOLIS v3 application systems**

Section 3.3.4 (Objective D) of the Ministry Medium Term Strategic Plan (2019/20 - 2023/24 states that “There is a need to improve efficiency and transparency in land administration services by implementing key computerizing and developing land information systems and National Spatial Data Infrastructure (NSDI); modernizing surveying and mapping infrastructure which include geodetic referencing, base mapping and cadastral systems; as well as decentralizing land services delivery play pivotal role to ensure effective land administration services provision. The NSDI plays a vital role in coordinating efforts to develop land information systems and to integrate land information with other spatial data.”

My walkthrough of MOLIS and MOLIS v3 noted that all land transactions and approvals are done in manual files outside the system, when they are completed information is captured in the systems for record keeping. Nevertheless, records of survey, registration, ownership, and planning are not linked in the system. As a result, through review of presented land disputes, I came across a case where a person who appears to intrude government school area has his plot is registered in the system and has been paying statutory land fees.

I attribute this to ineffective implementation of business process controls during requirements gathering for design and development of the system.

I am concerned that lack of linkage of survey, registration, ownership, and planning details in the system can result into the following irregularities.

- Incorrect land rent assessments as an officer manually enters an area of the respective plot to determine land rent amount to be paid. This is prone to intentional and unintentional human errors;
- Incorrect survey plan numbers can be captured in the system which can results into un-surveyed and/or ghost plots to be registered hence may lead to registration of reserved areas, public open spaces, and already allocated lands; and
- Inability of the system to track plot transactions relating to a specific parcel/plot. Transactions, such as transfer of ownerships, cannot be traced as in case of transfer of ownership, the system replaces old owners' details with new owners' details without keeping history of ownership. Lack of ownership history for transferred plots can lead to fraudulently land ownership transfers and thereafter results into land disputes.

I recommend the management of MLHHS to implement compensating controls in all regions that are using MOLIS and MOLIS V3 to ensure effectiveness in determining land rent,

**appropriate capturing of survey plans to prevent registration of unauthorized use of land and improve tracking during the period which management is in the process of enhancing and rolling out of ILMIS across the country.**

**b) Inadequate controls in editing premium fees and land rent invoices**

Review of land fee payment process in the MOLIS and MOLIS V3 application systems noted that invoices are automatically raised on due date and landowner is obliged to settle the raised amount. However, land officer can edit invoice details and amount to reflect exempted charges for elderly people or customize land rent charges for plots which are under Tanzania Investment Centre. I reviewed invoice editing process and noted that the system does not have functionality to attach supporting documents for verifying validity of exempted and/or customized charges and there is no approval for charges done.

I attributed this to ineffective control design during design and implementation of the system.

I am concerned that lack of supporting documents and approval of the edited charges can lead to misuse of granted authority and results into loss of government revenue.

**I recommend the management of MLHHS to ensure presence of approval and attachment of supporting document for exemptions of land fee during invoice creation in the ILMIS application which will be rolled out across the country.**

**c) Inadequate controls in verification of Past Payment**

I did a walkthrough of key business process built in MOLIS and ILMIS application systems and noted that in both application systems land officer has the right to verify payments which were made by using physical receipts prior to GePG payment method. The officer verifies if a certain land rent payment was made when landowner submits a valid payment receipt of the respective year, then land officer is required to clear the outstanding land fee in the system for that specific year of which the receipt is

presented by landowner. However, my review noted that during clearing of outstanding amount the system automatically accrues all payments of past years up to the date of presented payment receipt instead of picking specific amount of the respective year in the receipt. Therefore, in case an officer overlooks the accrued amount, the system clears balances including years whose payment receipts were not presented. Further the review noted that there is neither approval nor reviews done to verify clearing of past outstanding payment.

I attribute the identified weaknesses to inadequate testing of the system.

I am of the view that inadequate controls over verification of past payment may lead to clearance of unsettled outstanding payments hence loss of government revenue.

**I recommend the management of MLHHS to:**

- (a) strengthen controls by instituting compensating control over verification of past payment for the offices that are using MOLIS to ensure authorized and legitimate clearance of outstanding payment prior to introduction of GePG; and
  - (b) rectify anomaly in ILMIS to prevent clearance of unsettled past payments.
- d) Lack of segregation of duties for lot management**

I reviewed lot Management process in MOLIS v3 and noted 22 users have been granted access rights which enabled them to create, assess, register, confirm and approve lots in the system.

I attribute the identified weakness to inadequate number of staff, where in some regions there is only one personnel responsible for performing land management duties. However, there was no compensating controls for such regular review of user activities in the system.

Lack of segregation of duties in registering, conforming, and approving new lots in the system can lead to intentional or unintentional human errors that cannot be detected.

I recommend the management to institute compensating controls such as regular review of user activities in the system to ensure that all land officers granted conflict user roles do not misuse or abuse the granted access rights in MOLIS.

e) Handling of land related claims /queries outside of the system

My review of management of land claims noted that they are received through e-office application which is a file management system that manages both customers and staff files. This system is not integrated with land management systems: MOLIS and ILMIS such that officer must wait for a physical file for reference to work on a received issue via e-office application.

I attribute the identified weakness to absence of file management and query handling modules in MOLIS and ILMIS applications.

I am concerned that handling of land related claims outside land management systems can lead to delay in resolution and inability of tracking resolution status of the reported claims.

I recommend the management of MLHHS to ensure selected application system to be used for management and administration of land has modules for handling claims/queries and mechanisms to link them with files in e-office application.

#### 3.4.4 MNRT portal

The Ministry of Natural Resources and Tourism (MNRT) designed and developed application system named MNRT portal to efficiently manage revenue collection for all agencies and authorities under its jurisdiction. The developed application system, among others, aimed at having single window for tourism industry and natural resources sector for easy and effective monitoring and managing operations and revenue. During the year under review, I assessed effectiveness

of application controls of the MNRT portal and noted the following weaknesses.

a) **Control weaknesses over management of visitors' permits.**

My review of issuance of visitors permit to National Parks and Hunting Blocks noted that permits are applied online on MNRT portal by tour operators and payment is done electronically through GePG. Visitors are required to present their paid permit number at the entrance gate of National Park for checking in. Likewise, during exit, permits should be checked out to determine overstay depending on checkout date of the permit. Review of mechanisms for tracking visitors, tourist attraction real time information and permits utilization noted the following.

- Absence of check-in and out gates control when entering and exiting points of attraction sites respectively in TAWA jurisdictions. Non-checking out of the permit has resulted to permits seen as pending (paid but unutilized) while they have already been used. Also, this attributes to failure to collect revenue from overstayed permits;
- Anomalies noted of issued permits for visitors of National Parks, on 29<sup>th</sup> October, 2020 we extracted permits with entrance and exit date between 1<sup>st</sup> January, 2020 and 29<sup>th</sup> September, 2020 and noted;
- 223 pending permits issued to visitors of Nyerere National Park. On inquiry, we were informed that most of these permits were utilized but they are pending because they were not marked as checked in during entrance as well as not being checked out, hence poses a risk of revenue loss in case the visitor has overstayed. Similarly, it creates a loophole for being utilized again without payment (Refer Appendix I);
- **12 permits with zero payment amounts** (refer Appendix III) which imply that visitors of these permits utilized service for free;

- **432 Permits with permit application date later than entry date** (refer Appendix IV) which implies that the permits were created after service was rendered;
- **14 Day trip permits having difference between entry date and exit date of more than 1 day** (refer Appendix V) which implies control weakness of the system to ensure selected entry type corresponds to respective number of days. Day trip should be less than a day as visitors enter and exit on the same day, therefore, when day trip is selected as entry type the difference between entry date and exit date should be less than one day;
- **21 pairs of applications sharing permit number** (Appendix II), each permit application supposed to have unique permit number associated with its amount paid thus if two applications share permit number it may imply one was issued without payment; and
- **Permits were prepared by ICT officer who is a System administrator** (Appendix VI) hence violates principle of least privilege which requires users of the system to be granted rights based on their responsibilities. I am of the view that the role granted to system administrators contravenes the defined system administrators' responsibilities as explained in scheme of service. We are equally concerned that assignment of business-related responsibilities to which they lack required competences poses a risk of failure to hold them accountable in case of deliberate or accidental misconducts.

I am of the view that these weaknesses are caused by non-consideration of key control requirements during user requirement specification and system design.

I am concerned that these control weaknesses attribute to loss of revenue and misstatements of revenue figure.

I recommend the management of MNRT to:

- (a) establish control for check in and out when entering and exiting gates for attraction sites and activities under TAWA jurisdiction;
  - (b) strengthen controls at gates to ensure all permits are checked in and out, consider using electronic gates;
  - (c) investigate permits with zero payment amount and those which were applied after service have been utilized, and take necessary measures;
  - (d) investigate cases of two different applications having one permit number to ensure that there was no loss of revenue;
  - (e) review all pending permits to identify utilized and unutilized permits to update status accordingly;
  - (f) enhance MNRT portal such that selected entry type should correspond to number of days between entry date and exit date; and
  - (g) restrict system administrators from performing multiple business roles such as creation of permits.
- b) Lack of system functionality for verifying overstayed permits exited without being charged.

I reviewed permit check out procedures for overstayed permits and noted that the system has a functionality to allow visitors with genuine reasons to exit without being charged days overstayed. However, this process has no authorization or verification requirement in the system. The power has been vested to the officer responsible for check out process only. Moreover, there is no compensating control, such as regular review by gate manager.

I am of the view that this is caused by inadequate user requirement specification and consideration of key controls during implementation.

I am concerned that no verification or authorization of exit without charge for overstayed permits can lead to loss of revenue.

**I recommend the management of MNRT to enhance the system such that all overstayed permits exited without charge are flagged for review of validity of their respective reasons given for post approval by the Gate Manager.**

c) **Lack of functionality to effectively manage manual check-in and out forms in MNRT portal.**

My review of MNRT portal to establish formal alternative mechanism to ensure business sustainability and customer satisfaction in case of system unavailability or failure noted lack of effective mechanism to handle service provision at the gates of National Parks when MNRT portal is not accessible or has not received payment feedback from GePG, hence, permit remains unpaid while the customer has already paid. Currently, for the case of TANAPA and NCAA printed forms are used to check in and out visitors, however, there is no mechanism to update issued permit on MNRT portal to reflect actual check-in and out times as specified on printed forms. Likewise, for other institutions that offer services such as photograph tourism, camping, walking and hunting, no clear guideline on how to handle such cases of system unavailability and failure.

I am of the view that this is caused by lack of business impact assessment and design of appropriate business continuity handlings procedure.

I am concern that this can lead to customer dissatisfaction and possible loss of revenue in case of overstay and misuse of printed forms as they can be used even when the system is available.

**I recommend the management of MNRT to operationalize electronic forms accessible from local machine at gates during**

**system unavailability or failure and will be synchronized with MNRT portal when service is restored.**

**d) Non-release of MNRT portal self-service functionalities to users**

I reviewed the automation of business process that may help customers to apply for services online for convenience, and found out that there are business processes in the MNRT portal which do not have online self-service for customers as a result customers have to download, print and fill application form then physically submit to offices of respective institute, such services are tour operator permit, forest harvest permit, exportation of honey, trophy, charcoal, harvesting license, tour operator license, company license and hunting license.

I am of the view that this is caused by non-consideration of customer's experience during system requirement specification and design. Some of the inconveniences resulted from lack of integration with systems from other government entities such as BRELA.

I am concerned that this weakness is attributed to poor customer experience since they are required to manually fill forms and submit manually to the respective office.

**I recommend the Management of MNRT to implement online self-service for services offered on MNRT portal and avoid using manual printed forms.**

**e) Provision of multiple control numbers per services provided to the same customer**

I reviewed payment process for permits application on MNRT portal specifically for tourist attractions' visitor falling under different institutional jurisdiction. I noted that customers wishing to visit multiple tourist attractions of different institutions will have to generate multiple control numbers for a single permit applied. This is because each control number is a revenue which will be accounted for separately by each institution. This is not convenient as it requires customers to

process payment for each control number moving across different banks to settle control numbers due requirement of GePG for each institute to have one bank account.

I attribute this by non-harmonization of settlement mechanism among institutions under MNRT in line with single service window architecture.

I am concerned that this contribute to inconvenience to customer and dissatisfaction and may result in loss of confidence and trust on the use of e-Service.

I recommend the management of MNRT to develop architecture which accommodate customer to have one control number from GePG for multiple services under different jurisdiction while considering separate reporting of revenue.

**f) Lack of customer feedback handling mechanism in the system**

During my audit of MNRT Portal as a single window for tourism service provision we noted that visitors' feedback and complains mechanism has not been accommodated. I am of the view that in such industry, customer feedback is important for service improvement and decision making by Management. On inquiry, we were informed by the management that complains are handled by individual institution and there is no mechanism for the ministry to be informed hence pose difficulties in monitoring the service centrally.

I am concerned that visitors' dissatisfaction may go unnoticed at ministerial level, hence, it may have an effect to the tourism industry.

I recommend the management of MNRT to operationalize a centralized portal for receiving, distributing, and monitoring of feedback and complaints from customers.

### **3.5 e-Parking application System**

E-parking is a revenue collection system used by Tanzania Rural Roads Agency (TARURA) to collect parking fee cashless without the need to have cash collectors with Point-of-Sale Devices at parking areas. The system was piloted in Mwanza region as a case study. The system has two separate components for scanning cars (SCANaCAR) and bill generation. Vendor of the system scan cars with mobile number of owners in parking lots during the day then uploads details of scanned cars in billing module to generate bills with control number which is sent to owners through their mobile number. I reviewed effectiveness of control design in e-parking and noted the following concerns.

#### **a) Application control weaknesses in e-Parking.**

The walkthrough of the e-parking system noted that the collector scans a vehicle using a scouter or handheld scanning device to capture registration number used to determine car type, which is among the determinant factors of fee and the location of parking lot which is used to determine parking fee and time.

Review of the system noted that the vendor manually compares scanned motor vehicles registration numbers with TRA vehicles database dump file to determine car type since the system lacks mechanism to validate motor vehicle registration number with TRA systems. It was also noted that the system cannot automatically determine location of parking area instead it is entered manually which is prone to human errors. Moreover, it was revealed that the system does not have audit trail to record user activities.

I attribute the noted weaknesses to non-consideration of key controls during requirements gathering and design of the system.

I am concerned that manual comparison of Motor vehicles registration number to TRA database dump file and entering of parking location are prone to human error which can result to charging wrong fee. Lack of audit trails will cause the Agency failure in holding users responsible in case of misuse.

**I recommend the management of TARURA to:**

- (a) integrate the new system that will replace e-Parking with TRA-Car and Motor Vehicles Registration System (CMVRS) to ensure online verification of scanned vehicles;**
- (b) ensure that the system has accurate location information of parking areas where TARURA has been authorized to collect parking fees; and**
- (c) ensure user activities are logged.**

**b) Unbilled scanned vehicles**

Clauses 7 and 8 of the parking fee collection in Mwanza city and Illemela municipality contract no.ae/092/2017/2018/hq/cr/013 dated 10<sup>th</sup> July 2018 between Tanzania Rural and Urban roads Agency (TARURA) (the principal) and m/s NPK technologies ltd (the agent) states that:

- The Agent shall make available all information obtained in the digital enforcement every day; and
- All information pertaining to the revenue of the parking fees shall be owned by the principal.

I compared a list of scanned vehicles from January to June 2020 with payment tickets list for respective periods and noted that for this period the vendor scanned 1,398,140 vehicles but 1,139,483 vehicles were not in payment tickets list which implies these vehicles were not billed.

I attribute the noted anomaly to lack of integration between billing module and SCANaCAR system and non-reconciliation between scanned and billed vehicles.

I am concerned that 1,139,483 scanned vehicles that are not in the bill list equal to 81.5 % of the total scanned vehicles signify inefficiency in the billing process.

I recommend the Management of TARURA to:

- (a) extend the reconciliation process to cover the reconciliation of scanned vehicles with billed vehicles;
  - (b) liaison with vendor in line with contract to ensure recovery of loss incurred; and
  - (c) fast track rolling out of TeRMIS, in which scanning, and billing have been integrated.
- c) Non-penalisation of overdue bills

In generating penalty bills, the vendor reviews payment data file to establish outstanding payments which have exceeded five days. Then the agent manually consolidates all overdue unpaid bills and prepares list of penalty file. The vendor uploads the penalty file to the e-Parking system (billing system), the system appends SP Code, and GFS code to request control numbers from GePG. On receiving control numbers from GePG, the system generates penalty bills.

I extracted tickets whose payments were delayed for more than five days from payment ticket list and reconciled them with the list of charged penalties from January to June 2020 and noted that out of 9289 tickets with overdue payments, 3889 tickets were not in the list of charged penalties. The Agency incurred a loss of TZS 77, 780,000 resulting from 3889 tickets which were not penalised.

I attribute the noted anomaly to a manual penalty charging process and lack of reconciliation between delayed payments and penalty bills.

I recommend the management of TARURA to:

- (a) extend the reconciliation process to cover the reconciliation of delayed payments with raised penalty bills; and

**(b) liaise with vendor in line with contract to ensure recovery of loss incurred.**

### **3.5.1 Terminal Operations System (TOS)**

TOS application system is an application software used by TPA to manage port operations for international vessels importing and exporting cargo. The application has three major modules, namely Harbour view, cargo and bill which are integrated through message exchange platform. The bill module is integrated with electronic payment platform for payment of bills through GEPG. Harbour View module is used to manage vessels and their operations, cargo modules is used for managing cargo storage and clearance while billing modules is for creation of invoices for port charges. A walkthrough of the system and review of cargo and billing reports noted the following control weaknesses.

- The number of days of cargo storage is not automatically calculated by the system, instead it is determined manually at the time when clearance is done. This is subjected to human errors and misuse for personal gain;
- Difference between actual date of arrival and departure of vessel for calculation of port charges is calculated manually during creation of final invoice. This result to overcharging or undercharging since manual calculation is prone to errors;
- Lack of option to combine multiple bills in one control number in bill module which result into manual generation of control number on GEPG portal, this makes tracking of payment history and reconciliation difficult as payment of bills will not be available in e-payment;
- Lack integration between cargo module and TANCIS on manifest submitted to TRA, currently manifest is downloaded from TANCIS application system at TRA and uploaded to cargo module by TPA officers which is subjected to intentional or unintentional modification. I am concerned that there is a possibility that some of the cargo details from TANCIS may not be uploaded to cargo system thus tracking will be impossible, for example during the

audit I noted two cases whereby the quantity of cargo in cargo system is less than in manifest document from TANCIS as described below;

**Table 5: Difference in Quantity of Cargo between Cargo System and TANCIS**

Vessel Name	Call ID	ATA	ATD	TANCIS Number of Cargo	Cargo System Number of Cargo	Terminal
KOTA MEGAH	13549	29/09/2019	30/09/2019	843	838	TICTS
JENS MAERSK	1474	31/05/2020	17/05/2020	557	539	TICTS

*Source: Cargo system report and Manifests from TANCIS*

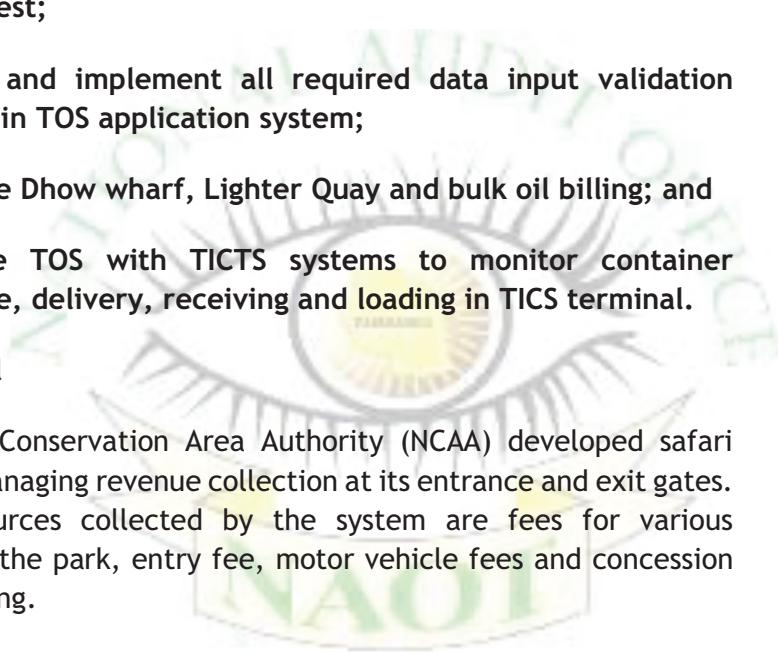
- Inadequate input data validation whereby some of cargo do not have details of destination country which it makes difficult to identify number of days for free storage;
- Dhow wharf and Lighter Quay billing is not automated; the information is entered manually;
- Bulk Oil billing is not automated; it is calculated based on manifest declaration and not actual data from the pumps; and
- Lack of integrated in TICTS systems to monitor container discharge, delivery, receiving and loading in TICS terminal.

I am of the view that these weaknesses are caused by improper system configuration and failure to thoroughly establish required controls during customization of the system.

I am concerned that the noted weaknesses can attribute to loss of revenue and potential misstatement of revenue figures in the financial statement.

**I recommend that the Management of TPA should:**

- (a) enhance TOS application and ensure number of days' cargo in storage is calculated automatically by the system;

- 
- (b) port charges are automatically calculated by the system by automatic determination of the number of hours between actual vessel arrival date and departure;
  - (c) implement one control number for multiple bills in the billing module and e-payment system;
  - (d) integrate cargo module with TANCIS to avoid manual uploading of manifest;
  - (e) identify and implement all required data input validation controls in TOS application system;
  - (f) automate Dhow wharf, Lighter Quay and bulk oil billing; and
  - (g) integrate TOS with TICTS systems to monitor container discharge, delivery, receiving and loading in TICS terminal.

### 3.5.2 Safari portal

Ngorongoro Conservation Area Authority (NCAA) developed safari portal for managing revenue collection at its entrance and exit gates. Revenue sources collected by the system are fees for various activities in the park, entry fee, motor vehicle fees and concession fee for lodging.

During the walkthrough of Safari Portal System, we noted the following control weaknesses.

- Control weaknesses over activation of deactivated permit whereby only one person re-activates the permits without authorization. The system automatically deactivates permits which stay for more than 30 days without being utilized, the process of activating such permits requires tour operator to write a letter to request activation which is approved by respective authority then authorized NCAA officer activates the permit in the system. I am concerned by the fact that activation of permits within the system does not have approval. This is subjected to potential misuse of deactivated permits whereby it can be activated and utilized without request from owner and proper authorization;

- Lack of automatic TALA license verification. I reviewed a list of Tour operators registered in Safari Portal and noted that the system doesn't have effective mechanism to verifying TALA licenses of tour operators. Current verification is done manually outside the system which is subjected to human errors. Comparison of report of tour operators from Safari Portal with the list of registered tour operators with their TALA license from safari portal noted existence of 411 tour operators in Safari Portal without valid TALA licenses. I am concerned that the absence of automatic TALA license verification can lead to unlicensed tour operators to operate with the Authority;
- Inadequate tare weight validation and verification for local registered vehicle. I noted that vehicle's tare weight information is selected from the list of configured vehicle weight instead of automatically verify with TRA systems. I am concerned that this process is prone to errors and can lead to charging less fee in case inappropriate tare weight is selected; and
- No review and approval of reasons given to the exited permits without charge. I am concerned that too much power has been vested to the officer responsible for check out process such that one can decide on discretionary basis to authorize exit without charge to overstayed permits which were supposed to be charged.

I am of the view that these weaknesses are caused by improper system configuration and failure to thoroughly establish required controls during the development and design of the system.

I am concern that the noted weaknesses can attribute to loss of revenue and potential misstatement of revenue figure in the financial statement.

**I recommend the management of NCAA to:**

**(a) implement notification to tour operators in case where deactivated permit is activated to prevent misuse.**

- (b) enforce appropriate controls to ensure that tour operator's TALA licenses are properly verified during registration by integrating safari portal with respective authority;
- (c) enhance the system by integrating it with TRA's Cars and Motor Vehicles Registration System to ensure automatic capturing of vehicle's tare weight by entering the respective vehicle's registration number; and
- (d) enhance the system such that all exit without charge overstay permits are flagged for review of validity of the reasons given for exit without charge and post approval by the Gate Manager.

### 3.5.3 ITAX

My review of ITAX system at TRA, specifically on data integrity for receivables revenue and rules set for generation of IPSAs report in compliance with accrual basis that requires Tanzania revenue Authority to recognize the assessed tax when occurred rather than paid, revealed the following concerns.

- Incorrect configuration of rules for recognition of accrued revenue to generate IPSAS receivable reports: It was noted that, IPSAS reports used for generation of revenue statement on accrual basis checks for unbalanced debits numbers, instead of unbalance taxpayers account position. This rule contravenes with business practice where unbalance debits occurs even if the amount was objected or there is advance payment arising from non-validation of controls number on tax settlement as well as the debit numbers from the appealed assessments. This is contrary to IPSAs 1.7 on recognition of an asset (receivables) as resources controlled by an entity as a result of past events and from which future economic benefits or service potential are expected to flow to the entity; and
- Tax receivable figure without a corresponding debit number, this signifies that such amount was not generated from the system, as debit number arises when assessment is made through the

system and creates condition for existence of receivables once no objection for future realizable asset.

I am of the view that this was caused by delayed project completion of ITAX upgrade and undefined cut-off period for achieving data integrity.

Lack of financial data integrity and loophole for tax evasion as well as loss of government revenue due to lack of reliable data for revenue collections history

I recommend TRA management to ensure that:

- (a) milestones for completion of ITAX upgrade and its related sub-system is drafted, complied and adhered to for timely completion;
- (b) data integrity cut-off period is defined and strategies to achieve such objective;
- (c) Proper configurations of reports in line with IPSAS accrual standard; and
- (d) There is no manual process for assessing tax payables and settlement of taxes

### 3.5.4 Electronic Cargo Transit System (ECTS)

ECTS is a transit cargo monitoring tool which is integrated with devices (E-Devices also known as E-Seals) for tracking cargo which are under customs control. However, on establishing its effectiveness the following issues were noted:

- Lack of alerts categories for information alerts and actionable alerts, as for the alert position on 26<sup>th</sup> October, 2020 at 14:07hrs, there was 2,312,140 alerts for 3596 trips. Following current resources of four (4) to six (6) staff per shifts becomes difficult to decide on what alert to handle and the one to ignore basing on the performance capacity of handling one alerts for five (5) minutes to 20 minutes, as per interview made with the

responsible staff. Thus, we believe categorizing alerts will ensure critical alerts are not unattended;

- Handling of alerts instead of trips and routes monitoring: I noted that staff works on shift basis which becomes difficult to establish the accountability for attended alerts and minimal assurance that critical alerts are handled. I therefore believe that it is more effective to handle trips than handling alerts;
- Ineffective use of Yellow Note for communication of violations; Yellow note is ECTS functionality which enables officer in the control room to receive details of violations or undetected alerts from field officers who have physically observed violation or alert, this was developed as a second control to report violations that have not been alerted by the system. However, my review noted that this functionality is not used instead field officers use email to communicate observed violations, I am concerned that email is not effective in terms of providing detailed and real time information of violation, also with the use of email it is difficult to track and monitor history and status of reported violations within the system; and
- Non review of alerts to establish accountability of third parties: Performance of vendors of e-seals is guided by supply contract while for drivers of the vehicles carrying transit cargo is guided by customs rules on restrictions such as out of geo-fencing, Master lock status open, slave device tempered, over speeding etc. However, my review noted that alerts raised by the system during a trip are deleted after the trip ends, this is done without reviewing these alerts to identify which third party is accountable for the raised alerts so as to penalize them in accordance to contract.

I am concerned that without effective and efficiency monitoring mechanism, the intended objectives of tracking transit goods violators may not be achieved with no evidence for accountable officer, but also massive alerts obscure the true positive alerts.

I recommend TRA management to ensure that:

- (a) alerts are grouped into mandatory actionable against information alerts for trips visibility;
- (b) there is process re-engineering that gives value to alerts and desirable attention in terms of human resources, system performance and tools;
- (c) there is enforcement of vendors contract and customs rules in relations to alerts; and
- (d) there is a mechanism for trips handling that ensures accountability to staff.

### 3.5.5 Non-Tax Revenue System (NTRS)

Section 6- (1) (b) and (c) of the Local Government Authorities (Rating) (Collection of Property Rate) Regulations, 2020 requires the Authority in a rateable area to prepare register of all rate payers and register rateable properties and owners of properties, including information relevant for collection of property rates in the register respectively.

I reviewed registered properties for Kinondoni, Ilala, Ubungo, Kigamboni, and Temeke municipals extracted from NTRS and noted the following:

- Existence of taxpayer with multiple payer identification numbers. Each taxpayer has unique identification number that is used for payment and tracking his payment history, having taxpayers with more than one payerID can result to generation of unrealistic tax receivables as taxpayer with multiple payerID to pay tax using one among his or her payerIDs thus leaving the remaining payerIDs to be treated as defaulters; and
- Existence of properties with zero or negative Principal Tax. Rateable amount for all municipals in Dar es Salaam region is TZS 10,000 for normal buildings and TZS 50,000 for each storey in storey buildings. However, we noted some registered properties with negative and zero principal tax.

I am of the view that identified weaknesses is caused by the following.

- Improper data migration from the then Property Rate Management System and lack of proper validation of the required rateable amount;
- Inheritance of old PRMS data from Local Government where records were not uniquely identified as TIN was not used; and
- Lack of physical identity (building identity) among buildings available in most of unsurvey areas.

I am concerned that presence of duplicate records and properties with zero or negative principal taxes can lead to maintenance of incorrect list of receivables which will affect reported tax revenue statement.

I recommend TRA management to do the following.

- (a) Review the system and enhance NTRS database such that each record is uniquely identified, and existing duplicate records should be identified and cleaned;
- (b) Identify all rateable properties with inappropriate rateable amounts and update the records accordingly; and
- (c) Ensure proper migration of data from the former Property

### **3.5.6 Gaming Licensing, Inspection and Compliance Applications (GLICA)**

Gaming Licensing, Inspection and Compliance Applications (GLICA) is an application system designed and developed by GBT to automate the core business functions of GBT which relates to its regulatory role such as policy, legislation, licensing, compliance, investigation, and enforcement. The modules that have been completed and are currently being used by users include: Licensing, Amusement & Lottery, Inspection & Compliance, Devices & Software Management, Gaming Returns, Complaints, Disputes, Advertisement & Information Request, Responsible Gaming and Reporting & Notification Modules.

I conducted a walkthrough of GLICA application system to determine the effectiveness of application controls and noted the following weaknesses:

- The system provides room for licensing officer to skip stage for gaming license application. The submitted gaming license applications are received by licensing manager who then assigns a licensing officer to verify the application, after verification the officer has to choose the next stage in which the application should proceed to. Some new license applications should go through financial analysis stage after verification to avoid lack of assurance on financial ability of the applicant in running the business but also applicant's history of financial crimes such as money laundry and tax evasion may not be known. However, we noted that, it was discretion of licensing officer to send the application to financial analysis stage and not for a system to automatically send it to financial analysis stage after verification. I am concerned that this could lead to intentional or unintentional skipping of this stage which may result in awarding licence to an incapable applicant;
- The system cannot track number of days taken by GBT to issue employee licenses from the date of application up to issuance of licence. There has been concerns regarding delays in issuing license to gaming operators' employees; and
- Lack of report for operators who have not submitted returns to facilitate follow up. Also, there is no report for gaming machines stickers which have not been utilized during registration of machines for easy tracking sticker utilization.

I am of the view that noted anomalies are attributed to improper assessment of key application controls during requirement specification and system design.

I am concerning that lack of appropriate application controls over licence processing can lead to delays in issuing licenses, lack of accountability and non-compliance with laws and regulations.

**I recommend Management of GBT to**

- (a) enhance the system such that all new license applications go through financial analysis and other required stages as per laws and regulations rather than leaving it to be licensing officer to decide the next stage;
- (b) ensure the system tracks the number of days taken to issue gaming employee licenses; and
- (c) Develop a report that shows operators who have not submitted returns and gaming machines stickers that were not used during machine registration.

### **3.5.7 Regulatory Central Electronic Monitoring System (GREMS)**

The Regulatory Central Electronic Monitoring System (GREMS) is intended to be used by GBT to monitor and provide assurance of government revenue control, responsible gaming, market awareness and business intelligence from all gaming activities. The users of this system are GBT and Gaming operators. The system is integrated with operators' application systems to exchange all information between GBT and Operators concerning gaming operations such as bet amount, winning amount, tax on winning and winners.

My walkthrough of functionalities and design of GREMS application system noted that, for gaming machines used by land casinos and slot shops GBT has designed and developed a special device named SIGMA that will be embedded in gaming machines to directly capture gaming transactions and send them to GREMS central server for real time monitoring. Moreover, for the case of online casino and sports betting there is an Application Programme Interface (API) that receives information from operators' application systems and which feeds into GREMS. However, my review of controls effectiveness to ensure adequate monitoring and detection of non-compliance noted the following deficiencies.

- Lack of effective control to ensure gaming data from operators are not tampered with before they are sent to API for online casino and sports betting. Currently, GBT has introduced

reconciliation mechanism whereby operators have to send daily reports of their transactions which is then compared to data that have been submitted to GREMS by their systems. However, this mechanism is not effective since it is still difficult to detect whether submitted data have been tampered. I am therefore concerned that this increases the risk that data received from operators of online casino and sport betting may be unrealistic;

- The system does not have a report that shows delays in receiving data from operators. The report would assist to easily identify operators whose systems have not been sending data to GREMS in a timely manner for immediate action to be taken;
- Table game for land casinos has not been accommodated in the system therefore tracking of its transactions and confirmation of returns are still manual;
- Lack of detectors of irresponsible gambling and enforcement of responsible gambling despite that the system does capture balances and transactions of e-wallets for all customers/players; and
- The system has not been integrated with GLICA to verify and reconcile number and registration of gaming machines that are sending data in real time. This would assist in identifying both registered and unregistered machines which do not send data to GREMS.

I am concerned that lack of proper application controls could lead to loss of revenue due to delay in receipt of information on gaming transactions.

**I recommend the management of GBT to**

- (a) explore best control to ensure integrity of data sent to GRAMS by online casino and sports betting operators;**
- (b) develop the best mechanism to report operators whose systems are delaying sending data to GREMS;**
- (c) implement capturing of table casino transactions in GREMS;**

- (d) implement detection and enforcement of responsible gambling; and
- (e) integrate GREMS with GLICA for verification of gaming machines registration and compliance.

### **3.5.8 TBS Online Application System**

OAS is the online Application system that enables TBS customers to submit applications online for the following services; Destination Inspection, PVoC, Conditional Release, Premise Registration, Product Registration and Technical Assistance to Exporters (TAE)

A walkthrough of the OAS application system noted the following control weaknesses:

- Lack of system control to prevent sample from being tested before payment, current the control depends on the receiving officer whereby during receiving of the sample the officer will confirm on the system whether payment has been made. I am concerned that this control is not effective instead the system should be designed to automatically prevent application from going to the stage of receiving sample in case payment of fee has not been done; and
- Calculation of fees is done manually outside the system which is subjected to human errors and intentional mistakes.

I am of the view that these irregularities can lead to loss of revenue, incorrect calculation of fees and inconveniences to customers.

**I recommend the management of TBS to execute the following.**

- (a) Enhance OAS to ensure applications are automatically prevented from going to stage of sample receiving if payment of fee has not been paid; and
- (b) Automate calculation of fees, especially for non-complex fee calculations.

### **3.6 MISCONFIGURATION OF FEES AND TARIFFS IN REVENUE SYSTEMS**

Section 2.2.1.1 of guidelines for development, acquisition, operation and maintenance of e-Government application requires public institutions embarking on application development/Acquisition to ensure the application fulfils institutional business requirements. Further, Section 12.5.1 of the ISO 27002:2013 as best practice requires a configuration control system to be used to keep control of all implemented software as well as the system documentation. During my audit I noted the following concerns.

#### **a) Mismatch of Tariffs fees configured within MNRT Portal**

My review of tariff fees structure of different institutions which fall under the Ministry of Natural Resources and Tourism which are currently using the MNRT Portal for their operations, I found that tariff fees configured in MNRT Portal were not the same as tariff fees defined and documented in the respective institution's laws and regulations, as illustrated below.

**Table 6: Difference between rates configured in MNRT portal and defined rates in Government Notices.**

Service	Fee as per MNRT Portal	Amount as per Government Notices	Deference
Night Game Drive Fees Child (R)	TZS 25,000	TZS 5,000	TZS 20,000
Night Game Drive Fees Adult (NR)	USD 100	USD 50	USD 50
Night Game Drive Fees Child (NR)	USD 50	USD 25	USD 25
Conservation Adult (NR)	USD 15	USD 60	USD -45
Conservation Child (NR)	USD 25	USD 20	USD 5
Entrance Adults (E)	USD 50	-not defined	-

Service	Fee as per MNRT Portal	Amount as per Government Notices	Deference
Entrance Child (NR)	USD 30	-not defined	-
Motor Vehicle t.w 2001 - 3000kg (R)	TZS 50,000	TZS 35,000	TZS 15,000
Open Vehicle Tare weight between 3001 - 7000 Kgs (L)	TZS 112,500	TZS 90,000	TZS 22,500
Motor Vehicle t.w 7001 - 10000kg (R)	TZS 125,000	TZS 150,000	TZS - 25,000
<b>TAWA</b>			
Aircraft Landing (13> Seater) - TZ - (Per Cycle in Game Reserves)	TZS 80,000	TZS 30,000	TZS 50,000
Aircraft Landing (1- 4-Seater) - NonTZ - (Game Reserves)	USD 100	USD 30	USD 70
Aircraft Landing (1- 4-Seater) - TZ - (Per Cycle in Game Reserves)	TZS 50,000	TZS 15,000	TZS 35,000
<b>TFS</b>			
Bamboo from Natural Forests and Plantations - Class I - Above 5 cm - Rates Per Score of 20 Poles	TZS 16,000	TZS 20,000	TZS -4,000
Bamboo from Natural Forests and Plantations - Class II - Below 5 cm - Rates Per Score of 20 Poles	USD 600	USD 100	USD 500

Service	Fee as per MNRT Portal	Amount as per Government Notices	Deference
Bamboo from Natural Forests and Plantations - Class II - Below 5 cm - Rates Per Score of 20 Poles	USD 1,000	USD 1,200	USD -2000
Permit for Camping per day for each Government owned tent (Capacity More than 5 Persons) - EA	USD 2,000	USD 1,500	USD 5,000
Permit for Camping per day for each owned tent (Capacity More than 5 Persons) - Non-Residents	USD 20	USD 15	USD 5
Permit for Camping per day for each owned tent (Capacity More than 5 Persons ) - EA	USD 15,000	USD 20,000	USD 5,000

*Source: MNRT portal configured rates and government notice*

I am concerned that this can lead to misstatement of revenue and overcharging of services provided by different institutions which fall under the ministry of natural resources and tourism.

**I recommend the Management of MNRT to take the following measures.**

- (a) Review all fees configured in the MNRT portal and ensure they are accurate as per respective laws and regulations;
- (b) Establish system configuration change management procedure to set controls to ensure accurate and authorized changes of configurations in the system; and
- (c) Instruct respective institutions to review their revenue figure and adjust their financial statements accordingly.

**b) Inaccurate water billing charge by the system (SBM)**

During my audit, I reviewed water billing charges at Iringa Urban Water Supply and Sanitation Authority (IRUWASA) and observed that there were inaccurate water billing charges in the SBM system. During my review, I analysed SBM billing transactions and noted a total of 365 inaccurately charged water billing transactions as follows.

- 41 are transactions where customers were overcharged by a total amount of TZS 45,310/=;
- 81 are transactions where customers were undercharged by a total amount of TZS 12,300/=; and
- 243 are transactions where customers were charged zero rates (not charged), however, as per their respective meter category ID they were supposed to be charged. The total water bill expected is TZS 15,347,720/=.

Further, I noted that there was no regular review between configured SBM tariff and tariff approved by EWURA to ensure they are aligned.

I am concerned that overcharge on water bills will result in overstated revenues collected, and undercharge and uncharged of water bills results into revenue leakage.

I recommend IRUWASA management to investigate the root cause of noted variances in SBM and rectify accordingly. Furthermore, a regular review of configured tariff in the system should be performed to ensure the system is aligned to the tariff as approved by EWURA.

**c) Deficiency in Calculating Fees to be charged for Construction Works/Project Registered by the Architects and Quantity Surveyors Registration Board (AQRB)**

S.34 (5) of Architects and Quantity Surveyors (Registration) Act No. 10 of 2010 states that every architects or quantity surveyors securing projects shall register it to the Board within thirty days

after signing a contractual agreement or receiving a letter or liable to a penalty. The amount to be paid by architects or quantity surveyors shall base on graduated cost of the projects as per approved rates dated 1<sup>st</sup> July, 2018.

During my examinations of number of projects registered and revenue realized with such registration for the year ended 2019/20 at Architects and Quantity Surveyors Registration Board (AQRB), I noted that project registration fee for both architects or quantity surveyors were below the required rates, this led to revenue recognized in the financial statements from project registration being below the required amount by TZS 21,018,920.56, On inquiry, I was informed by the management that the anomalies occurred in the Management Information System (MIS) data entry whereby the system erroneously calculated graduated cost of the projects as per approved rates.

I am concerned that this led to a loss of revenue amounting to TZS 21,018,920.56 to the Board.

**I recommend AQRB management to ensure they comply with standards for computation of projects registration fees issued and approved by the Board.**

**d) Lack of evidence of management approval for parking fees configured in e-Parking System.**

I reviewed configured parking fees in e-Parking system to provide assurance on the correctness of the rates against the approved rates by the management and board of directors. In my review I inquired official document that contain approved rates by management to compare with system configured fees but such document was not available, thus I could not provide assurance that the configured rates in the system were in accordance with management's review and approval

**Table 7: Parking fees configured in E-parking system**

Parking place	Car type	Price Per day in E-parking (TZS)
Mwaloni Kirumba market area	Small cars (Saloon Cars and SUV)	1,500
Mwaloni Kirumba market area, Miembeni and other places where on loading and offloading.	Pickup (Business)	2,000
Mwaloni Kirumba market area,Miembeni and other places where on loading and offloading.	Pickup (Private)	1,500
All places in Mwanza city council	Motorcycles	200
All places in Mwanza city council	Tricycle	500
Mwaloni Kirumba market area,Miembeni and other places where on loading and offloading.	Lorry/car Weighing below 3.5 tonnes	2,000
Mwaloni Kirumba market area,Miembeni and other places where on loading and offloading.	Lorry/car weighing between 3.5 to 10 tonnes	3,000

*Source: e-parking configured fees*

I am concerned that this can lead to configuration of incorrect and wrong fees contrary to management's decision leading to loss of revenue.

**I recommend management of TARURA to review configured system rates in the system to ensure they are in accordance to directive of board of directors and established revenue loss due to this anomaly in case of discrepancy.**

## CHAPTER FOUR

### 4.0 IMPLEMENTATION OF GOVERNMENT FINANCIAL MANAGEMENT SYSTEMS

According to circular number 5 issued on 18th November 2019 by the Paymaster General to all accounting officers requires public entities to seek approval of Ministry of Finance for implementation of financial management systems. The circular further stipulates the intention of government to rollout MUSE application system as the recognized accounting system to be used by public entities. In addition to this, government through Ministry of Finance and Planning has approved Electronic Resource Management System (ERMS) developed and managed by e-Government Authority (eGA) as authorized government financial management system to be used by government entities.

The objective of the government is to ensure standardization, cost effectiveness, easy of consolidating government financials, compliance with financial guidelines and regulations for utilized financial management systems in government entities. During the year under review, I noted the following concerns regarding implementation of government financial management systems in government entities:

**a) Unclear directives on implementation of government financial management systems**

Review of implementation of Government financial management systems and noted a gap of understanding among Government entities on the right financial management system to be adopted. The Ministry of finance and planning has approved MUSE and ERMS as authorised financial management systems that government entities can use.

However, there is no clear directive to Government entities that guides them in selecting the right government financial management systems, instead entities are directed to go for MUSE or ERMS depending on their business requirements. For example, during my review of implementation of government financial management system at Tanzania Broadcasting

Corporation (TBC), we inquired management's plan to acquire authorized government financial management system and noted that management opted for the ERMS system which was configured and started being used. Moreover, user training was already conducted, and initial operations, like creation and role assignment, were done. Nevertheless, TBC management received directives to implement MUSE for accounting and Planrep for Planning operations.

Further, we noted concern regarding MUSE customisation flexibility in entities that have decided to implement the system. I have reviewed the SUA initiative for MUSE implementation and noted that the university project implementation team noted that for the system to fit SUA's financial operations, the team recommended that the Six system's features be improved and financial regulations and policies set internal controls based on organization's environment to mitigate risks and improve operation efficiency, thus, implementation of MUSE should base on these regulations and policies. I am concerned that MUSE will not serve the purpose unless it is customized to fit SUA's Financial Regulations and policies which can be possible if there is flexibility to customize MUSE since it is a generic application developed to individual entities can be challenging.

I am of the view that the noted concerns are attributed to a lack of coordinated efforts and a clear roadmap in the adoption and implementation of financial management systems in the government.

I am concerned that the lack of a clear directive on adopting financial management systems will slow down the achievement of standardised and cost-effective financial management systems in the government. It will also result to implementation of authorized government financial management system that does not fit entity's requirements.

**I recommend the management of MoFP to**

- (a) provide a directive to government entities that specifies options for implementation of government financial management systems; and**

(b) Inform government entities about the flexibility of customizing MUSE to fit their requirements and ensure that MUSE is customized based on financial regulations of entities.

**b) Lack of MUSE project implementation roadmap**

During my walkthrough of MUSE application system, I noted that some of functionalities of the system have not been implemented, such functionality includes accounting of revenue collection whereby the system has not been integrated with GePG for recognition of revenue. On inquiry, I was informed by the management that the system is still under implementation, I requested implementation roadmap to assess status of implementation to establish the remaining activities and timelines, however, there was no defined roadmap or plan for the completion of the project.

I am concerned that MUSE was implemented to provide standardized, manageable and cost-effective accounting system for government entities and facilitate preparation of consolidated financial statement, thus failure to timely complete the project will result into continue utilization of uncontrolled and unstandardized accounting systems which is costly and ineffective in generating financial statements of government entities.

I am equally concerned that lack of roadmap or plan can attribute to lack of assurance that the project will be completed, and system rolled out timely. It also prevents implementation of other critical application systems such as Government Accounting Consolidation System (GACS).

**I recommend the management of MoFP to prepare a roadmap for implementation of the remaining MUSE functionalities and ensure the plan is monitored.**

## CHAPTER FIVE

### 5.0 CYBER SECURITY CONTROLS

#### 5.1 Inadequate controls against ransomware attacks

Ransomware is a form of malware that encrypts a victim's files. The attacker then demands a ransom from the victim to restore access to the data upon payment.

My review of government entities security controls' regarding effectiveness of protection against malware attacks, including but not limited to, Ransomware noted three cases where Ransomware attacked government institutions.

In the first case, the institution servers were attacked by a Ransomware named RYUK. The incident report shows that the malware affected the entity's backup application, Kaspersky antivirus and application servers. The malware was downloaded through a staff terminal and propagated to the rest of the entity's network. The attack caused a downtime of critical application systems for 12 hours.

In the second case, servers in entity's computer network segment were attacked by a Ransomware which affected the entity's Legacy Accounting System and Human Capital Management application. The attackers exploited vulnerabilities of Remote Desktop Protocol RDP used to give access to the vendor. The attack affected human resource operations that include Performance managements, Employee information, leave management, Overtime management and document sharing functionalities, these services were performed manually for two months due to this attack. Accounting and finance functions' impact was minimal, as the system runs in a separate network segment.

In the third case, the entity was attacked by malware which encrypted files and data making them inaccessible. The attack propagated through the entity's network after a user downloaded an infected e-mail attachment. The attack hit the entity severely as backup data were in the same location as the production data. Data and files for six applications were encrypted in both the production

environment and backup servers. Thus, the entity could not recover from the incident since backup data were also affected and this resulted to failure to produce financial statement reports.

I recommend the managements of the respective entities to take appropriate measures in protecting the entity's information assets against malware attacks, which include but not limited to the following:

- (a) Appoint information security officer responsible for developing and implementing information security strategy;
- (b) Conduct information security awareness training to staff regularly;
- (c) Establish an offsite recovery site for storing data backup instead of storing copies of data backup in the same location as production data;
- (d) Centralise update of antivirus and use antimalware; and
- (e) Review and fix vulnerabilities of the entities' applied protocols in rendering and managing computing services.

## 5.2 Security weaknesses of online applications.

I reviewed seven government entities to assess security controls of online applications and noted that applications do not use digital certificates. Moreover, I observed that one entity's website had been infected by malware that redirected visitors to a malicious website.

I am concerned that lack of digital certificate in web services may facilitate crooks and hackers to poison DNS (Domain Name System) to redirect users to a fraudulent website and steal users' credentials. Also, an attacker can escalate to other attack vectors with users' credentials such as unauthorised data insertion, deletion, and modifications.

I recommend managements of the respective entities to use secure online web services as per the e-Government Security Architecture - Standards and Guidelines.

### **5.3 Lack of Cyber Security Awareness Training**

Section 2.3.8.1 of e-Government Security Architecture- Standards and Guidelines requires public institutions to establish cyber-security awareness and training programmes in line with the Public Institution's information security policies and relevant procedures.

In my review of information security controls, I noted five government entities that have not conducted Security Awareness training during the period of audit.

I am concerned that lack of cyber-security awareness training exposes government institutions to cyberattacks as human behaviour is the weakest point for cyberattacks.

**I recommend managements of respective entities to ensure they establish and conduct cyber-security training to their staff.**

### **5.4 Irregularities of ICT Security Policy**

Section 37 (a) of the e-Government Act, 2019 requires public institutions to develop and implement institutional ICT security policy and ICT security strategy that provide directives for managing ICT security.

I reviewed ICT security governance and management and noted four entities which had no approved ICT Security Policy in place to guide staff on information system security matters. One entity had ICT Security Policy, but it lacks standard operating procedures for: handling ICT assets, Managing removable media, Disposal of Media, Cryptographic controls and Registration and de-registration of users and privileged users' rights.

I am concerned that the absence of ICT Security Policy and inadequacies of the existing policies can lead to ineffective governance and Management of ICT Security issues.

**I recommend the managements of entities to develop and operationalize ICT Security Policies, also to review the existing ICT security policy to ensure that it is adequate as per e-Government guidelines and standards.**

## **5.5 Irregularities in computer network security**

Para 2.3.(4). (6) of e-Government Security Architecture - Standards and Guidelines requires public institutions to segregate institutional network infrastructure into distinct segments named Virtual Local Area Network (VLANS) based on the systems' criticality.

My review of network security controls noted that three government entities had not segregated their network infrastructures to separate critical network resources and applications from the network used by staff for internet service. I also noted another entity lacks appropriate documentation of its network structure and lacks procedures for managing network users.

I am of the view that non-segregation of networks can lead to unauthorised access to servers hosting critical application systems through remote access to servers. Furthermore, a flat network structure can facilitate easy malware propagation, such as Ransomware that can penetrate a network through phishing attacks.

I recommend managements of the respective entities to:

- (a) segregate the computer network into domains using a virtual private network or physical separation such that servers hosting critical application systems should be in a separate virtual private network; and
- (b) properly document the network structure in compliance with e-Government Security Architecture - Standards and Guidelines.

## **5.6 Lack of information security officer.**

Section 2.2.2.1 (ii) of the e-Government Security Architecture - Standards and Technical Guidelines requires public institutions to appoint an Officer responsible for ICT Security who will undertake the day-to-day management of the ICT security strategy, supported as necessary by additional security-related roles.

My review of Information Security Management in government entities noted that ten entities had no Information security officers

responsible for ICT security to ensure availability, authorisation, and integrity.

I am concerned that the absence of an information security officer can lead to non-identification of Information security breaches, including attacks by cyber-criminals, virus attacks, and attempts by unauthorised parties, inside and outside the entity.

**I recommend managements of the respective entities to appoint an ICT security officer formally and specify his/her ICT Security job responsibilities as per e-Government guidelines.**

#### **5.7 User access rights control weaknesses.**

I reviewed user access management to application systems and noted that five entities had no formal process to review activities of super users or privileged accounts and audit trails and did not perform periodic users' access rights reviews to critical application systems. In another entity, I noted that users' rights revocation was not appropriately followed whereby departed staff was still having access rights in the Accounting system. In the other case, the entity did not document procedures for user registration and de-registration.

Furthermore, my review noted that five government entities had no application system role matrix that defines application roles in relation to business operations responsibilities. Role matrix maps business roles with application system roles and permissions. It serves as a reference point for checks and balances within the system, restricting individuals from performing actions outside their roles and authorities.

I am concerned that:

- without regular reviews of user access rights and audit trails, unauthorised rights and activities cannot be detected timely;
- Lack of role matrix can lead to granting more permission to users than their responsibilities, which can violate the segregation of duties in the system; and

- Lack of documentation of user registration and de-registration procedure introduces the risk of failure to de-register employees who have ceased their employment.

I recommend the managements of the respective entities to:

- (a) establish and enforce role matrices for all systems; the matrices should identify application roles that should not be performed by a single user for checks and balances;
- (b) establish a periodic review of systems activities and user access rights and document the assessment to determine if they align with the business requirement and no suspicious activities; and
- (c) develop documentation of de-registration procedure and ensure access rights for staff and other system users are immediately disabled following termination of their employment or contract.

## CHAPTER SIX

### 6.0 INFORMATION SYSTEMS ACQUISITION, DEVELOPMENT, MANTAINANCE AND SUPPORT

The ICT systems/Applications have become an inevitable prerequisite for enhancing efficiency and effectiveness of government entities operations. Currently, public institutions have acquired or developed application systems to help them conduct their statutory functions.

My review of application systems acquisition, development, and maintenance process in public institutions in relation to compliance with e-Government Guidelines for Development, Acquisition, Operation and Maintenance of e-Government Applications noted the following concerns: delays in completion of major strategic ICT acquisitions, failure to conduct user acceptance test, lack of project documentations, inadequate monitoring of projects, failure to track costs and lack of coordination in managing acquisition and development. My review covered the following projects: MNRT Portal project, Acquisition of Navision accounting application at NEMC; Digital command centre project at TTB; Enhancement of Integrated Land Management Information System (ILMIS) at MLHHS, integrated Standardisation, Quality Assurance, Metrology and Testing System (iSQMT) project at TBS, and NACTE systems development initiatives. The identified concerns have been detailed below.

#### 6.1 Failure to track costs of development

Para 55 of IPSAs 31 on intangible asset arising from development (or from the development phase of an internal project) shall be recognized if, and only if, an entity can demonstrate all of the that, among others its technical feasible of completing the intangible asset so that it will be available for use or sale and Its ability to measure reliably the expenditure attributable to the intangible asset during its development.

During my information systems audit at the Ministry of finance and planning noted that the Ministry has no internal mechanism to track cost for the internally developed application systems. The Ministry has 20 application systems out of which 17 applications systems were

internally developed, on request for the cost used for development of the respective application systems management of the ministry could not provide the cost of these systems.

My similar review of the project to develop electronic Revenue Management Information System (TeRMIS) at TARURA noted that cost of developing the system was not known due to lack of effective mechanism to track such cost.

I am concerned that this can attribute to misstatement of reported intangible assets figures in the financial statements. Also, can lead to misuse of the fund to go unnoticed if not well tracked.

**I recommend management of Ministry of finance and planning and TARURA to (a) ensure the cost of the project is established and reported with respective evidence of expenditure (b) cost are expensed and capitalized accordingly to formulate the value of the software to be used and reported in the financial statements.**

## 6.2 Delayed Completion of MNRT Portal project.

Ministry of Natural Resources and Tourism has embarked on deploying the MNRT portal to replace individual, institutional systems for service delivery, revenue collection, and statistics in natural resources, cultural, and tourism sectors.

According to the deployment plan, the system was expected to be rolled out on 18<sup>th</sup> September 2018 in 16 institutions. Nevertheless, up to the time I concluded my audit, on 30<sup>th</sup> October 2020, there were some functionalities and modules which were not completed, and the system was rolled out in 12 institutions. Table 8 below summarizes uncompleted project activities as per project milestones document. On inquiry I was informed that this is caused by fund constrains and shortage of members of staff to be deployed on the system development.

**Table 8: Pending activities MNRT portal project implementation**

S/N	System development activities outstanding	Status (%)
1	Permit Services	90
2	Hunting Services	95

S/N	System development activities outstanding	Status (%)
3	Reporting	90
4	Dynamic Forms	85
5	Mountain Climbing Bookings	Pending
6	Chimpanzee Booking	Pending
7	Tourist Tracing	90
8	API	90
9	System Documentation	75

*Source: MNRT portal project milestone report*

I am concerned that this delay is causing duplication of efforts for institutions which MNRT portal has not been rolled out since they are still maintaining their current systems.

I recommend MNRT management to:

- (a) Ensure that MNRT Project is completed on time by ensuring funds availability (b) consult;
- (b) Consult e-Government Authority and other government entities, such as Ministry of Finance and Planning, and The Bank of Tanzania for sourcing skilled and competent personnel to be involved in the project; and
- (c) Fast track rollout of the system to the remaining four institutions.

#### **6.3 Ineffective contract implementation on Provision of Consultancy Services for Additional Support of Development of District Roads Management System (DROMAS).**

TARURA on behalf of The Government of United Republic of Tanzania entered into a contract with M/s Cardon IT Transport Marylebone, London, on 16<sup>th</sup> August 2010 at contract price of GBP 108,925.20 and TZS 269,106,164.00. Section 4 of the Deliverable Checklist requires the supplier to prepare knowledge transfer road map and handover system source code by February 28<sup>th</sup>, 2019. While section 5 of deliverable Checklist, requires full functional system and handover of final reports: Revised System Detailed Design Report; Revised User Manual as required to cover all modifications; Revised System's

Administrator Manual; and Revised Training Facilitator Guide to be completed by 31<sup>st</sup> March 2019.

Contrary to the above articulated requirements of the contract, my assessment of management and administration of the system in line with TARURA capacity to take over technical maintenance, support and management of the system discovered the following concerns.

- The consultant has not handed over system's source codes to TARURA, nor is knowledge transfers road map in place, up to the time we concluded this audit on 29<sup>th</sup> January, 2021;
- The employer (TARURA) had not received Revised System Detailed Design Report; Revised User Manual as required to cover all modifications; Revised System's Administrator Manual; and Revised Training Facilitator Guide;
- The employer is not in full control of the system, such that in case of any change TARURA must engage the consultant to effect the change; and
- Lack of Business Case, System Requirement Specifications, System Design Documentation, Test Cases, and User Acceptance Test Report for DROMAS 2.

I am concerned that the noted concerns threaten sustainability of the application system and undermines value for money for the invested Government resources.

I recommend TARURA management to ensure the following.

- (a) Vendor transfers knowledge to ICT unit to be able to support and maintain the system to reduce dependency on vendor;
- (b) Source code is handed over in line with section 4 of deliverable checklist;
- (c) The consultant hands over of final reports: Revised System Detailed Design Report; Revised User Manual as required to cover all modifications; Revised System's Administrator Manual; and Revised Training Facilitator Guide; and

(d) Business Case, System Requirement Specifications, System Design Documentation, Test Cases, and User Acceptance Test Report for DROMAS 2 rolled out in Dar es Salaam Region are documented and handed over to TARURA IT department for future reference.

#### 6.4 Lack of evidence for MNRT Portal User Acceptance Testing.

Section 2.1.6.1 of the e-Government Standards for Development, Acquisition, Operation and Maintenance of e-Government applications (eGAEXT/APA/005) require public institutions to conduct user acceptance tests to ensure that application implementation meets user requirements.

During the review of MNRT portal implementation, I inquired the user acceptance test report to confirm the performance of UAT. However, there was no evidence to verify the performance of UAT as claimed.

I am concerned that lack of evidence for the performed UAT implies that the system was deployed without UAT performance. Therefore, there is no assurance that the deployed system meets user requirements.

I recommend MNRT management to

- (a) perform and document user acceptance testing; and
- (b) observe e-Government guidelines by performing and documenting User Acceptance Test (UAT) for any system change and new deployments.

#### 6.5 Anomalies in enhancement of Integrated Land Management Information System

Section 2.3.2.1 of e-Government Standards for Development, Acquisition, Operation and Maintenance of e-Government applications (eGAEXT/APA/005) requires change request(s) to be initiated by completing a change request form. The change request form must detail requester name, designation, date, change item, and change description. All change request forms to be reviewed by

IT manager and maintenance team. Then the IT is required to conduct initial vetting and assessment on the change request.

I reviewed enhancement of the Integrated Land Management System (ILMIS) at the Ministry of Lands, Housing, and Human Settlement Development, and noted the following anomalies.

- The presented reasons for change lack detailed description for change such as requester name, designation, date, change item, and change description;
- The document lacks the quality of formal change request as required by the e-Government authority standard;
- There is no evidence of reviewing and approving the submitted changes by IT Manager and the Maintenance Team;
- We reviewed presented reasons for change and noted that some of the provided reasons could better be addressed by other interventions rather than enhancing the system;
- There is no technical analysis report detailing feasibility, scope and impact. Also, there is no impact analysis report for changes, to substantiate resources required and change implementation schedule; and
- There are no detailed test cases aligned with requirements that can benchmark the system's efficiency and effectiveness during user acceptance testing.

I am concerned that the above-noted anomalies can lead to deployment of the system which does not address user functional requirements.

**I recommend management of MLHHS to:**

- (a) develop and operationalize documented application change management procedures;**

- (b) clearly define user requirements for the changes to be implemented and ensure user departments sign off these requirements;
- (c) properly document test plan and test cases to ensure that all user functional requirements are considered and addressed by the expected system; and
- (d) update system design and user manual documents to reflect the changes which are implemented.

#### **6.6 Lack of User Acceptance Test, System Design and Milestone for Case Investigation Management Information System project**

I reviewed TRA Case Investigation Management Information System (CIMIS) project and noted that the implemented system had not automated some user department's requirements such as evidence collection, investigation status tracking, case findings documentation, closed cases, and conclusions for each completed case.

Moreover, I requested system requirement document, project plan and milestone, and User Acceptance Test (UAT) to ascertain if the project execution complied with e-Government system acquisition, development, and maintenance guidelines. However, such documents were not availed.

I am concerned that the above-noted irregularities can attribute to failure of the CIMIS application to meet its intended objectives and undermines the realization of value for money for invested resources. I am also concerned that the Lack of documentation can lead to difficulties in supporting and maintaining the application.

**I recommend the management of TRA to ensure the following measures are taken.**

- (a) Review the system to ensure that user requirements including but not limited to evidence collection, investigation status tracking, case findings documentation, closed cases, and conclusions for each completed case are implemented;

- (b) Develop a project plan that specifies milestone, the status of activities, and ensure its continuous monitoring; and
- (c) Properly document the system design, test cases, and develop test scripts.

## 6.7 Irregularities in management and monitoring of ISQMT project

Integrated Standardization, Quality Assurance, Metrology and Testing System (iSQMT) is a web application that replaced TBS semi-automated quality information Management system (QUALIMIS) and other metrology and testing systems.

My review of the project noted the following concerns.

- User Acceptance Test (UAT) did not cover all functional requirements specified in the requirements specification (SRS) document. Out of 220 functional requirements specified in SRS, only 139 function requirements were tested;
- There was no evidence that failed user acceptance test cases were retested and signed off by the user's department. Out of 139 tested functional requirements, 46 failed the test, and 12 were not tested due to partial functions implementation;
- Lack of updated project plan and therefore, it was unclear which activities have not been implemented and their respective duration; and
- Vulnerability assessment and penetration test was not conducted.

I am concerned that these irregularities can attribute to the failure of project to achieve its expected objectives.

I recommend TBS management to:

- (a) review SRS document and UAT report to ensure functional requirements in SRS are mapped with UAT test cases to identify functional requirements that have not been tested;

- (b) ensure failed test cases and those that were not tested due to non-completion of implementation are tested, test results are documented and signed off by users;
- (c) update the project plan by specifying completed and pending activities with their duration; and
- (d) conduct vulnerability assessment and penetration test.

#### 6.8 Non-compliance with software development and change management procedure.

Dar es Salaam Institute of Technology (DIT) has internally developed some of its applications such as Help desk system, Digital learning platform, Inventory management system, Web Conferencing Application (Mconf& BBB) and Online Students Information Management System (OSIM).

I reviewed the developed application systems to establish the Institute's compliance with Guidelines for Development, Acquisition, Operation and Maintenance of e-Government Applications. My review noted the following concerns:

- Ineffective collection of user requirements whereby it was noted that an Inventory management system which was launched in 2017/18 had ICT assets register entered on 11/09/2018, with no further use. Moreover, my request for intended users, assets inventory scope and how user requirement document was initiated, were not responded up to the time of audit on 4<sup>th</sup> December 2020;
- The systems lack necessary documentation including but not limited to a business case, system requirement specifications, system design, project plans and milestones, test cases, test reports, and user manuals; and
- I also learnt that changes were implemented in the Online Students Information Management System (OSIM) since its deployment; nevertheless, the Institute has not been documenting and effectively managing the implemented changes.

I recommend DIT management to comply with e-Government Guidelines for Development, Acquisition, Operation and Maintenance of e-Government Applications to execute software development and change implementation.

#### **6.9 Inadequate ICT projects documentation**

National Council for Technical Education (NACTE) conducted three ICT projects in 2019/20. The projects were to enhance the existing system, develop the new system, and redevelop the old system.

My review of the projects identified concerns on the existence of documentation such as project case, project plan, requirement specification, system design, technical manual, user manual, and user acceptance test report. I also, noted that the Council had not established ICT Project Management Guidelines and ICT Acquisition, Development and Maintenance Guidelines to guide system acquisition/development initiatives.

I am concerned that inadequate ICT project documentation can lead to ineffective maintenance and support of the developed systems. I am equally worried that the Lack of proper documentation makes it difficult to assess the existing systems' effectiveness.

I recommend NACTE management to:

- (a) ensure that technical design documents for all developed application systems are formulated; and
- (b) ensure respective user departments collaborate with the ICT unit to conduct user acceptance test to validate user requirements and expectations for the developed application system and document results.

#### **6.10 Irregularities of the Digital command centre project**

I assessed the implementation of Destination Digital Command Centre (Studio) project at TTB and noted the following concerns.

- The DDCC Project plan delineate a steering committee comprising one representative from the following institutions:

TANAPA, NCAA, TFS, NMT, TAWA and TTB. The plan required the committee to prepare monthly, and quarterly progress reports to report project performance. Nevertheless, the project steering committee did not meet as needed;

- Delayed development and approval of standards and guidelines for the centre's operation such as Content Policy & Strategy, Engagement strategy, Social Media campaign Plan, Risk Management, Project Charter, Project Management Plan, Change Management Plan, Work Plan, and Content Calendar. These documents and guidelines were supposed to be completed on 30<sup>th</sup> June, 2020 as per the project plan;
- TZS 30,057,066.12 extra cost was incurred in member institutions project awareness training, the tender board's cost, evaluation meetings, and staff interview. The project steering committee did not approve these changes during budget execution;
- Project management plan did not specify how the annual software subscription fee would be shared among member institutions after commencing operations. The mechanism for knowledge transfer on the software's maintenance and support is not clearly stated in the plan; and
- There are uncertainties regarding the financing of subsequent operational charges related to the project as with effect from 1st July 2020, the main contributors (NCAA and TANAPA) were going to be collected by TRA remitted to the consolidated fund. The respective institutions will be financing their operations by receipts of government subventions.

I am concerned that the noted irregularities can affect the timely completion of the Digital command centre project.

**I recommend TTB management to:**

- (a) convene the project steering committee meeting to review the project current status and ensure the committee remain active to the project completion;**

- (b) ensure project expenditures are in line with budget and any changes or deviations from the budget are approved by the project steering committee;
- (c) develop and approve all required standards, guidelines, and documentations;
- (d) develop a directive which specifies how media centre operational costs will be shared among the six institutions; and
- (e) communicate with the Ministry of Natural Resources and Tourism and the Ministry of Finance on bridging the financial gap for the project to remain relevant.

#### **6.11 Irregularities in Managing ICT Projects at TPA**

Section 6.2.3 of TPA ICT policy requires that, all in-house development shall be managed as projects using standard software development and project management practices. Section 6.2.4 of the same policy requires all documentation to be kept up-to-date and its documentation shall include both user manuals and technical manuals. Section 12.1.1 of the same policy explains that, before commencement of any project, a project inception report should be submitted to the Director of ICT services then to the management to justify the need for the project and return on investment, and further approved by the Director General or the board of Directors. Section 12.1.3 of the policy requires a project manager to be appointed by Director General and the project manager shall be a certified project manager with a recognized certification.

Further to this, section 12.1.5 and 12.1.6 of the policy requires project progress reports to be submitted regularly to the Director of ICT services, project governing and monitoring bodies. Also, an organization change management shall be conducted before and commencement of the project, during implementation and after implementation to ensure smooth transition and ownership by users.

My review of project management practices at TPA revealed the following weaknesses:

- TPA has not established appropriate standards or guidelines to facilitate acquisition/development of information systems as per standard software development and project management best practices; and
- Lack of project office or staff with project management expertise to oversee project management which would ensure adherence to best practices and quality assurance. Taking into consideration TPA ICT policy requires projects to be managed by certified Project Manager.

I am of the view that these irregularities can attribute to lack of standardization of project management practices which will lead to failure of projects to meet objectives within budget and timeline.

**I recommend the Management of TPA to:**

- (a) develop ICT project management guideline in line with E-Government authority project management guidelines;
- (b) strengthen controls to ensure developed ICT project management guideline is adhered to; and
- (c) establish project office or section under DICT and equip it with personnel trained in project management skills.

#### **6.12 Weakness during the acquisition of Navision accounting application at NEMC**

The National Environmental Management Council (NEMC) has acquired Microsoft Navision to support its accounting functions.

I reviewed the software acquisition process and noted the following.

- There is no evidence of user requirements and user tests;
- Management did not specify application security controls, such as login security features whereby users can access the application functionality direct by having one-time login;

- The system lacks transaction initiation and approval functionalities as required by best practices in accounting packages; and
- Granted user access rights did not observe the least privileges principle such that some normal users were given super user roles.

I am of the view that lack of a proper application acquisition process may lead to failure of achieving the purpose of the system or application acquired.

**I recommend NEMC management to:**

- (a) comply with e-Government Guidelines for Development, Acquisition, Operation, and Maintenance of Applications during the software acquisition process;
- (b) ensure proper application access right are granted according to users' job descriptions; and
- (c) implement security features, transaction initiation, and approval functionalities to Navision accounting application.

## CHAPTER SEVEN

### 7.0 APPLICATION SYSTEMS INTEGRATION, UTILIZATION AND HARMONIZATION

#### 7.1 LACK OF INTEGRATION AMONG MAJOR APPLICATION SYSTEMS

According to section 2.4 of the Tanzania E-Government strategy, among the key Implementation and Operational Issues of the e-Government is, there is no Government-wide established ICT architecture, integration and standardization. This leads to lack of uniformity of ICT applications which increases support and maintenance costs. Section 3.4 of the strategy has outlined goals of e-Government strategy which includes providing integrated, secured, and innovative solutions to enable high quality service delivery and improvement of work processes.

During my assessment of effectiveness of application controls of various application systems, I noted that integration of application systems with other major government application systems has not been adequately considered. In my review I noted the following concerns:

##### 7.1.1 Non-integration of TANePS with other Government Applications.

TANePS application system is used for managing procurement operations in the government entities. I reviewed TANePS application system at PPRA and noted that the system, is neither integrated with the budgeting systems: PLANREP for LGAs and CBMS for MDAs nor has it been integrated with MUSE which is an accounting system that processes government expenditures including vendor payments. Moreover, I noted that the system is not integrated with GPPSA for real-time identification and elimination of blacklisted suppliers.

I am concerned that, lack of integration between TANePS with MUSE, PLANREP, CBMS, and GPSA can lead to procurement executed out of budget; improper and unauthorised payments to suppliers; and awarding of tenders to unqualified suppliers.

**I recommend PPRA Management to liaise with MoF, PO-RALG, and GPPSA and prepare a roadmap for integrating TANePS with MUSE, PLANREP, CBMS and GPSA system to ensure effective management of the procurement process.**

**7.1.2 Lack of integration between TANePS and Government e-Payment Gateway (GePG) for debit/credit card payment.**

Section 44(1) of The Public Finance Act, 2017 requires all government money to be collected through Government e-Payment Gateway, and Section 44(2) of the Act directs the Accounting Officers to ensure that all government money is collected through Government electronic Payment Gateway (GePG).

Contrary to the above requirements, my review of the payment methods in TANePS noted that online payments are made directly to the bank account by transfer through debit/credit card and Internet Banking without passing through GePG.

I am concerned that collection of fees out of the GePG constitutes noncompliance with Public Finance Act, 2017, restricts visibility of collected revenue and PPRA does not enjoy the benefits of reducing bank charges.

**I recommend PPRA management to ensure that the Authority uses the available GePG service for online payment to ensure compliance with the Public Finance Act, 2017.**

**7.1.3 Non-integration of TPA- Terminal Operating System with TANCIS and TICTS systems.**

Terminal Operating System is an application system that manages port operations for international vessels importing and exporting cargo. The application has three modules:

- Harbour view: for managing vessels and their operations;
- Cargo: for managing cargo storage and clearance; and
- Bill: for creating port charges invoices.

The modules are integrated through a message exchange platform. The bill module is further, integrated with electronic payment platform for payment of bills through GEPG.

My review of Terminal Operating system noted that there is no integration between cargo module and TANCIS on manifest submitted to TRA, current manifest is downloaded from TANCIS and uploaded to cargo module by TPA officers which is subjected to intentional or unintentional modification. I am concerned that there is a possibility that some of cargo details from TANCIS may not be uploaded to cargo system thus make tracking impossible. For example, during the audit I noted two cases whereby the quantity of cargo in cargo system is less than that in manifest document from TANCIS as described below

**Table 9: Difference in quantity of cargo between cargo system and TANCIS**

Vessel Name	Callid	ATA	ATD	Tancis Number of Cargo	Cargo System Number of Cargo	Terminal
KOTA MEGAH	13549	29/09/2019	30/09/2019	843	838	TIC TS
JENS MAERSK	1474	31/05/2020	17/05/2020	557	539	TIC TS

*Source: Cargo system report and Manifests from TANCIS*

I also found out that TOS application system is not integrated with TICTS systems to monitor container discharge, delivery, receiving and loading in TICTS terminal.

I am concerned that lack of automated integration between TOS application systems and TANCIS attribute human errors resulting to loss of revenue at ports since some of the cargo may not be imported in the cargo system from TANCIS. Moreover, lack of integration with TICTS systems leads to inefficient monitoring of discharged, delivered, received, and loaded containers in TICTS terminal.

I recommend the Management of TPA to:

- (a) integrate cargo module with TANCIS to avoid manual uploading of the manifest; and
- (b) integrate TOS application system with TICTS systems to monitor container discharge, delivery, receiving and loading at TICTS terminal.

#### 7.1.4 Ineffective interface between EFDMS and e-filing module

Article 67-(1) of The Value Added Tax Act (Chapter 148), Principal Legislation revised edition 2019 stipulates that the net amount of value-added tax payable by a taxable person in relation to a tax period shall be calculated by (a) adding all output tax that becomes payable by the person in that tax period;(b) subtracting all input tax credits allowed in that tax period, and (c) adjusting the resulting amount by- (i) adding all increasing adjustments required to be made in that tax period; and (ii) subtracting all decreasing adjustments allowed in that tax period.

I reviewed EFDMS application system and ITAX system, particularly tax transactions from EDFMS and ITAX system to assess compliance with the cited article and ascertain whether the buyer's TIN in EFD receipt is automatically captured to establish input and output VAT and calculates VAT net amount. My review noted the following anomalies in the extracted z-report transaction data from EFDMS.

- Existence of transactions that are missing Buyer's TIN, this implies that the system could not automatically record the input VAT tax amount for the Buyer (Business entity). Therefore, unless the buyer declares the input tax during submission of VAT returns in the e-filing system, the system cannot determine the respective input VAT amount;
- EFD machines using protocol 2.0 submit to EFDMS system daily aggregated tax amount based on Seller's TIN only instead of both TIN number and receipt number. Aggregated VAT amount account for Output VAT. Nevertheless, buyers' transactions cannot be identified to accounts for input VAT tax; and

- 535 transactions in ITAX were done using closed TIN and the same was noted in EFDMS where there exist transactions with closed TIN.

I am of the view that the noted anomalies are caused by the existence of some EFD devices that use an obsolete communication protocol, and inadequate integration between EFDMS and ITAX.

I am concerned that the noted anomalies create loopholes for fraudulent activities due to manual computation of net VAT amount. Likewise, it creates a loophole for Tax evasion by owning more than one TIN or hiding taxpayer identity for the assessable amount or closed business while continuing with business transactions.

I recommend the management of TRA to

- (a) Enhance EFDMS application system to track Business Buyer's TIN, transaction receipt number and transaction receipt date in EFDMS through EFD machines to validate input VAT amount for Business Buyers and Output VAT for sales made. (b) establish;
- (b) Establish transaction reference number between EFDMS and ITAX system using Buyers TIN and transaction receipt number for effective accounting of VAT Tax and other related tax; and (c) enhance; and
- (c) Enhance integration between EFDMS and ITAX to enable automatic calculation of net VAT amount in ITAX system and ensure taxpayer details are synchronized to EFDMS whenever changes in taxpayer profile occur in TIN.

#### 7.1.5 Ineffective integration between TANCIS and CMVRS.

I audited TANCIS and CMVRS application systems at TRA to assess effectiveness of integration between the two systems and noted the following:

- 167,872 vehicles of IM4 and IM9 with custom value of TZS 1,365,824,128,727.32 were not registered in CMVRS system;

- 223 vehicles declared for transit (IM8) but registered in CMVRS for local use: Only registration fee was paid in registering these vehicles; and
- Five vehicles which were declared for transit, locally registered without even paying the required registration tax.

I am of the view that the noted irregularities are caused by lack of integration between TANCIS and CMVRS.

I am concerned that lack of integration between TANCIS and CMVRS result to evading of tax by declaring vehicles for transit while they are used locally.

**I recommend the TRA management to do the following:**

- (a) review integration between CMRVS and TANCIS and ensure imported motor vehicles for local use are appropriately registered;
- (b) ensure that TANCIS restrict the visibility of (IM8) transit motor vehicles in the registration process to enforce compliance with custom declaration procedures for local usage; and
- (c) investigate the noted irregularities to establish the amount of uncollected statutory taxes and recover thereof.

#### **7.1.6 Non-integration of Gaming Board of Tanzania (GBT) Application System with other major government application systems.**

Gaming Board of Tanzania has two major application systems: Gaming Licensing, Inspection and Compliance Applications (GLICA) an application which has automated the core business functions of Board such as policy, legislation, licensing, compliance, investigation, and enforcement; and The Regulatory Central Electronic Monitoring System (GREMS) used for monitoring and provision assurance of government revenue control, responsible for gaming, market awareness and business intelligence from all gaming activities.

My review noted the followings in the context of system integration.

- Gaming Licensing, Inspection and Compliance Application is not interfaced with TRA- ITAX for TIN verification;
- Gaming Licensing, Inspection and Compliance Application is not interfaced with BRELA - Business Registration and licensing system for business registration validation; and
- Lack of integration between Gaming Licensing, Inspection and Compliance Applications and Regulatory Central Electronic Monitoring System (GREMS).

I am concerned that:

- the missing interface between GLICA and TRA- ITAX can lead to inadequate verification of gaming operators TIN;
- lack of interface between GLICA and BRELA - Business Registration and Licensing system can lead to insufficient validation of gaming operator's business registration and licensing status; and
- absence of integration between Gaming Licensing, Inspection and Compliance Applications and Regulatory Central Electronic Monitoring System (GREMS) limits the Board's efficiency in monitoring function, such as identifying registered and unregistered machines which do not send data to GREMS.

I recommend the management of Gaming Board of Tanzania to:

- (a) integrate Gaming Licensing, Inspection and Compliance Application (GLICA) with Regulatory Central Electronic Monitoring System (GREMS) to ensure effective and efficient gaming operators monitoring;
- (b) interface Gaming Licensing, Inspection and Compliance Application (GLICA) with ITAX to ensure sufficient TIN verification; and
- (c) interface Gaming Licensing, Inspection and Compliance Application (GLICA) with BRELA - Business Registration and

**Licensing system to sufficiently validate gaming operators' business licenses.**

#### **7.1.7 Non integration between TASAC application systems and TPA application systems**

Tanzania Shipping Agency Corporation (TASAC) uses Shipping Business Management System (SBMS) to manage shipping operations. Currently, two modules are in use: Document Control and Clearing and forwarding.

My audit of the system noted the system lacks adequate controls to ensure all shipping lines submit manifest to TASAC before docking. Comparison of vessels reports from TOS application system at TPA and reports from SBMS noted that 284 vessels docked at Dar es Salaam, Tanga, and Mtwara ports from November 2019 to August 2020 without submitting documents to TASAC. Also, verification of content of manifest is not effectively done by TASAC whereby there exist manifest that have one cargo while such manifest at TPA appeared to have more than one cargo which implies that these documents are not verified for completeness by TASAC.

I am concerned that lack of adequate controls to ensure all vessels submit documents to TASAC before docking at the ports and lack of shipping documents verification can lead to ineffective management of docking operations.

I recommend TASAC management to:

- (a) Strengthen Shipping Business Management System controls to ensure all international vessels docking at our ports submit required documents;
- (b) Interface SBMS with TPA's Terminal Operations System to enable TASAC to have real-time visibility of all shipping lines to detect and identify vessels which have not submitted the required documents; and
- (c) Establish a mechanism to verify the content of manifest for completeness.

#### **7.1.8 Lack of integration between MNRT Portal with other Government Applications.**

Ministry of Natural Resources and Tourism has deployed the MNRT portal to replace individual, institutional systems for service delivery, revenue collection, and statistics in natural resources, cultural, and tourism sectors.

I audited the portal and noted that there is a delayed implementation of the Ministry plan to interface/integrate the system with other government systems such as CMVRS: for motor vehicle registration validation; DLS: for driving license validation; BRELA: for Business License registration verification; IMMIGRATION: for validating tourists' citizenship; TMA: for provision of tourism attractions weather conditions; NIDA: for citizenship verification; NBS: for capturing and Reporting of tourists' statistics; and TIRA-MIS: for motor vehicle insurance-cover validation. Also, up to the time of concluding this audit, the Ministry had no plan for integrating the system with the Government accounting system: MUSE.

I am concerned that lack of integration /interfacing between MNRT portal and identified systems above can cause inefficiencies and inconveniences in managing natural resources, cultural, and tourism activities due to excessive manual verification and validation of information in the jurisdiction of other government entities.

I recommend the Ministry of Natural Resources and Tourism to fast-track implementation of planned integrations by liaising with respective entities and develop a roadmap for integration with each application and establishing a mechanism to monitor implementation of the roadmap.

#### **7.1.9 Lack of adequate integration between Ministry of Lands Information System (MOLIS) and Government electronic Payment Gateway (GePG).**

Ministry of Lands Information System (MOLIS) is an application used by the Ministry of Lands, Housing, and Human Settlement Development (MLHHSD) for land management and administration. The application has two versions; MOLIS: used in Kigamboni, Temeke,

and Ilala Municipals; and MOLIS: v3 used in other regions other than Dar es salaam.

My review of the system noted that the billing process is done manually in all land transactions except land rent. A land officer assesses the amount to be paid for a particular transaction, generates an invoice, and then goes to the GePG generic billing module to create a bill. On receipt of the payment evidence, an accountant posts the paid amount in the system to acknowledge the required fees' settlement.

I am of the view that manual billing processing for transactions other than land rent, is attributed by inadequate integration between MOLIS and GePG. Manual billing is prone to intentional and non-intentional errors which can result in billing misstatements.

**Because the Ministry is planning to roll out the Integrated Land Management System (ILMIS) in all regions, I recommend the management to establish compensating controls for manual billing processes in MOLIS and MOLIS V3 until the rollout is completed.**

#### **7.1.10 Lack of interfacing between ITAX and Revenue Gateway System (RGS).**

Tax assessment is raised in the ITAX system in which a debit number is assigned to each assessed amount. Then assessment details: debit number and the tax amount are manually entered in the Revenue Gateway System (RGS) for tracking payment status for issued assessments.

I reviewed ITAX and RGS transactions to establish the completeness of information between the two systems. I noted 341,200 transactions with the amount of TZS 2,880,517,770,581.24 were paid in RGS without corresponding Debit Numbers in the ITAX system.

I am concerned that the noted anomaly leads to unrealistic list of receivables, affecting the true and fair view of the Tax Statement.

**I recommend TRA management to ensure that ITAX and RGS are interfaced to eliminate manual intervention whereby debit number is entered manually on RGS.**

### **7.1.11 Integration issues for Local Government Authorities' Application Systems.**

Local Government Authorities use Local Government Revenue Collection Information System (LGRCIS) for revenue collection; IFMS-Epicor for Accounting; Facility Financial Accounting and Reporting System (FFARS) for managing facilities (primary schools, secondary schools for education; dispensaries, health centres, district hospitals, and village governments) revenue and expenditures; PlanRep for Planning and Budgeting; and Government of Tanzania hospital Management Information System (GoT-HoMIS) for managing health facilities' operations including revenue collection.

My review of the systems noted there is ineffective interfacing between LGRCIS and IFMS- Epicor such that revenue figures reported in LGRCIS do not tally with revenue figures in IFMS-Epicor. For instance, I reviewed Ilala Municipal revenue transactions from IFMS-Epicor and LGRCIS for financial year 2017/18 and 208/19, in which I noted a difference in the reported information from the two systems (Appendices VII-IX).

There is no integration between FFARS and GoT-HOMIS which necessitates manual transfer of collected revenue from GoT-HOMIS to FFARS. Manual transfer of revenue information is prone to intentional and un-intentional errors. For instance, reported revenue figures between the systems for six health facilities from Ilala Municipal for 2019/20 financial year, show that, revenue figures in FFARS are greater than revenue figures in GoT-HOMIS for five health facilities, and revenue figures in FFARS are less than revenue figures in GoT-HOMIS for one health facility (see Appendix X).

I am concerned that:

- The difference in revenue figures between the revenue system (LGRCIS) and the accounting system (IFMS-Epicor) affects the true and fair presentation of reported revenue in the financial statement; and
- The difference in revenue figures between the FFARS and GoT-HOMIS affects the true and fair presentation of reported revenue

in the financial statement. It can lead to embezzlement, especially when revenue figures in FFARS are less than revenue figures in GoT-HOMIS.

I recommend the PO-RALG to work together with the LGAs to

- (a) review and improve the interface between LGRCIS and the Accounting system to ensure that all collected revenue from LGRCIS is accurately transferred to the accounting system; and
- (b) integrate FFARS with GoT-HOMIS such that there will be automatic information sharing between the systems.

## 7.2 UNDERUTILIZATION OF APPLICATION SYSTEMS

My assessment of application systems utilization in attempt to check operational efficiency and realization of value for money for the acquired systems revealed that some of the government entities are not fully utilizing the systems as described in my findings below:

### 7.2.1 Unutilized modules of application systems

In my audit at PPRA, I reviewed System Requirements Specifications document for TANePS application system and Inception Report which focuses solely on the PPRA specific configurations to be completed for delivering the system, shows that the full functional system should comprise the modules such as e-tendering, e-contracts management, e-catalogue, and e-auction. Moreover, the contract shows that the supplier was paid for deploying, commissioning, and piloting the system within a warranty period which is four years.

I reviewed the implementation status of the system and noted that E-contract and e-auction modules were tested and deployed but currently not in use, and E-catalogue module was tested and deployed but is pending for use awaiting integration with Medical Stores Department (MSD) and Government Procurement Services Agency (GPSA) catalogues databases.

I am concerned that PPRA having two years of the warranty period has passed without using the key identified modules. The situation denies the authority to get value for money for the acquired asset

and the use of the modules after expiration of the warranty period will trigger major changes to the system leading to incurring extra cost.

Similarly, during my audit at NEMC I noted that despite of the Council purchased Microsoft Navision accounting software at approximately TZS 50 million and continued to pay maintenance charges at the average of TZS 102 million in three financial years, 2017/18, 2018/19 and 2019/20, the council used only one Navision revenue collection module. But other modules such as Cash and Bank, Property Plant and Equipment, Receivables, Payables, Purchases, and other payments were not used. This implies that the value for money of the system purchased is not attained by the Council.

Moreover, during the audit at The Institute of Adult Education I found that they used SAGE Pastel software to manage its financial records. On my review of the system, I noted that all inventory management processes were being conducted manually while the software has a module for managing inventory. I am concerned that manual process for inventory management increases the risk of errors in inventory recording. It makes proper stock management difficult and runs the risk of inaccurate inventory reporting.

I recommended the following:

- (a) **The Management of Institute of Adult Education to start using the SAGE Pastel system for inventory management. If the existing system does not satisfy the institute's requirements, management should investigate the acquisition of a system with necessary features;**
- (b) **The Management of PPRA to rollout e-contract and e-auction modules and put them in use to ensure that performance issues are identified and resolved before the expiration of the warranty period. Also, fast tract e-catalogue integration process and exercises its mandate as the project owner to ensure that GPSA and MSD fulfil their responsibilities in the process; and**
- (c) **The Management of NEMC to ensure competence and proper implementation of the current accounting software in place**

and ensure each module of the system is properly implemented and fully utilized.

#### 7.2.2 Underutilization of District Roads Management System (DROMAS).

TARURA has deployed District Roads Management System (DROMAS) to manage road inventory and maintenance services as a core function of TARURA. One of the primary objectives of the system is to track progress of roads works contracts. Therefore, for efficient and effective contracts management, all works contracts must be recorded in DROMAS.

Nevertheless, my review of the system noted that details of contracts are not effectively recorded in DROMAS. Our comparison between contract details from TANEPS with details of DROMAS noted a mismatch for sampled seven regions as the table 10 below illustrates.

**Table 10: TANEPS vs DROMAS registered contracts**

S/N	REGION	TANEPS	DROMAS
1	Iringa	40	31
2	Katavi	18	14
3	Lindi	9	31
4	Mara	14	32
5	Mwanza	11	54
6	Njombe	26	41
7	Songwe	9	21

Furthermore, we noted that the planning module of the system designed to assist Regional Coordinators in managing works plans is currently not in use.

I attribute this to inadequate user acceptance of the system resulted from failure to effectively manage organization change.

I am of the view that TARURA cannot realise value for money for the cost of acquisition, maintenance, and support of this system.

I recommend the Management of TARURA to

- (a) Assess and establish reason for user reluctance to use the system and ensure the system is effectively used as intended; and
- (b) Complete the system set up and ensure that all modules including but not limited to Planning are in use.

#### 7.2.3 Ineffective Organization Change Management in Adapting Automation of Operations

My review of reports and application controls in harbor view, cargo and billing modules of the TOS application system which manages port operations at TPA noted that, the system is not effectively used to manage operations. Staff are not timely updating information in the system, this was evident by existence of exited cargo with status of “registered” while if cargo has exited the port its status should be “executed”. Another evidence is the existence of vessels with dates of operation close later than actual departure dates, this situation implies that operation of the vessels were closed after departure dates. Further, some processes such as discharge tally & receiving tally in import cycle and receiving & loading tally in export cycle were not done timely and not in the right sequence, thus leaving a room for manipulation.

My further review noted that the system has features that enable some operations to be done by customers online without the need to visit TPA offices; however, such functionalities are not used resulting into queues and delays in cargo clearance. For example, Shipping agents/Vessel owner can create Transpire in POAS system from any location, but this is done by shipping Agents at TPA/OSC offices. Also, Generation of invoice after IOCD has been approved by TRA can be done by TPA staff immediately without waiting for customers to queue up to request for invoice creation but Customers must queue up at TPA revenue to submit IOCD at TPA and request invoice generation. In addition, Payment receipts could be generated by users themselves after payment confirmation, allowing them to proceed with cargo clearance, but Customers must request and

queue up at TPA offices to generate receipts in order to proceed with cargo clearance.

I am concerned that untimely updating of information in the system, improper and ineffective utilization of system and failure of customers to utilize online services attributes to lack of realistic reports for decision making, delays in cargo clearance, unnecessary bureaucracy, and operation inefficiencies.

**I recommend ed TPA Management to:**

- (a) Assess all ineffective utilization of TOS application system then establish change management plan that will ensure user acceptance and ownership of application system; and
- (b) Ensure port stakeholders/customers are trained on the use of available online services and restrict such services to be done at TPA offices.

#### **7.2.4 Failure to Use Computerized Accounting System**

It is the best practice for the management of an entity to institute a sound and internal control system which, among other things, includes the installation of modern accounting system that will enhance proper control over financial management for timely reporting and decision making.

During the audit at College of African Wildlife Management (CAWM) I found that college purchased pastel accounting package in 2010 for TZS 32,500,000 to assist the college in recording financial information and financial reports, however the package was never utilised. The college uses excel to record financial transactions of the college.

I am concerned that lack of accounting package has resulted into data capturing and double entry errors, limitation on detecting and preventing of errors, and limitation of evidence of review and approval of data recorded in excel.

Similarly, during my audit at EWURA Consumer Council I noted that accounting issues were still done in excel worksheets and that takes

too long to produce or retrieve the required Reports. This implies the risk for financial manipulation and alterations. On inquiry, I was informed by the management that the Council has a computerized accounting system named Palladium ERP. Formerly the Council was using Sage Pastel ERP. The use of the said accounting system requires a server and a stable internet connection which unfortunately is missing since the Council moved to the current office premises in December 2019. The situation forced the Council to operate both the computerized accounting system and manual system. Currently the Council is working on the issue to ensure availability of reliable internet connection and server.

**I recommend the following:**

- (a) **The management of CAWM to use the software for its financial recording and accounting needs, to enhance security over financial information, reduce and detect manual errors, facilitate approval and reviewing processes and moreover produce in-depth and comprehensive financial report for better decision making; and**
- (b) **The management of EWURA CC to acquire and use accounting software to improve performance efficiency and timely reporting of its operations.**

### **7.3 ABSENCE OF HARMONIZATION OF APPLICATION SYSTEMS**

Section 3.1.1 of e-Government Guideline requires public institutions to adhere to Enterprise Architecture (EA) Guidelines, so as the Government can reduce risk of fragmented and duplication of efforts.

During the year under review, I assessed existence of duplicate application systems in the government entities to ensure duplication of efforts is avoided and cost is reduced for development and maintenance of application systems in the government. In my assessment, I noted the following cases of lack of harmonization and duplication of application systems:

I reviewed application systems used in operations of land at MLHHS and noted existence of three different application systems used for

land management and administration: MOLIS which is used in Kigamboni, Temeke, and Ilala Municipalities, MOLIS v3 which is used in other regions outside Dar es salaam, and ILMIS which is used in Kinondoni, Ilala, Ubungo, Temeke Municipalities and Kigamboni District Council. On inquiry, we were informed that ILMIS was acquired through donor funds to address challenges and weaknesses of the two versions of MOLIS and piloted in Kinondoni and Ubungo municipalities, however, it was not rolled out all over the country. On inquiry we were informed by the management that the ministry is planning to rollout (ILMIS) and other existing systems will be decommissioned after ILMIS rollout across the country.

My similar review of existing application systems at the PO-RALG noted the Ministry has developed several application systems internally to improve various business operations. In my review, I noted existence of more than one application performing similar functions as described below

**Table 11: Duplicate application systems performing similar functions**

S/n	Application system	Function	Remark
1	Planrep	Application system used for planning, budgeting, and reporting system in LGAs	Monitoring and evaluation is part of Budgeting process therefore Planrep as a budgeting tool was supposed to have a module for monitoring and evaluation instead of having a separate application system which increase administrative, maintenance and support overhead
	TiMES (Tanzania integrated monitoring and evaluation system)	Application system for Monitoring and evaluation activities in LGAs	

S/n	Application system	Function	Remark
2	SIS (school information system)	used to collect statistics of schools such as students' attendance and development, number students, teachers, and books	Both separate systems collect statistics of schools which could have been one system.
	ASC (annual school census)	used to collect statistics from primary, secondary, and adult education schools using special questionnaire;	
3	IFT-MIS	Application system for managing coordination and keeping records of follow up of funds utilization in LGAs.  The system also does follow up implementation of CAG, PPRA and LAAC recommendations and directives.	These are two different systems both having a function of following up implementation of CAG, PPRA, Internal Auditor general recommendations and LAAC directives in LGAs
	Government Audit Recommendation Implementation Information Tracking System (GARI-ITS)	Application managed by Internal Auditor General for tracking implementation status of audit observations in all government entities including LGAs	

*Source: Article number 14 of the PO-RALG application systems*

I am of the view that this is caused by lack of coherent planning to conceive and deploy IT application systems.

I am concerned that the presence of different application systems used to accomplish the same purpose is a duplication of efforts which increase overhead in terms of administration, maintenance, and support.

I recommend the following to the respective managements.

- (a) The management of MLHHS should develop the roadmap for implementation of ILMIS application across the country to ensure usage of a single land management system across the ministry and plan for effective data migration from other systems to ILMIS; and
- (b) The PO-RALG to review functions of its existing systems and harmonize them to avoid duplicates systems that perform the same function.

#### 7.4 NON-AUTOMATION OF CRITICAL BUSINESS OPERATIONS

Operation automation refers to the use of digital technology to perform a process or processes to accomplish a workflow or function. A wide variety of business processes and activities can be automated, or more often, they can be partially automated with human intervention at strategic points within workflows. Process automation reduces the time it takes to achieve a task, the effort required to undertake it, and the cost of completing it successfully. Automation not only ensures systems run smoothly and efficiently but that errors are eliminated and that your best practices are constantly leveraged.

The e-Government strategy of the Government of the United Republic of Tanzania articulates a vision to be an effective Government providing innovative public service delivery enabled by ICT. Among the key goals of this vision is to provide integrated, secured, and innovative solutions to enable high quality service delivery and improvement of work processes.

I assessed the automation of government entities' critical business operations and noted the following weaknesses.

##### 7.4.1 Lack of information system to manage core business operations

ETDCO is a subsidiary company of TANESCO responsible for electrical transmission and distribution. According to ETDCO 2018-2021 strategic plan the core function of the company is to carryout project feasibility studies, planning and designing, evaluation and

assessment; prepare and work on construction and maintenance (both live and non-live maintenance activities) of Transmission and Distribution networks.

My review of operations and existing information systems noted that ETDCO is currently managing records of construction and maintenance projects in a decentralized and unorganized manner, whereby, project data and information reside in staff computers which is difficult to effectively and efficiently track projects status, prepare budget, track costs, conduct quality assurance, consolidate and generate reports instantly for decision making. I am of the view that ICT provides opportunity for ETDCO to achieve its mandate efficiently and in cost effective manner through automation of its business processes.

I am concerned that failure to automate management of records of projects for transmission and distribution can result in inefficiencies.

TGDC is a subsidiary company of TANESCO owned by the government of Tanzania, incorporated in December 2013 for the purpose of spearheading development of geothermal resources in Tanzania. It commenced its business in the July 2014 with the mandate, amongst others to explore, drill and harness geothermal resources for power generation and direct applications.

My review of TGDC operations and existing technology to manage exploration data noted that currently such data are stored in staff computers and external hard drive which is difficult to consolidate and generate reports instantly for decision making effectively and efficiently. Additionally, due to sensitivity of such data the current storage practice subjects them to risk of unauthorized access and damage. I believe ICT provides opportunity for TGDC to achieve its mandate efficiently and in cost effective manner through automation of its business processes. Moreover, development of database or information system for managing exploration data will reduce the risks of unauthorized access and damage.

I am concerned that failure to automate management of exploration records can attribute inefficiencies, unauthorized access to information and damage.

I recommend management of ETDCO and TGDC with consultation of the e-Government Authority to develop or acquire application system to manage operations of core functions to improve efficiency.

#### **7.4.2 Lack of Automated Accounting System**

Best accounting practices requires entity to have an official computerized double entry system with clear chart of accounts for each transaction to be sufficiently recorded in respective classes which will ensure reliable financial statements are produced.

My Assessment conducted at Mwalimu Julius Nyerere University of Agriculture and Technology (MJNUAT) noted that the University does not have a double-entry Accounting System (software) to record and maintain ledger of transaction details for the individual line items in the financial statements, Cashbook is prepared based on the individual transaction posted directly from the file, the same assessment conducted at Tanzania Institute Of Education(TIE) noted that the Institute's press centre do not have automated accounting systems and their financial reporting is based on Microsoft Excel spreadsheet which is prone to several accounting weaknesses.

I recommend management of MJNUAT and TIE to acquire accounting system to facilitate proper financial reporting process.

#### **7.4.3 Manual Processing of Sales of House and Land (Plots)**

My review of the sales process of land (plots) and houses at the National Housing Corporation (NHC) noted that the Corporation has not instituted a computerized system (Software) that will accommodate sales operations. Currently, the directorate of sales uses an excel spreadsheet in recording the sales. Since sales are done manually, I am of the view that double allocations and loss of some documents might occur due to the huge amount of data/information within the sales process.

I recommend the management of NHC to institute a computerized information system (Software) that will accommodate sales of the houses and plots.

#### **7.4.4 Lack of Research and Consultancies information system**

Para 4.2 (b) Research Policy Guideline 2011 of MUHAS requires the University to establish, sustain and continuously update a research activity database. In this respect selected information shall be published on regular basis onto a MUHAS Research Web Page, set up and maintain an accessible electronic research output database (a research repository) that shall contain abstracts and full texts of the research reports and other related publications.

My review of the automated business process at MUHAS noted that there is neither a database nor Information Management System established by the University for the Research and consultancy activities.

I am concerned that lack of a Research and Consultancy information system can lead to Difficulty in monitoring and evaluating Research and Consultancy activities.

**I recommend the Management of MUHAS to establish an information management system and electronic database for both Research Activities and Consultancy Activities.**

## CHAPTER EIGHT

### 8.0 INFORMATION TECHNOLOGY GENERAL CONTROLS

#### 8.1 INADEQUATE ICT GOVERNANCE

An IT governance framework is the structure for leadership, organizational, and business processes about information technology. Compliance to these standards ensures an organization's IT supports and enables the achievement of its overall strategies and objectives.

The fifth Government agenda to increase the use of ICT in the country can benefit citizen to the extent that government entities deploying ICT follow IT governance framework adequately. In my audits, I assessed the adequacy of ICT governance and noted weaknesses on areas of ICT strategies and policy, ICT organization and reporting structure, steering committees' practice, and management of ICT risks.

##### 8.1.1 WEAKNESSES OF ICT STRATEGIC PLAN AND POLICY

###### a) Absence of ICT strategic plan

Paragraph 2.3.1 of the e-Government guidelines of 2017 requires all Public Institutions to prepare and operationalize an Institutional ICT Strategy to set out a clear focus on using ICT for better service delivery and achieving value for ICT investment. ICT strategic plan aligns ICT initiatives with organization goals, enables contribution to the organization's strategic objectives.

I reviewed the adequacy of ICT strategic planning at the Ministry of natural resources and tourism, Centre for Foreign Relations (CFC), Fair Competition Commission (FCC), Tanzania Broadcast Cooperation (TBC), Business Registration and Licensing Agency (BRELA), Tanzania Geothermal Development Corporation (TGDC), Electrical Transmission and Distribution Construction and Maintenance Company (ETDCO), Fair Competition Commission (FCC) and Moshi Co-operative University (MoCU) to establish existence of alignment between ICT initiatives and organization strategic objectives, and noted that ICT strategic

plans were not formulated. I further reviewed cooperate strategic plans of these entities to confirm whether they demonstrate dependency of ICT in achieving organization strategic objectives. I noted that ICT contribution has not been adequately considered in achieving the objectives. Moreover, for the year under review, entities undertook various ICT initiatives under this circumstance I consider the strategic plan to have been existed for proper governance of ICT.

I am of the view that the absence of an ICT Strategic Plan deprives the management of a focused framework towards harmonious, efficient, and effective implementation of ICT initiatives.

**I recommend the management of the Ministry of Natural Resources and Tourism, Centre for Foreign Relations (CFC), Fair Competition Commission (FCC), Tanzania Broadcast Cooperation (TBC), Business Registration and Licensing Agency (BRELA), TGDC, ETDCO, FCC, and Moshi Co-operative University (MoCU), to develop ICT strategy which is aligned with organization's strategic objectives to achieve value for money from ICT services.**

**b) Lack of clear alignment of ICT strategic plan with organization strategic plan**

My review of ICT strategic plan of TARURA and Ministry of Finance and Planning noted that the ICT strategic objectives do not have clear alignment with organization's strategic goals. Moreover, I noted lack of annual action plan on implementation of the ICT strategy.

I am concern that this can attribute to failure of ICT to deliver intended benefits leading to non-realization of return on ICT investment and failure of an organization to achieve strategic goals.

**I recommend the management of TARURA and MOFP to**

**(a) review ICT strategy and ensure clear alignment with organization's strategic objectives; and**

- (b) Ensure existence of annual ICT action plan derived from the ICT strategic plan.**
- c) Lack of monitoring and evaluation of ICT strategy**

Strategic evaluation is an important tool for assessing how well your business has performed, relative to its goals. It is an important way to reflect on achievements and shortcomings, and is also useful for re-examining the goals themselves, which may have been set at a different time, under different circumstances.

I also reviewed ICT governance at Tanzania Tourist Board, TARURA, KADCO and Ministry of Finance and Planning and noted that the strategy does not specify how frequent evaluation of the strategy should be conducted and reported to ensure objectives are measured and met timely as per key performance indicators also evaluation report was not available indicating that no monitoring and evaluation has been done.

I am concerned that lack of monitoring and evaluation of achievements of the ICT strategic plan would result in failure of ICT initiatives to deliver the intended value to the organization.

**I recommend the management of the Tanzania Tourist Board to conduct and report periodic monitoring and evaluation as stated in the ICT strategic plan.**

- d) Lack of ICT policy and outdated ICT policy**

Para 1.3 of the e-Government Guideline 2017 requires that in order to effectively leverage ICT, Public Institutions shall develop and implement institutional ICT Policy to provide directives for appropriate planning, acquisition, adoption, implementation, management and use of ICT.

ICT policy document contains formal statements produced and supported by senior management to set direction in an organization in accordance with business requirements and relevant laws and regulations. The policy provides directives for appropriate planning, acquisition, adoption and implementation, management and secure use of ICT resources.

My review of ICT internal control at TGDC, Centre for Foreign Relations (CFR), Baraza La Kiswahili Tanzania (BAKITA), Co-operative Audit and Supervision Corporation (COASCO), Public Procurement Regulatory Authority (PPRA) and Singida Urban Water Supply and Sanitation Authority (SUWASA) noted that TGDC, BAKITA and COASCO did not have ICT policy, CFR had a policy that was not approved while PPRA and SUWASA had outdated ICT policies. PPRA ICT policy has not been reviewed since its inception in February, 2016 which is contrary to Section 12 of the PPRA Information Technology Policy which requires the policy to be reviewed every twelve (12) months.

I am of the view that organization may fail to balance risks and reward of ICT due to lack of comprehensive ICT policy. Also non review of ICT policy makes it irrelevant to the current ICT environment due to changes in technology, laws and regulation that have been emerging at entity level and government as a whole.

**I recommend the following:**

- (a) The management of TDGC, BAKITA, and COASCO to develop ICT policy;**
- (b) The management of PPRA and SUWASA to regularly review ICT policy in line with changes of ICT environment; and**
- (c) The management of CFR to fast-track review and approval of its ICT policy.**

#### **8.1.2 IRREGULARITIES OF ICT ORGANIZATION AND REPORTING STRUCTURE**

Effective organization and reporting structure of ICT is a crucial governance aspect to ensure ICT initiatives deliver intended objectives in achieving the organization's strategies and objectives. ICT enables organization to achieve strategic objectives, thus, it is important that the ICT manager reports to the individual whose major priority is the overall strategic performance and IT unit should have representation in the management of the organization for effective decision making.

My assessment of organization and reporting structure of ICT function revealed absence of ICT department/unit and ineffective reporting structure for some entities as described below:

**a) Absence and non-formalization of ICT department/unit**

Section 21. -(1) of the e-Government act of 2019 states that “there shall be established in every public institution an ICT Management Unit with such number of staff as may be required for the efficient performance of functions in the respective public institution”. Also, Para 5.3.2 of the e-Government guidelines 2017 requires public institutions to establish an ICT Department/Directorate/Unit that reports directly to the Accounting Officer.

My review of the ICT organizational structure of COASCO and TGDC noted the absence of the ICT department/unit. While my audit of ETDCO revealed that the organization has the ICT manager, but the position was not formalized in the organization structure and scheme of service. The organization structure requires existence of ICT specialist, which is contrary to the requirement of the e-Government act of 2019 and guidelines of 2017. Likewise, during the audit at Tanzania Coffee Board (TCB), I reviewed the ICT reporting structure and identified that the organization structure of TCB does not depict reporting relationship between the ICT unit and top management, this indicates that management sees the IT Unit as an enabler but not strategic and formal unit.

I am concerned that lack of an ICT Department downgrades the role of ICT and its contribution towards organizations' strategic objectives. This can lead the organization to embark on ICT initiatives and operations that are not properly prioritized and managed as required, hence, resulting in failure of ICT to deliver the expected value to these organizations.

**(a) I recommend the management of COASCO and TGDC to establish an ICT unit/department with its head reporting directly to the Accounting Officer; and**

**(b) I also recommend the management of ETDCO and TCB to review and update organization structure to include ICT department headed by a manager who reports to the accounting officer and clearly define responsibilities of the department.**

**b) Shortfalls in the reporting structure of ICT Department/Unit**

I reviewed the organisation structure of TARURA and noted that ICT unit is headed by a Manager who reports to the Director of Business Support Services contrary to the requirement of E-Government act, number 10 2019.

I am concerned that, the identified inadequacies in the reporting structure of ICT department/unit undermines its role in the achievement of organization's strategic objectives.

**I recommend the management of the TARURA to restructure its Organization Structure such that the ICT Department/Unit reports directly to the Director-General to expedite the implementation of ICT strategies.**

**c) Inadequacy on ICT Department Structure and Staffing at the Ministry of Tourism and Natural Resources**

Section 21 of the e-Government Act, 2019 requires public institutions to establish an ICT Management Unit with such number of staff as may be required for the efficient performance of functions in the respective public institution.

According to Personnel Emoluments estimates of the Ministry of Tourism and Natural Resources for the year 2020/2021, the ICT unit requires a total of 17 staff to operate effectively and efficiently. However, the unit currently has seven staff contrary to the requirement of staff establishment as per Personnel Emoluments estimates.

I am of the view that inadequate staffing may lead to the Ministry's inability to enforce segregation of duties and failure to accomplish some of the responsibilities timely with expected quality, with the introduction of MNRT portal the ICT unit will be

supporting 16 institutions with their external stakeholders thus inadequate staffing can lead to failure of the unit to effectively perform its operations.

I recommend the management of MNRT to ensure adequate staffing of the ICT unit to be able to manage operations effectively and efficiently.

**d) Inadequacy on ICT Department Structure and Staffing at the Ministry of Land, Housing, and Human Development**

Likewise, my review of the Directorate of ICT Management structure at MLHHS noted a Director heading the department with 18 professional ICT staff (Refer Table 12) as indicated on the job allocation document. We also noted the department handles all ICT tasks for National Land Information Centre (NLIC), Ministry's Head Office, 26 Regional and 185 Council Land Offices. Nevertheless, the department has no appointed Assistant Directors to handle ICT Infrastructure Management and Systems Development & Support divisions despite the department's large mandate. The audit team also reviewed the proposed improvement for the ICT Structure prepared in March 2020 but was not implemented as at the time I conducted the audit in November 2020. This situation results into the need for the Director to supervise and follow-up on every activity even those that could be handled by the assistants.

**Table 12: ICT staff distribution**

S/N	CATEGORY	No of Staff
1	Technicians to support 26 regional offices	0
2	Systems and Servers Administration	2
3	Networks Administration and Support	3
4	Database Administrators	1
5	Systems Development	4
6	Governance & Architecture of which one retires in Feb 2021	2
7	Application Administration and Support	6
8	ICT Security	0

*Source: Job allocation and department improvement*

I am concerned that lack of heads of units/functions may cause the department's inefficient performance as the Director will be overwhelmed by day-to-day operations. Also, inadequate staffing may lead to the Ministry's inability to enforce segregation of duties and failure to accomplish some of the responsibilities timely with expected quality.

**I recommend the management of MLHHS to follow-up with the approving authority to ensure that the reviewed structure and staffing requirements are approved and implemented as appropriate.**

**e) ICT department/unit headed by unqualified manager**

Sub section 3 of Section 21 of E-Government Act 2019 requires the ICT management unit to be headed by person with appropriate academic, professional qualifications and experience in ICT.

Review of the ICT organization structure of the Institute of Adult Education (IAE) revealed that the ICT department is headed by a manager who does not have academic or professional qualifications in Information Technology or related field.

I am of the view that this can lead to deficiency of ICT unit operations in accordance with industry standards and best practices.

**I recommend the management of IAE to appoint a manager of the IT unit with proper credentials and experience in Information Technology.**

#### **8.1.3 ANOMALIES OF ICT STEERING COMMITTEE**

An ICT steering committee is a committee of senior executives to direct, review, and approve ICT strategic plans, oversee major ICT initiatives, and allocate resources. The committee establishes ICT priorities for the business as a whole and assists the management in the delivery of the ICT strategy, overseeing the day-to-day management of IT service delivery and IT projects, and focuses on implementation. A high-level steering committee for information

communication technology is an important factor in ensuring that the IT department is in harmony with the corporate mission and objectives.

I reviewed ICT governance to confirm existence of ICT steering committee and its operation efficiency, my review noted non-formulation, non-operation of the committee and inadequate composition of the committee.

**a) Lack of ICT Steering Committee**

My assessment of ICT governance structure noted that Tanzania Tobacco Board, Contractors Registration Board, TBC, Centre for Foreign Relations (CFR) and ETDCO did not establish the ICT Steering Committee or an equivalent committee to oversee the alignment of ICT operations/investments with organization strategy and ensure return on investment.

I am of the view that the lack of ICT Steering Committee denies the organizations effective oversight of ICT investments, alignment of the ICT functions with the institutions' strategic plan and value delivery.

**I recommend the management of Tanzania Tobacco Board, Contractors Registration Board, TBC, Centre for Foreign Relations (CFR) and ETDCO to establish the ICT steering committees with clearly defined roles and responsibilities.**

**b) Non-operation of ICT steering committee**

According to E-Government Guidelines OF 2017 para 2.2.3 (I) to (VIII) on meetings of the committee requires an ICT steering committee to meet once in every (3) three months.

In My audit at Export Processing Zones Authority, I observed that the schedules of meetings as stipulated in the TOR of ICT committee requires a minimum of four meeting per year. However, there was no ICT Committee meeting conducted by the Authority during the year under review.

I am concerned that without review and endorsement of the ICT steering committee, alignment of ICT initiatives with strategic objectives and delivery of expected value could not be assured.

**I recommend management of the Export Processing Zones Authority to ensure the ICT steering committee meetings are conducted as per guidelines and raise awareness to the members of the ICT committee on the roles and responsibilities of the committee in achieving strategic objectives.**

**c) Inadequate composition of ICT Steering Committee**

My Review of the DAWASA ICT steering charters noted that the committee is composed of the following members: Head of Environmental Management Unit (HEMU) is a Chairperson, Manager Off-grid & Comm - Sewer is a Vice-Chairperson, Head of ICT and Statistics is the Secretary and representatives from Departments. Likewise, review of the KADCO ICT steering terms of reference noted that the committee is composed of up of five (5) members from any departments/Units as per KADCO organization structure. This is contrary to the requirement of Section 18 (1) of the e-Government Act 2019 which requires a minimum of six and a maximum of seven members including one member from the ministry in which DAWASA and KADCO belong.

I am concerned that inadequate composition of ICT steering committee can contribute to failure of the committee to effectively exercise its mandate and the organization can miss appropriate oversight requirements of ICT initiatives.

**I recommend management of DAWASA and KADCO to review and update the ICT steering charter to comply with the requirement of the e-Government Act 2019.**

#### **8.1.4 INADEQUATE MANAGEMENT OF ICT RISKS**

IT Risk Management is the application of risk management methods to information technology to manage business risks associated with the use, ownership, operation, involvement, influence and adoption of ICT within an enterprise or organization. The process of risk

management is an ongoing and iterative process since the business environment and technology is constantly changing and new threats and vulnerabilities emerge every day.

My review of ICT risk management revealed inadequacies including non-performance of ICT risk assessment and lack of ICT risk register and Non-monitoring of implementation of ICT risk mitigation strategies as described below.

**a) Absence of ICT risk register**

The Information systems audit I conducted at Tanzania Tobacco Board, Tanzania Rural and Urban Road Agency (TARURA), Tanzania Ports Authority, Moshi Co-Operative University (MoCU), revealed that there was no ICT Risk Register that was in place to monitor and control risks, it came to my attention that a formal ICT risk assessment has not been performed on ICT operations during the year under review. A Recommended practice is to conduct risk assessment at least once annually and whenever there are changes in ICT environment since technologies are changing and new security risks are introduced. Therefore, risk assessment was supposed to be done to cope with risks introduced by changing ICT environment.

I am of the opinion that lack of risk register (Risk Logbook) implies presence of weaknesses in the process of assessing, identifying, documenting and monitoring of ICT risks. Hence, Tanzania Tobacco Board, TARURA, Tanzania Ports Authority, Moshi Co-Operative University (MoCU) cannot be able to devise appropriate and adequate risk mitigation procedures that can assure achievement of ICT strategies and secure information assets.

**I recommend management of Tobacco Board, TARURA, Tanzania Ports Authority, Moshi Co-operative University (MoCU) to assess ICT risks and establish ICT risk register to capture and enable a systematic approach to risk mitigation.**

**b) Non-monitoring of implementation of ICT risk mitigation strategies**

During my review of ICT risk management at NACTE, I inquired risk management action plan for ICT related risks identified in the NACTE risk register and through examination of documents, I noted that the risk management quarterly implementation reports have not been prepared, despite the risk register being approved in October 2019. My similar review at the Ministry of Finance and Planning noted that the Ministry had no mechanism to monitor implementation of mitigation strategies identified in the risk register. My concern lies on the fact that National NACTE and MoFP operations depend on ICT, thus, failure to mitigate ICT related risks can have negative impact on operations.

I am of the view that failure to monitor and implement risk mitigation controls would lead to business disruption.

**I recommend management of National Council for Technical Education (NACTE) and MoFP to start the implementation of mitigation controls for identified ICT risks and report implementation status regularly.**

## **8.2 WEAKNESSES OF BUSINESS CONTINUITY AND DISASTER RECOVERY PLANS**

I reviewed Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP) of government entities to confirm existence and assess adequacy of plans to counteract interruptions to business operations, protect critical business processes from the effects of major failures or disasters and to ensure their timely resumption. My review noted the following deficiencies.

**a) Absence of Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP)**

Business Continuity and ICT Disaster Recovery Plan describes the process and procedures that a Public Institution has in place to ensure that essential business functions and ICT operations can continue during and after a disaster.

During my audit I observed that Dar es salaam Maritime Institute (DMI), Export Processing Zones Authority (EPZA), Kahama Shinyanga Water Supply and Sanitation Authority (KASHWASA), National Construction Council (NCC), National Examination Council of Tanzania (NECTA), Mbeya University of Science and Technology (MUST), Marine Services Company Ltd (MSCL), and National Council for Technical Education (NACTE) did not have both BCP and DRP documents in place. Likewise, I observed that Muhimbili University of Health and Allied Sciences (MUHAS), National Institute for Medical Research (NIMR), and Tanzania Wildlife Research Institute (TAWIRI) had no BCP, while Cereals and Other Produce Board of Tanzania (CPB), Moshi Co-Operative University (MoCU), National Environment Management Council (NEMC), and Institute of Adult Education (IAE) had no DRP.

I am of the view that absence of BCP and DRP poses a risk towards addressing continuation of operations after occurrence of an unplanned event or disaster whereby organization lack assurance that operations will be resumed timely with minimal loss of data for critical ICT systems.

I recommend management of DMI, EPZA, KASHWASA, NCC, NEMC, MUST, MSCL, NACTE, NIMR and TAWIRI to conduct business impact assessment and use it to develop Business Continuity Plan (BCP) and Disaster Recovery Plan (DRP). Also, the management of CPB, MoCU, NEMC and IAE to develop a DRP.

**b) Irregularities of business continuity and disaster recovery plan**

I reviewed the Disaster Recovery Plan (DRP) at Ministry of land, housing and Human Settlement and Ministry of Natural Resources and Tourism (MNRT) and noted that members of business continuity teams were not aware of their responsibilities as stated in the BCP document. Also, I noted that no DRP test was conducted during the year under review. Moreover, Recovery Point Objective, Recovery Time Objective were not defined for critical application systems.

Similarly, in my review of BCP and DRP, I noted that Gaming Board of Tanzania had outdated Business Continuity Plan. The plan has not been tested and updated to include newly developed application systems Gaming Licensing, Inspection and Compliance Applications (GLICA) and Regulatory Central Electronic Monitoring System (GREMS) which have already been rolled out and are in use.

Furthermore, I observed that at Tanzania Bureau of Standards (TBS) and Mzumbe University no review nor testing of disaster recovery has been done yet. Mzumbe University has not reviewed the BCP since September 2014 while TBS since June 2016.

The observed deficiency is due to lack of awareness of responsibilities to disaster recovery team members.

I am concerned that failure to review and test DRP can lead to failure to recover from disaster or delays resuming business operations with minimal loss of data. Also, lack of Recovery Point Objective (RPO) and Recovery Time Objective (RTO) for each information system implies that back up intervals do not reflect acceptable data loss and acceptable service outages.

**I recommend management of MLHHS and MNRT to conduct awareness training to members of disaster recovery teams, regularly test the DRP and ensure RPO and RTO are specified in the BCP. Also, the management of GBT, TBS and MU to review the BCP to ensure it reflects current operating environment and expectations of the management.**

**c) Ineffective data backup management practice**

During my audit, I found that Dar es salaam Institute of Technology (DIT), Moshi Co-Operative University (MoCU), Dodoma Urban Water Supply and Sanitation Authority, National Environment Management Council, MUST, Mbeya Urban Water Supply and Sanitation Authority had insufficiency existing backup system, backup policy and procedures.

Upon my review of DIT backup process and existing practice, I noted that defined RTO and RPO per each system have not been

defined, hence, I failed to verify on whether daily backup was in line with management consent on the data and resumption of business in case of disaster. Nevertheless, my interview with database administrator revealed that there have been no data backups for three weeks from 7<sup>th</sup> November 2020 due to disruption of the system used for automatic backup named Webmin. Also, I could not find either evidence for backup testing or framework that guides the testing.

Similarly, while auditing Urban Water Supply and Sanitation Authority ICT backup policy, I noted that the document has not been approved and it does not state the following aspects: exact steps to be taken to perform a successful backup, the point in time when the backups are required to be taken, the corrective measures to be taken in the event of failure during the backup process and the personnel(s) to be contacted in the event of backup failure.

I am concerned that this could lead to loss of information and other data in case of disaster due to lack of comprehensive framework and policy for backups and testing.

**I recommend management to ensure that:**

- (a) there is defined RTO and RPO;
  - (b) monitoring of backup-taking for compliance and enforcement;
  - (c) backup testing practice for ability to restore in case of business disruption; and
  - (d) backup policy is thoroughly reviewed and aligned to the current and future needs of the entity.
- d) Lack of offsite location for backup data.

During my audit, I noted that Centre for Foreign Relations (CFR), National Institute for Medical Research (NIMR), Ministry of Land, Housing and Human Settlement (MLHHS), and Dar es salaam

Institute of Technology (DIT) had no offsite backup location. Data backups are stored in the same location as live or production environment data and source code were stored on the servers' hardware.

I am concerned that absence of the offsite backup location exposes both live and backup data to the same risks leading to loss of both in case of a disaster.

**I recommend management of CFR, MLHHS and DIT to establish a mechanism of taking backups of data to offline location the server that will ensure the recovery of data and software in case of a disaster affecting the live data in production server.**

e) Non-documentation of data backup and restoration procedures

In auditing Iringa Urban Water Supply and Sanitation Authority (IRUWASA), and National Institute for Medical Research (NIMR) I noted lack of documentation of backup restoration test to substantiate the results of the test and acceptance of the restored data to verify the recoverability of data in case of disaster. Similarly, I found that at DUWASA backup data restoration test is performed by the ICT department alone without the presence of the data custodian to verify the results of restoration test performed.

I am concerned that without data restoration testing, there is a risk that the backups taken may not be usable and that the backups may not meet the requirements of the business continuity plan. Therefore, the organization may not be able to recover from a disaster with reasonable time and minimal data loss.

**I recommend management of NIMR, IRUWASA and DUWASA to develop restoration testing procedures and results of the data restoration testing performed should be documented and obtain appropriate authorization.**

### **8.3 VIOLATION OF SEGREGATION OF DUTIES**

Segregation of Duties (SOD) is a basic building block of sustainable risk management and internal controls for a business. The principle of SOD is based on shared responsibilities of a key process that disperses the critical functions of that process to more than one person or department.

Para 2.2 (9)(1) of e-Government security architecture require that all Public Institutions to implement work design and working practices that provide for personnel with secure access to Government information assets and make provision for an appropriate segregation of duties as determined by risk assessment. According to principles of segregation of duties the following ICT responsibilities cannot be combined: Programmer and database administrator, System administrator and database administrator, Security administrator and database administrator, security administrator and Network administrator and Network administrator and database administrator.

My review of job description of ICT staff at DAWASA noted that scheme of service does not specify job description separately for each ICT function. On inquiry we were informed that even though scheme of service does not separate ICT functions but in operations ICT staff have been distributed into various ICT functions which are system administrator, system developer, network administrator, system support and database administrator. My further review of job distribution to ICT staff as per operations noted violation of segregation of duties whereby the following functions have been granted to the same staff: database administration and system support, System Developer and System Support.

Similarly, in reviewing the Dar es salaam Institute of Technology (DIT) to establish whether conflicting ICT activities are segregated, I noted one ICT staff is a database administrator as well as a system administrator for online student management information system.

Likewise, during of walkthrough of functionalities and administration of Admission module, selection module, SARIS, ARIS and SAGE application systems at Mzumbe University noted that system

administrators of SARIS, ARIS and SAGE have access to database of the application system they administer. I also learnt that programmers have access to live database and access to make changes on ARIS application frontend.

I also did a similar review at the Ministry of Tourism and Natural resources and noted ICT staff to have access to database thus having a responsibility of database administration, also the same staff has a role of business Analyst. These responsibilities should not be assigned to one person at once as it provides opportunity for system misuse without being detected.

I acknowledge that this concern is due to insufficient ICT staff as per responses of management of these entities, however, compensating control such as regular reviews of their activities has then to be implemented. I, however, noted that such compensating control has not been implemented.

I believe lack of clearly defined job description for each ICT functions and failure to segregate conflicting ICT functions can attribute to insecure ICT operations and ineffective accountability among ICT staff.

I recommend management of DAWASA, Dar Es Salaam Institute of Technology (DIT), Mzumbe University (MU), Ministry of Tourism and Natural Resource (MNRT) to ensure that ICT conflicting roles are segregated and activities performed by individuals with conflicting roles are reviewed periodically as compensating control.

#### **8.4 WEAKNESSES OF APPLICATION SYSTEMS CHANGE CONTROLS**

The change control process helps avoid unnecessary changes that might disrupt services and ensures the efficient use of resources. Formal management responsibilities and procedures should be in place to ensure satisfactory control of all such changes. Inadequate control is a common cause of system or security failures. My review of application systems changes management controls noted the following anomalies:

### **a) Lack of Application Systems Change Management procedures**

During the review at Mkwawa University College of Education (MUCE), BRELA, National Board of Accountants and Auditors and Mzumbe University, I noted lack of documented application change management procedures to provide assurance on effectiveness of controls over management of changes to application systems. Also, I noted that NECTA had no patch management policy which gives the guidelines on how patches are selected, verified, implemented and when the patches should be applied to all facilities.

In the year under review there were several changes to information systems in these entities. MUCE implemented several changes to information systems which include changes of hardware and system implementation of Active Directory (AD) to all staff, migrating from Votebook accounting system to MUSE, LAN configurations (shifting from Mikrotik Firewall to Sophos firewall), Window server configurations and website. BRELA also was implementing new changes to its online registration system (ORS). Similarly, MU was implementing enhancement to its student's management application systems. Likewise, at NBAA I noted that the system administrator had rights to edit student results in the system and there was no documented guideline on how the changes had to be initiated, the administrator was instructed by email from the examination officer. No change notification was automatically sent to the examination manager/officer after the change was made.

I therefore believe it is crucial for these changes to be controlled and managed effectively to prevent disruption of operations and introducing security breaches to production environment, considering that these changes were implemented to application systems that are currently in operation.

I am concerned that lack of controls in managing changes and patches can lead to unauthorized changes that can affect performance and security of the systems resulting in disruption of operations and introducing vulnerabilities.

I recommend management of MUCE, BRELA, NBAA, MU and NECTA to develop application system change and patch management procedures to effectively control changes done to application systems.

**b) Non-separation of development, test, and operational**

Section 12.1.4 of the ISO 27002: 2013 requires development, testing and operational environments to be separated to reduce the risks of unauthorized access or changes to the operational environment.

During my review of application change management at Dar es salaam Institute of Technology (DIT), I found that in spite of management having internally developed systems, it had no dedicated testing environment and development environment apart from their personal laptop and live production environment. Also review of permits issued to visitors of tourist attractions in the MNRT portal at the Ministry of Tourism and Natural resources noted existence of permits which were created for testing purpose, this is contrary to the best practices whereby tests should not be done in the operational environment. Likewise, my review of users of SAGE accounting system at KADCO noted existence of user accounts that are used for testing in the operational environment.

I am concerned that failure to separate development, testing and operational environments increases a risk of unauthorized access and changes to the operational environment.

I recommend the management of MNRT, DIT and KADCO to ensure that there is separation of facility dedicated for development and testing and strengthen controls to ensure tests are not done in the operational environment.

**c) Non-compliance with application system change management procedure**

My review of application systems change management at TPA noted that Section 3.1 of the TPA Change management policy, procedures and guidelines requires the Change Management

process to be initiated by a Change Request submitted after filling a Change Request Form 2A. It also requires all Change Requests to be reviewed by the Change Management Team (CMT), and once approved, shall be authorized by the Change Authority. The policy further explains that, all proposed Change Requests must include, an implementation plan, test plan, back out strategy and risk assessment and Documentation of Standard changes shall be done in a Change Management registry that should be reviewed for process improvement and root cause diagnosis.

However, my review of application change management practices noted the following irregularities: -

- The change authority consists of one member, the Director of ICT who eliminates collective responsibilities and awareness of implementation of changes to user departments who are the owners of application systems. ITIL and best practices requires change authority or board to have members from across the organization, such that each department has a representative. This setup ensures that, changes which affect multiple application systems in the organization involves respective user department;
- Lack of change registry that keep records and documentation of changes for reference and easy monitoring;
- Failure to comply with change management policy, procedures and guidelines for changes which were implemented in the year under review. During the year under review there were changes to Port Operation Application System (POAS) and Terminal Operations System (POS) application systems which were implemented. However, my review of these changes noted that, the change request form was not filled, reviewed and pre-approved by change management team. The change authority did not approve these changes. Moreover, there were no documented implementation plan, test plan, back out strategy and risk assessment, which is against TPA change management policy.

My similar review at NCAA noted that Section 4.4.2.2(i) of the NCAA ICT policy requires the change management process to include the following steps. Each of these steps must be completed for every change; Requester fills out change management form (Form No 4), the change management group reviews and approves the change and then the ICT Unit can send the request back to the requester for further detail and study, if needed;

During the year under review NCAA implemented five changes to Safari portal application system and one for Human Resources application system. Review of initiation, approval and implementation of these changes noted the following non-compliances with NCAA ICT policy;

- Review and approval of Change management group was not substantiated with a report;
- There was no documentation to justify that these changes were tested and signed off by user department before deployment; and
- The ICT policy does not specify the following important aspects of change management controls: responsibilities and composition of change management group, procedures and guideline for testing, assessing risks, deploying changes and post review of changes.

Likewise, during the walkthrough of changes implemented in the year under review at PSSSF, I noted that, changes were logged on a physical form and there was no change tracking mechanism which can monitor all the changes that are being implemented in all the systems , management cannot monitor unauthorized changes in the productions environment, so I could not ascertain the completeness of changes made in the Fund's systems (Microsoft Navision and Member Administration System) during the year under review. Furthermore, I noted that for the three changes that occurred during the audit period, two changes did not have User Acceptance Test results and one change had plans attached

and there were no results for the User Acceptance Test done as well. This is contrary to the PSSSF ICT Policy which requires User Acceptance Testing results to be signed and filed together with the specification or request for change.

I am concerned that non-compliance to application change management procedures can lead to uncontrolled changes that can affect performance and security of application systems resulting to business disruption and loss of data.

**I recommend that the following:**

- (a) The management of TPA to establish change authority that constitutes of members across TPA departments, establish change registry to keep records and documentation of requested changes and strengthen controls such that all changes to application systems follow change management policy, procedures, and guidelines;
- (b) The management of NCAA to define responsibilities and composition of change management group and strengthen controls to ensure all changes to application systems are done in accordance to change management guidelines and procedures specified in the ICT policy; and
- (c) The management of PSSSF to ensure that change tracking system is in place to monitor every change deployed to the Fund's systems and Test procedures and acceptance process. This includes making sure that test cases development is documented and attached to relevant change record.

## **8.5 INEFFECTIVE MANAGEMENT OF ICT THIRD PARTIES/VENDORS**

In My audits, I also covered assessment of controls associated with management of ICT third parties/vendors to ensure appropriate level of service delivery is maintained. The following concerns were noted in my review:

### **a) Lack of Service Level Agreement**

A Service Level Agreement (SLA) is an agreement or contract between an organization and their service provider that details the obligations and expectations of the relationship between the organization and its service providers.

In my audit of Cotton Development Trust Fund (CDTF), Ngorongoro Conservation Area Authority (NCAA), Procurement and Supplies Professionals Technicians Board (PSPTB), Tanzania Bureau of Standards (TBS), Tanzania Shipping Agencies Corporations (TASAC), and PPRA, I identified Lack of Service Level Agreements between the respective entities with ICT service providers.

My review of PSPTB noted that the authority has a system (ERMS) which has been developed and maintained by e-Government Agency with the direct supervision of the IT Department. However, I could not obtain evidence of Service Level Agreement. This was also the same case for CDTF where the board had no Service Level Agreement (SLA) with its accounting Software Supplier.

Similarly, when auditing NCAA, TASAC and TBS, I found that the authorities have been provided with support and maintenance of e-mail service, data centre services for hosting application systems and ensuring business continuity by e-Government agency (e-GA). However, entities did not have contract and service level agreement (SLA) with e-GA to define responsibilities of each part and outline criteria for benchmarking expected level of service provided.

Furthermore, my review of Tanzania National electronic procurement system (TANePS) infrastructure management and operations at PPRA noted that on 12<sup>th</sup> June 2019 PPRA entered into contract with e-Government Authority for provision of data centre service for hosting of TANePS, amount TZS 150, 512,854.24 payable annually from 1<sup>st</sup> July 2019 to 30<sup>th</sup> June 2020. However, my review of the contract revealed that it does not

contain service level agreement and mechanism to measure level of service delivery.

Lastly, during my audit of TARURA Revenue Information System (TRIS) I noted that the system was adopted from PO-RALG after customization of LGRCIS. The application system is hosted and managed by PO-RALG, however, there was no agreement or MoU between TARURA and PO-RALG to define responsibilities and accountability of both parties. For example, we noted that since 30<sup>th</sup> December, 2020 the system had issues in generating reports including Cashier reconciliation report, Transaction reversals, Revenue collection cash book, Miscellaneous Collections, and collection journal does not provide accurate collection information. These issues were reported to PO-RALG however they remained unresolved up to the time of audit on 5<sup>th</sup> January 2021.

Furthermore, during the audit it was observed that the Agency reported to PO-RALG that some POS devices are not working in some days mostly on Monday morning, though the issue was once resolved, the error has been recurring.

I am concerned that the without contract and SLA accountability and exactly expectation on level of service cannot be achieved by entities while failing to hold vendor accountable in case of service outage or untimely provision of support.

**I recommend management of NCAA, PSPTB, TBS, TASAC, PPRA and CDTF to ensure Contract and Service Level Agreement with the Vendor is established. Also, management of TARURA and PO-RALG to agree on modality to ensure timely resolution of issues related to TRIS application.**

**b) Deficiency in Contract with ICT service provider**

During the audit at Mbeya Urban Water Supply and Sanitation Authority I noted that the agreement between vendor and Mbeya Urban Water Supply and Sanitation Authority contained deficiencies, such as absence of data privacy clause, SLA agreement and benchmarks pertaining to quality of service to be delivered, guarantee of uptime not less than 98%, and absence

of procedures required to amend terms and scope of the contract.

This implies that Authority's interests in contracts administration are not protected and risk of unnecessary litigations is invited.

**I recommend the management of Mbeya Urban Water Supply and Sanitation Authority to review the contract and ensure that relevant clauses are in place to protect the entity's interest and prevent unnecessary litigations.**

#### **8.6 INADEQUATE ICT SERVICE DELIVERY AND INCIDENT MANAGEMENT**

Para 2.3.23 of e-Government infrastructure architecture - standards and technical guidelines requires Public Institutions to develop ICT Service Management Procedures, the services that may be considered include but not limited to:

- (i) incident management - to restore Public Institutions normal service as quickly as possible, and to minimize the adverse impact on business operations;
- (ii) service request management - to enable ICT users to request and receive standard services within a pre-define time frame; and
- (iii) helpdesk management - to provide a standardize framework for registering and resolving reported ICT issues.

In my review of adequacy of ICT Service Delivery and Incident Management I noted the following irregularities.

##### **(a) Lack of ICT incident management procedure**

My review noted that Arusha International Conference Centre (AICC), Mbeya Urban Water Supply And Sanitation Authority, Mzumbe University, National Institute For Medical Research (NIMR), BRELA,, Tanzania Shipping Agencies Corporations, Dodoma Urban Water Supply and Sanitation Authority, Ministry of Land, Housing and Human Settlement (MLHHS), Ministry of Tourism And Natural Resources (MNRT), and Public Procurement Regulatory Authority (PPRA) had no documented incident

management procedures to ensure proper handling of reported incidents to reduce impact on business operations.

I am of the view that lack of incident management procedure can result to failure to identify and resolve incidents timely and in accordance with business priorities to reduce operation disruption. Incidents tend to be problems if they are not effectively managed.

**I recommend management of AICC, Mbeya Urban Water Supply and Sanitation Authority, Mzumbe University, NIMR, BRELA, TASAC, Dodoma Urban Water Supply and Sanitation Authority, MLHHS, MNRT and PPRA to develop incident management procedures.**

#### **(b) Inadequate service request and helpdesk management**

During the audit of PSSSF I found that incidents are logged on the Helpdesk system. Through a walkthrough it was noted some incidents were unassigned, and their status did not show whether they were closed or not. Further, I noted that there was no regular review of the reported incidents to have a proper intervention to be taken for the incidents which are still open and to identify repetitive incidents (problems) which need escalation to the management for permanent resolution.

Review of service request and helpdesk management at TASAC noted lack of mechanism to receive and record ICT service requests and incidents reported by staff to ensure they are timely and effectively handled. TASAC is embarking on automating its operations through development of application systems that will be used by internal and external stakeholders. This will enable established mechanism to receive, record and manage ICT service requests and incidents since they are crucial to ensure they are resolved timely to prevent disruption and satisfy stakeholders.

Similarly, my audit of Dodoma urban water supply and sanitation authority noted that the Authority has no ICT help desk system to help in adequately manage ICT service requests and regular follow up of ICT incidents, as a result the Authority does not

maintain the following: Incident log for maintaining all the reported incidents, record of incidents reported and if they are being closed within reasonable time. The same concern was observed at National Council for Technical Education (NACTE) whereby there was no mechanism to receive, record and monitor incidents and support queries from internal users (staff).

I did a similar review at MLHHS and noted that the Ministry address service requests and incidents through email, WhatsApp group, and phone calls and there is no mechanism to periodic analyse recurring incidents to ensure appropriate solution is identified to prevent them from becoming problems. I am concern that the use of email, whatsapp groups and phone calls is not effective in tracking status and keeping records for future reference and reviews. This was also noted at MNRT whereby the Ministry has no ICT helpdesk tool for the purpose of managing reported incidence and ICT service request.

Likewise, my review of service request and helpdesk management at PPRA noted that the Authority has a helpdesk system but is not adequately utilized. Service requests and incidents are reported through email address [helpdesk@taneps.go.tz](mailto:helpdesk@taneps.go.tz) and phone calls. This is less effective as it limits monitoring, review, and future reference.

I am of the view that inadequate service request and helpdesk management can attribute to possible extensive service downtime due to untimely resolution of incidents and problems. Also addressing service requests and incidents through email, WhatsApp and phones makes difficult to keep track, review incidents and generating performance reports.

**I recommend management of PSSSF, TASAC, Dodoma urban water supply and sanitation authority, MLHHS, MNRT and PPRA to rectify identified anomalies and ensure there is adequate service request and helpdesk management.**

#### **(c) Lack of Operational Level Agreements**

Section 2.2.2 (vi) of the guidelines for development, acquisition, operations and maintenance of e-Government applications states

that “There should be operation level agreement (OLA) between ICT department and user department stipulating key elements that ascertain the responsibilities of the user department and ICT departments for quality of service”. OLA can be used to track internal service commitments such as response time for incidents or problems assigned to ICT department and availability of infrastructure supporting various application systems.

My review of ICT Service Management at Arusha International Conference Centre (AICC), Moshi Co-Operative University (MoCU), Mzumbe University, National Examination Council of Tanzania, Tanzania Shipping Agencies Corporations, Dodoma Urban Water Supply And Sanitation Authority, National Council For Technical Education (NACTE), Ministry Of Tourism and Natural Resources, Tanzania Ports Authority and PPRA noted that management has not established Operational Level agreement with ICT department that will establish benchmark for measuring ICT service delivery, such as infrastructure performance, timely end user support and systems availability.

I am concerned that without OLA, managements cannot be able to benchmark and assess performance of services provided to internal departments by ICT Units.

**I recommend management of AICC, MoCU, MU, NECTA, TASAC, DOWASA, MNRT, TPA and PPRA to establish OLA with ICT department for performance measurement of ICT service delivery.**

## **CHAPTER NINE**

### **9.0 CONCLUSION AND RECOMMENDATIONS**

#### **9.1 CONCLUSION**

Government entities have been increasingly computerizing their operations in recognition of the remarkable benefits that ICT brings in improving operations' efficiency and effectiveness in service delivery to the public. I acknowledge continuous efforts of the government of URT in ensuring return on ICT investments and associated risks are managed. The government has been funding ICT projects and initiatives in its commitment to utilize ICT in achieving the Tanzania Development Vision 2025 which recognizes ICT as a central tool to competitive social and economic transformation. Moreover, in realising the impact of ICT, the government of URT established the e-Government Authority (e-GA) under the e-Government Act, No. 10 of 2019 to give more power to the former e-Government Agency to be able enforce e-Government standards and guidelines.

However, more effort is needed to realise more value for money. Lack of integration among major application systems, underutilization of application systems, lack harmonization of application systems, no automation of critical business operations are among the noted issues which could reduce the operating cost to realise more benefit.

Furthermore, I noted control weaknesses associated with IT general controls such as inadequate ICT governance to ensure alignment of ICT with organization's strategic goals and effective resources management, weaknesses in business continuity and disaster recovery plans, violation of segregation of duties for ICT functions, weaknesses of application systems change management controls, ineffective management of ICT third parties/vendors and inadequate ICT service delivery and incidents management. I attribute these noted weaknesses to inadequate enforcement to ensure government entities comply with e-Government standards and guidelines, minimal understanding of the risk associated with adoption of ICT by managements, lack of regular reviews of IT internal controls,

inadequate coordination of efforts among government entities in implementing ICT initiatives, failure to effectively consider key operations and security controls during development of application systems and inadequate testing of application systems.

## 9.2 RECOMMENDATIONS

Following weaknesses, I have noted in government entities in respect to management of ICT initiatives, I have made a number of recommendations in the individual reports addressed to the respective government entities. However, this general report contains major recommendations addressed to the Ministries and Agencies responsible for overseeing ICT adaptation in the country to ensure security, efficiency and effectiveness leading to economic benefits.

**I recommend E-Government Authority to:**

- Establish effective mechanism to enforce government entities to comply with e-Government standards and guidelines;
- Raise awareness to accounting officers and management of government entities on the risks associated with adoption of ICT;
- Develop follow up plan for the identified weaknesses on application system integration to ensure their effective implementation; and
- Ensure effective implementation of e-Government cyber security strategy.

**I recommend Ministry of finance and planning to:**

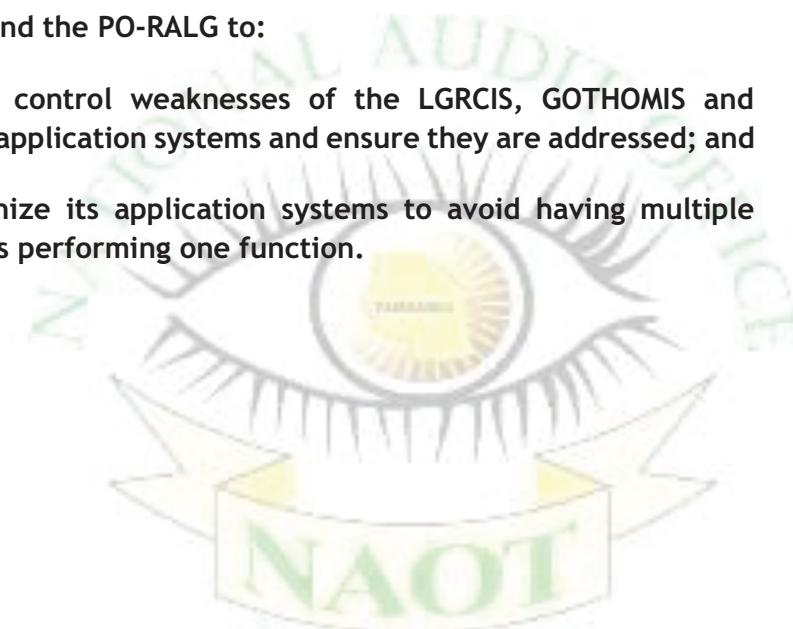
- Issue directive on available options for implementing government financial management systems and inform government entities on flexibility of customizing MUSE;
- Prepare detailed plan on coordinating implementation of financial management systems for all government entities and ensure implemented systems can be integrated with Government

Accounting Consolidation System (GACS) and Government Asset Management System (GAMS);

- Develop a detailed roadmap for completion of MUSE application system operationalization; and
- Establish inventory of all application systems in the government entities with their respective values.

I recommend the PO-RALG to:

- (a) review control weaknesses of the LGRCIS, GOTHOMIS and FFARS application systems and ensure they are addressed; and
- (b) Harmonize its application systems to avoid having multiple systems performing one function.



## APPENDICES

### Appendix I: Unchecked in permits Nyerere National Park

Application no	Permit No	Total Pax	Amount		Application Date	Entry Type	Entry Date	Exit Date
			USD	TZS				
9229	5841	1	0	35,400	17/05/2020 12:34	Day Trip	17/05/2020	17/05/2020
9252	5848	4	0	70,800	24/05/2020 04:54	Day Trip	24/05/2020	24/05/2020
9255	5852	2	0	47,200	25/05/2020 10:36	Day Trip	24/05/2020	24/05/2020
9258	5856	8	76.7	106,200	26/05/2020 08:58	Day Trip	25/05/2020	25/05/2020
9259	5853	7	0	106,200	25/05/2020 12:14	Day Trip	25/05/2020	25/05/2020
9261	5855	2	0	23,600	25/05/2020 06:21	Day Trip (Without Transport)	25/05/2020	25/05/2020
9266	5859	5	0	82,600	27/05/2020 06:09	Day Trip	27/05/2020	27/05/2020
9272	5860	2	76.7	35,400	29/05/2020 09:23	Day Trip	29/05/2020	30/05/2020
9273	5861	2	76.7	35,400	29/05/2020 09:27	Day Trip	30/05/2020	30/05/2020
9281	5870	1	0	35,400	30/05/2020 06:56	Day Trip	30/05/2020	30/05/2020
9284	5868	2	0	47,200	30/05/2020 03:31	Day Trip	31/05/2020	31/05/2020
9285	5869	3	0	153,400	30/05/2020 05:39	Day Trip	31/05/2020	31/05/2020
9296	5896	8	76.7	120,360	10/06/2020 04:31	Day Trip	02/06/2020	02/06/2020
9347	5892	2	0	94,400	08/06/2020 04:26	Sleep Over (Without Transport)	07/06/2020	11/06/2020
9354	5891	3	0	59,000	08/06/2020 03:50	Day Trip	08/06/2020	08/06/2020
9416	5921	3	0	59,000	18/06/2020 03:19	Day Trip	17/06/2020	17/06/2020
9421	5922	2	0	224,200	18/06/2020 03:57	Sleep Over	18/06/2020	20/06/2020
9431	5927	3	120.36	35,400	19/06/2020 12:15	Day Trip	21/06/2020	21/06/2020
9458	5938	4	0	70,800	20/06/2020 03:21	Day Trip	20/06/2020	20/06/2020
9471	5962	2	0	47,200	26/06/2020 09:37	Sleep Over (Without Transport)	25/06/2020	27/06/2020
9474	5952	3	0	59,000	24/06/2020 06:59	Day Trip	24/06/2020	24/06/2020
9482	5957	3	120.36	35,400	25/06/2020 02:13	Day Trip	27/06/2020	27/06/2020
9484	5964	5	250.16	35,400	26/06/2020 04:28	Day Trip	30/06/2020	30/06/2020

Application no	Permit No	Amount		Application Date	Entry Type	Entry Date	Exit Date	
		Total Pax	USD					
9487	5961	1	0	70,800	26/06/2020 08:21	Sleep Over	26/06/2020	27/06/2020
9493	5974	2	0	23,600	29/06/2020 09:27	Day Trip	27/06/2020	27/06/2020
9498	5968	10	365.8	70,800	27/06/2020 12:56	Day Trip	27/06/2020	27/06/2020
9499	5971	1	0	35,400	27/06/2020 07:02	Day Trip	27/06/2020	27/06/2020
9501	5970	13	0	191,160	27/06/2020 06:49	Day Trip	27/06/2020	27/06/2020
9502	5969	2	0	47,200	27/06/2020 07:31	Day Trip	27/06/2020	27/06/2020
9506	5975	2	0	141,600	29/06/2020 09:50	Sleep Over (Without Transport)	28/06/2020	04/07/2020
9511	5983	1	0	35,400	30/06/2020 08:41	Day Trip	28/06/2020	28/06/2020
9513	5976	1	0	11,800	29/06/2020 09:57	Day Trip (Without Transport)	29/06/2020	29/06/2020
9520	5987	2	0	165,200	30/06/2020 05:34	Sleep Over	29/06/2020	01/07/2020
9524	5985	2	0	-	30/06/2020 11:56	Sleep Over	30/06/2020	01/07/2020
9525	5984	1	0	-	30/06/2020 11:52	Sleep Over (Without Transport)	30/06/2020	01/07/2020
9588	5999	3	76.7	47,200	05/07/2020 08:58	Day Trip	03/07/2020	03/07/2020
9611	6001	4	460.2	70,800	05/07/2020 09:11	Day Trip	04/07/2020	06/07/2020
9613	6006	1	0	70,800	06/07/2020 12:19	Sleep Over	04/07/2020	06/07/2020
9615	6007	1	0	70,800	06/07/2020 12:22	Sleep Over	04/07/2020	06/07/2020
9619	5998	1	0	11,800	05/07/2020 08:41	Day Trip (Without Transport)	04/07/2020	04/07/2020
9620	6000	1	0	11,800	05/07/2020 09:04	Day Trip (Without Transport)	04/07/2020	04/07/2020
9623	6008	4	637.2	-	06/07/2020 12:27	Sleep Over (Without Transport)	04/07/2020	06/07/2020
9634	6002	1	0	11,800	05/07/2020 10:53	Day Trip (Without Transport)	05/07/2020	06/07/2020
9640	6011	2	354	-	06/07/2020 01:09	Sleep Over (Without Transport)	06/07/2020	08/07/2020
9644	6063	10	1,628.40	-	13/07/2020 03:10	Sleep Over (Without Transport)	11/07/2020	13/07/2020
9661	6019	6	0	94,400	07/07/2020 04:55	Day Trip	09/07/2020	09/07/2020
9670	6022	2	0	82,600	08/07/2020 02:54	Sleep Over	08/07/2020	09/07/2020
9681	6024	4	0	70,800	09/07/2020 11:11	Day Trip	09/07/2020	09/07/2020
9705	6034	3	0	59,000	10/07/2020 12:12	Day Trip	10/07/2020	10/07/2020

Application no	Permit No	Amount		Application Date	Entry Type	Entry Date	Exit Date
		USD	TZS				
9719	6041	3	153.4	35,400	10/07/2020 04:07	Day Trip	10/07/2020
9735	6054	2	153.4	23,600	12/07/2020 04:50	Day Trip	12/07/2020
9750	6055	5	218.3	47,200	13/07/2020 08:45	Day Trip	13/07/2020
9751	6056	3	218.3	23,600	13/07/2020 09:14	Day Trip	13/07/2020
9772	6067	5	283.2	35,400	14/07/2020 09:13	Day Trip	14/07/2020
9781	6069	3	0	59,000	14/07/2020 01:28	Day Trip	14/07/2020
9785	6071	5	218.3	47,200	14/07/2020 05:42	Day Trip	14/07/2020
9786	6078	1	359.9	-	15/07/2020 02:27	Sleep Over (Without Transport)	16/07/2020
9787	6077	4	1,250.80	-	15/07/2020 02:26	Sleep Over (Without Transport)	16/07/2020
9801	6081	1	0	141,600	15/07/2020 04:59	Sleep Over	16/07/2020
9816	6083	5	283.2	35,400	16/07/2020 08:45	Day Trip	16/07/2020
9818	6086	1	0	141,600	16/07/2020 10:49	Sleep Over (Without Transport)	16/07/2020
9820	6085	2	0	82,600	16/07/2020 10:18	Sleep Over	16/07/2020
9829	6098	2	76.7	35,400	16/07/2020 09:26	Day Trip	17/07/2020
9830	6094	1	271.4	-	16/07/2020 04:02	Sleep Over (Without Transport)	17/07/2020
9831	6095	2	542.8	-	16/07/2020 04:04	Sleep Over (Without Transport)	17/07/2020
9832	6099	4	944	-	16/07/2020 10:27	Sleep Over (Without Transport)	17/07/2020
9834	6114	2	76.7	35,400	17/07/2020 10:02	Day Trip	18/07/2020
9835	6108	5	76.7	70,800	17/07/2020 02:36	Day Trip	17/07/2020
9837	6100	4	153.4	47,200	17/07/2020 09:59	Day Trip	17/07/2020
9839	6101	4	0	70,800	17/07/2020 10:33	Day Trip	17/07/2020
9845	6103	2	0	47,200	17/07/2020 12:03	Day Trip	17/07/2020
9847	6105	3	0	59,000	17/07/2020 12:40	Day Trip	18/07/2020
9856	6111	21	0	359,900	17/07/2020 02:58	Day Trip	18/07/2020
9863	6115	4	0	70,800	18/07/2020 09:07	Day Trip	18/07/2020
9864	6116	1	0	11,800	18/07/2020 09:46	Day Trip (Without Transport)	18/07/2020

Application no	Permit No	Total Pax	Amount		Application Date	Entry Type	Entry Date	Exit Date
			USD	TZS				
9865	6119	5	0	82,600	18/07/2020 01:01	Day Trip	18/07/2020	18/07/2020
9870	6127	4	0	47,200	20/07/2020 10:42	Day Trip (Without Transport)	18/07/2020	18/07/2020
9875	6121	13	0	200,600	19/07/2020 06:25	Day Trip	19/07/2020	19/07/2020
9876	6122	5	76.7	70,800	19/07/2020 08:46	Day Trip	19/07/2020	19/07/2020
9881	6125	2	76.7	35,400	19/07/2020 07:32	Day Trip	19/07/2020	20/07/2020
9887	6126	1	890.9	-	20/07/2020 10:23	Sleep Over (Without Transport)	20/07/2020	30/07/2020
9899	6133	2	76.7	35,400	20/07/2020 04:00	Day Trip	20/07/2020	20/07/2020
9901	6131	2	0	47,200	20/07/2020 12:28	Day Trip	20/07/2020	20/07/2020
9927	6136	1	0	11,800	21/07/2020 08:55	Day Trip (Without Transport)	21/07/2020	21/07/2020
9929	6137	1	0	11,800	21/07/2020 09:00	Day Trip (Without Transport)	21/07/2020	21/07/2020
9930	6139	3	0	59,000	21/07/2020 09:26	Day Trip	21/07/2020	21/07/2020
9933	6142	6	153.4	56,640	21/07/2020 11:08	Day Trip	22/07/2020	22/07/2020
9934	6143	6	153.4	56,640	21/07/2020 11:22	Day Trip	23/07/2020	23/07/2020
9935	6144	6	153.4	56,640	21/07/2020 11:30	Day Trip	24/07/2020	24/07/2020
9952	6153	1	0	106,200	21/07/2020 11:48	Sleep Over	23/07/2020	26/07/2020
9957	6155	2	76.7	35,400	22/07/2020 08:35	Day Trip	22/07/2020	22/07/2020
9962	6158	3	153.4	35,400	22/07/2020 01:13	Day Trip	24/07/2020	24/07/2020
9963	6159	3	247.8	35,400	22/07/2020 01:16	Day Trip	25/07/2020	25/07/2020
9994	6164	1	0	35,400	23/07/2020 10:11	Day Trip	23/07/2020	23/07/2020
9995	6163	2	0	23,600	23/07/2020 10:07	Day Trip (Without Transport)	23/07/2020	23/07/2020
10001	6172	2	0	70,800	23/07/2020 12:55	Sleep Over (Without Transport)	23/07/2020	26/07/2020
10008	6180	2	0	23,600	23/07/2020 04:36	Sleep Over (Without Transport)	24/07/2020	25/07/2020
10015	6178	3	0	59,000	23/07/2020 03:59	Day Trip	23/07/2020	23/07/2020
10034	6184	1	0	11,800	24/07/2020 09:55	Day Trip (Without Transport)	24/07/2020	24/07/2020
10035	6185	10	106.2	-	24/07/2020 10:27	Sleep Over (Without Transport)	11/07/2020	13/07/2020
10057	6207	2	118	70,800	26/07/2020 01:17	Sleep Over	24/07/2020	26/07/2020

Application no	Permit No	Total Pax	Amount		Application Date	Entry Type	Entry Date	Exit Date
			USD	TZS				
10073	6192	3	153.4	35,400	25/07/2020 09:22	Day Trip	26/07/2020	26/07/2020
10074	6193	2	0	70,800	25/07/2020 10:05	Day Trip	25/07/2020	25/07/2020
10083	6196	16	218.3	198,240	25/07/2020 11:17	Day Trip	25/07/2020	25/07/2020
10084	6195	2	94.4	-	25/07/2020 11:09	Day Trip (Without Transport)	25/07/2020	25/07/2020
10096	6204	6	47.2	106,200	25/07/2020 04:16	Day Trip	25/07/2020	25/07/2020
10097	6206	1	0	11,800	26/07/2020 08:11	Day Trip (Without Transport)	26/07/2020	26/07/2020
10107	6212	3	76.7	47,200	27/07/2020 09:01	Day Trip	27/07/2020	27/07/2020
10128	6219	2	0	47,200	27/07/2020 05:35	Day Trip	27/07/2020	27/07/2020
10129	6224	3	153.4	35,400	28/07/2020 10:53	Day Trip	30/07/2020	30/07/2020
10130	6223	3	153.4	35,400	28/07/2020 10:51	Day Trip	31/07/2020	31/07/2020
10136	6221	2	0	47,200	28/07/2020 09:01	Day Trip	28/07/2020	28/07/2020
10142	6253	3	153.4	35,400	29/07/2020 04:49	Day Trip	28/07/2020	28/07/2020
10143	6232	2	0	47,200	28/07/2020 02:12	Day Trip	28/07/2020	28/07/2020
10149	6252	3	153.4	35,400	29/07/2020 04:47	Day Trip	29/07/2020	29/07/2020
10158	6241	2	0	82,600	29/07/2020 11:58	Day Trip	29/07/2020	29/07/2020
10159	6243	3	0	35,400	29/07/2020 01:13	Sleep Over (Without Transport)	30/07/2020	31/07/2020
10161	6240	1	0	35,400	29/07/2020 11:51	Day Trip	29/07/2020	30/07/2020
10174	6247	4	1,085.60	-	29/07/2020 02:53	Sleep Over (Without Transport)	30/07/2020	02/08/2020
10178	6248	1	0	106,200	29/07/2020 03:25	Sleep Over	30/07/2020	02/08/2020
10182	6261	3	531	106,200	30/07/2020 12:41	Sleep Over	29/07/2020	01/08/2020
10193	6265	8	0	109,150	30/07/2020 01:29	Day Trip	31/07/2020	01/08/2020
10203	6255	2	0	82,600	30/07/2020 07:16	Day Trip	30/07/2020	30/07/2020
10208	6262	1	0	61,360	30/07/2020 12:58	Sleep Over (Without Transport)	30/07/2020	07/08/2020
10210	6258	7	283.2	86,140	30/07/2020 11:51	Day Trip	30/07/2020	31/07/2020
10214	6268	9	944	195,880	30/07/2020 02:25	Sleep Over	30/07/2020	01/08/2020
10218	6267	1	0	31,270	30/07/2020 01:43	Day Trip	30/07/2020	30/07/2020

Application no	Permit No	Total Pax	Amount		Application Date	Entry Type	Entry Date	Exit Date
			USD	TZS				
10226	6271	1	377.6	-	30/07/2020 05:03	Sleep Over (Without Transport)	20/07/2020	30/07/2020
10229	6272	1	0	253,700	30/07/2020 06:56	Sleep Over	30/07/2020	09/08/2020
10232	6274	3	82.6	59,000	30/07/2020 09:54	Day Trip	31/07/2020	31/07/2020
10233	6275	3	76.7	47,200	30/07/2020 10:22	Day Trip	01/08/2020	01/08/2020
10249	6276	2	165.2	-	31/07/2020 03:50	Day Trip (Without Transport)	31/07/2020	31/07/2020
10250	6277	2	153.4	-	31/07/2020 03:56	Day Trip (Without Transport)	01/08/2020	01/08/2020
10251	6278	2	0	47,200	31/07/2020 07:49	Day Trip	31/07/2020	31/07/2020
10256	6279	9	1416	63,720	31/07/2020 09:30	Day Trip (Without Transport)	31/07/2020	01/08/2020
10257	6280	2	0	27,140	31/07/2020 09:49	Day Trip	31/07/2020	01/08/2020
10258	6281	5	0	105,610	31/07/2020 10:21	Day Trip	31/07/2020	31/07/2020
10259	6282	16	0	277,300	31/07/2020 02:10	Day Trip	31/07/2020	31/07/2020
10260	6284	6	0	89,680	31/07/2020 03:02	Day Trip	31/07/2020	31/07/2020
10263	6283	4	0	70,800	31/07/2020 02:33	Day Trip	31/07/2020	31/07/2020
10268	6421	2	94.4	-	07/08/2020 04:05	Day Trip (Without Transport)	01/08/2020	01/08/2020
10269	6362	2	0	304,440	04/08/2020 03:45	Sleep Over	01/08/2020	07/08/2020
10280	6286	1	0	25,370	01/08/2020 01:53	Day Trip	01/08/2020	02/08/2020
10284	6299	6	0	84,370	01/08/2020 03:54	Day Trip	01/08/2020	01/08/2020
10288	6287	5	0	82,600	01/08/2020 09:05	Day Trip	01/08/2020	01/08/2020
10291	6288	5	0	89,680	01/08/2020 09:38	Day Trip	01/08/2020	01/08/2020
10298	6304	6	76.7	74,340	01/08/2020 05:18	Day Trip	01/08/2020	01/08/2020
10301	6305	5	0	79,650	01/08/2020 05:26	Day Trip	01/08/2020	01/08/2020
10304	6306	7	513.3	-	01/08/2020 05:33	Day Trip (Without Transport)	01/08/2020	01/08/2020
10310	6303	4	230.1	37,170	01/08/2020 05:07	Day Trip	01/08/2020	01/08/2020
10317	6301	11	0	173,460	01/08/2020 04:12	Day Trip	01/08/2020	01/08/2020
10325	6296	11	0	138,650	01/08/2020 12:54	Day Trip	01/08/2020	01/08/2020
10329	6300	5	306.8	11,800	01/08/2020 04:05	Day Trip (Without Transport)	01/08/2020	01/08/2020

Application no	Permit No	Total Pax	Amount		Application Date	Entry Type	Entry Date	Exit Date
			USD	TZS				
10332	6297	6	0	92,040	01/08/2020 03:09	Day Trip	01/08/2020	01/08/2020
10334	6298	6	0	66,080	01/08/2020 03:47	Day Trip (Without Transport)	01/08/2020	01/08/2020
10335	6302	4	0	207,680	01/08/2020 04:32	Sleep Over	01/08/2020	03/08/2020
10338	6401	1	0	101,480	07/08/2020 09:16	Sleep Over	01/08/2020	05/08/2020
10344	6327	2	0	47,200	02/08/2020 03:08	Day Trip	01/08/2020	01/08/2020
10346	6307	10	153.4	170,510	01/08/2020 07:20	Day Trip	01/08/2020	01/08/2020
10353	6324	19	0	273,760	02/08/2020 01:13	Day Trip	02/08/2020	02/08/2020
10355	6315	3	531	111,510	02/08/2020 09:59	Sleep Over	02/08/2020	05/08/2020
10356	6316	1	0	25,370	02/08/2020 10:05	Day Trip	02/08/2020	02/08/2020
10372	6330	6	3,186.00	-	03/08/2020 10:40	Sleep Over (Without Transport)	02/08/2020	08/08/2020
10383	6329	4	0	70,800	03/08/2020 09:27	Day Trip	03/08/2020	03/08/2020
10390	6334	6	531	-	03/08/2020 11:02	Sleep Over (Without Transport)	01/08/2020	07/08/2020
10393	6337	1	0	76,110	03/08/2020 11:32	Sleep Over	03/08/2020	06/08/2020
10423	6347	3	0	59,000	04/08/2020 08:53	Day Trip	04/08/2020	04/08/2020
10445	6404	5	383.5	-	07/08/2020 04:05	Day Trip (Without Transport)	05/08/2020	05/08/2020
10446	6366	5	383.5	-	05/08/2020 08:58	Day Trip (Without Transport)	06/08/2020	06/08/2020
10450	6364	2	0	38,940	04/08/2020 11:48	Day Trip	05/08/2020	05/08/2020
10451	6384	2	0	38,940	06/08/2020 12:36	Day Trip	06/08/2020	06/08/2020
10459	6365	1	0	11,800	05/08/2020 08:46	Day Trip (Without Transport)	05/08/2020	05/08/2020
10460	6418	1	177	47,200	07/08/2020 02:01	Sleep Over	05/08/2020	07/08/2020
10461	6379	2	0	47,200	05/08/2020 04:38	Day Trip	05/08/2020	05/08/2020
10466	6372	3	153.4	35,400	05/08/2020 11:51	Day Trip	06/08/2020	06/08/2020
10467	6400	2	182.9	29,500	07/08/2020 09:14	Sleep Over (Without Transport)	07/08/2020	09/08/2020
10474	6387	7	460.2	25,370	06/08/2020 09:14	Day Trip	08/08/2020	09/08/2020
10478	6378	4	0	106,200	05/08/2020 04:36	Day Trip	05/08/2020	05/08/2020
10482	6380	1	0	11,800	05/08/2020 05:05	Sleep Over (Without Transport)	05/08/2020	06/08/2020

Application no	Permit No	Total Pax	Amount		Application Date	Entry Type	Entry Date	Exit Date
			USD	TZS				
10489	6396	6	354	318,600	06/08/2020 03:20	Sleep Over	08/08/2020	12/08/2020
10490	6383	2	76.7	25,370	05/08/2020 09:32	Day Trip	06/08/2020	06/08/2020
10505	6398	3	153.4	35,400	06/08/2020 04:07	Day Trip	07/08/2020	07/08/2020
10508	6402	1	0	70,800	07/08/2020 09:27	Sleep Over	07/08/2020	09/08/2020
10514	6399	2	76.7	25,370	06/08/2020 09:13	Day Trip	07/08/2020	07/08/2020
10518	6403	2	0	50,740	07/08/2020 10:02	Sleep Over	07/08/2020	08/08/2020
10532	6407	6	531	-	07/08/2020 12:03	Sleep Over (Without Transport)	07/08/2020	08/08/2020
10537	6410	6	0	96,170	07/08/2020 12:41	Day Trip	07/08/2020	07/08/2020
10541	6412	6	106.2	-	07/08/2020 01:09	Sleep Over (Without Transport)	07/08/2020	08/08/2020
10542	6415	3	0	59,000.00	07/08/2020 01:46	Day Trip	07/08/2020	07/08/2020
10559	6423	2	76.7	25,370.00	07/08/2020 09:59	Day Trip	08/08/2020	08/08/2020
10568	6668	1	70.8	-	21/08/2020 12:02	Sleep Over	05/08/2020	07/08/2020
10573	6431	1	0	25,370	08/08/2020 11:46	Sleep Over	08/08/2020	09/08/2020
10574	6428	5	873.2	76,110	08/08/2020 10:19	Sleep Over	08/08/2020	11/08/2020
10575	6422	6	0	77,880	07/08/2020 09:53	Day Trip	08/08/2020	08/08/2020
10578	6424	8	76.7	96,170	08/08/2020 08:07	Day Trip	08/08/2020	08/08/2020
10579	6425	10	76.7	122,720	08/08/2020 09:21	Day Trip	08/08/2020	08/08/2020
10580	6426	1	0	35,400	08/08/2020 09:23	Day Trip	08/08/2020	08/08/2020
10581	6427	4	153.4	27,140	08/08/2020 10:04	Day Trip	08/08/2020	08/08/2020
10583	6432	4	153.4	47,200	08/08/2020 11:47	Day Trip	10/08/2020	10/08/2020
10586	6433	6	306.8	27,140	08/08/2020 12:00	Day Trip	08/08/2020	09/08/2020
10587	6434	13	767	47,200	08/08/2020 12:04	Day Trip	08/08/2020	08/08/2020
10600	6439	3	542.8	76,110	08/08/2020 01:55	Sleep Over	09/08/2020	12/08/2020
10601	6435	1	76.7	23,600	08/08/2020 12:14	Day Trip	08/08/2020	08/08/2020
10602	6436	4	0	47,200	08/08/2020 12:34	Day Trip (Without Transport)	08/08/2020	08/08/2020
10604	6437	1	0	35,400	08/08/2020 12:45	Day Trip	08/08/2020	08/08/2020

Application no	Permit No	Total Pax	Amount		Application Date	Entry Type	Entry Date	Exit Date
			USD	TZS				
10607	6440	8	76.7	96,760	08/08/2020 05:23	Day Trip	08/08/2020	08/08/2020
10615	6441	27	0	356,360	08/08/2020 05:56	Day Trip	08/08/2020	08/08/2020
10617	6451	4	230.1	35,400	09/08/2020 07:14	Day Trip	09/08/2020	09/08/2020
10622	6487	5	743.4	47,200	10/08/2020 12:36	Sleep Over	08/08/2020	10/08/2020
10626	6479	2	76.7	70,800	10/08/2020 08:36	Day Trip	09/08/2020	09/08/2020
10627	6443	11	0	174,640	08/08/2020 06:32	Day Trip	08/08/2020	08/08/2020
10628	6442	4	200.6	47,200	08/08/2020 06:25	Day Trip	08/08/2020	08/08/2020
10633	6454	2	76.7	70,800	09/08/2020 08:41	Day Trip	10/08/2020	10/08/2020
10636	6453	14	796.5	-	09/08/2020 08:29	Day Trip (Without Transport)	09/08/2020	09/08/2020
10640	6457	6	306.8	37,170	09/08/2020 08:52	Day Trip	09/08/2020	09/08/2020
10641	6458	4	0	70,800	09/08/2020 09:03	Day Trip	09/08/2020	09/08/2020
10644	6467	15	926.3	50,740	09/08/2020 12:05	Day Trip	09/08/2020	09/08/2020
10646	6459	7	0	103,840	09/08/2020 10:06	Day Trip	09/08/2020	09/08/2020
10655	6466	8	0	118,000	09/08/2020 11:53	Day Trip	09/08/2020	09/08/2020
10660	6469	15	0	243,080	09/08/2020 01:58	Day Trip	09/08/2020	09/08/2020
10666	6476	4	153.4	47,200	10/08/2020 07:17	Day Trip	10/08/2020	10/08/2020
10674	6478	1	0	11,800	10/08/2020 08:24	Day Trip (Without Transport)	10/08/2020	10/08/2020
10685	6488	5	29.5	-	10/08/2020 12:49	Sleep Over	08/08/2020	10/08/2020
11237	6763	1	0	41,300	30/08/2020 08:47	Day Trip	30/08/2020	30/08/2020

**Appendix II: One permit multiple usage**

S/N	Applicaction No	Permit No	Total Pax	Amount		Application Date	Park	Entry Type	Entry Date	Exit Date
				USD	TZS					
1	3421	1937	6	177	17,700	16/01/2020 10:00	Burunge WMA	Entry and Bednight Permit	19/01/2020	20/01/2020
2	3212	1937	23	1,817.00	51,920	16/01/2020 10:00	Ikona WMA	Entry and Bednight Permit	20/01/2020	22/01/2020
3	3771	2096	3	118.00	40,120	18/01/2020 12:54	Ikona WMA	Entry and Bednight Permit	18/01/2020	20/01/2020
4	3768	2096	20	1,180.00	-	18/01/2020 12:33	Ikona WMA	Entry and Bednight Permit (Without Transport)	27/01/2020	29/01/2020
5	4170	2408	4	236.00	-	23/01/2020 09:15	Ikona WMA	Entry and Bednight Permit (Without Transport)	23/01/2020	25/01/2020
6	4658	2703	3	118.00	51,920	28/01/2020 03:54	Ikona WMA	Entry and Bednight Permit	28/01/2020	30/01/2020
7	4658	2703	3	118.00	51,920	28/01/2020 03:54	Ikona WMA	Entry and Bednight Permit	28/01/2020	30/01/2020
8	5014	2895	5	118.00	20,060	31/01/2020 12:32	Burunge WMA	Entry and Bednight Permit	07/02/2020	08/02/2020
9	4913	2895	3	236.00	103,840	30/01/2020 03:18	Ikona WMA	Entry and Bednight Permit	02/02/2020	06/02/2020
10	5141	3035	4	53.00	5,900	01/02/2020 09:55	Randilen WMA (Monduli)	Special Permit	02/02/2020	03/02/2020
11	5149	3035	3	59.00	20,060	01/02/2020 09:55	Burunge WMA	Entry and Bednight Permit	02/02/2020	03/02/2020
12	5155	3042	3	59.00	20,060	02/02/2020 11:20	Engaresero - Lake Natron GCA	Entry and Bednight Permit	03/02/2020	04/02/2020

S/N	Application No	Permit No	Total Pax	Amount USD	Amount TZS	Applitation Date	Park	Entry Type	Entry Date	Exit Date	
13	4899	3042	3	59.00	25,960	30/01/2020 03:18	Burunge WMA	Entry Permit	and Bednight	04/02/2020 05/02/2020	
14	5134	3043	4	59.00	-	02/02/2020 11:44	Engaresero - Lake Natron GCA	Entry Permit	and Bednight	11/02/2020 12/02/2020	
15	4914	3043	6	354.00	102,660	30/01/2020 03:18	Ikona WMA	Entry Permit	and Bednight	06/02/2020 09/02/2020	
16	5172	3082	6	118.00	51,920	03/02/2020 02:42	Ikona WMA	Entry Permit	and Bednight	03/02/2020 05/02/2020	
17	5225	3082	3	118.00	51,920	03/02/2020 02:42	Ikona WMA	Entry Permit	and Bednight	04/02/2020 06/02/2020	
18	5486	3309	12	295.00	51,920	06/02/2020 03:22	Burunge WMA	Entry Permit	and Bednight	07/02/2020 08/02/2020	
19	5584	3309	4	89.00	25,960	06/02/2020 03:22	Burunge WMA	Entry Permit	and Bednight	06/02/2020 07/02/2020	
20	5541	3322	4	83.00	20,060	06/02/2020 04:08	Burunge WMA	Entry Permit	and Bednight	11/02/2020 12/02/2020	
21	5661	3322	2	366.00	-	06/02/2020 04:08	Selous Reserve	Game	Entry Permit	and Bednight	07/02/2020 09/02/2020
22	5605	3421	9	472.00	51,920	07/02/2020 04:46	Ikona WMA	Entry Permit	and Bednight	10/02/2020 12/02/2020	
23	5737	3421	3	59.00	25,960	07/02/2020 04:46	Randilen (Monduli)	WMA	Entry Permit	and Bednight	08/02/2020 09/02/2020
24	6649	3917	5	83.00	20,060	13/02/2020 01:49	Burunge WMA	Entry Permit	and Bednight	13/02/2020 14/02/2020	
25	6657	3917	18	826.00	172,280	13/02/2020 01:49	Burunge WMA	Entry Permit	and Bednight	14/02/2020 16/02/2020	

S/N	Applic ation No	Permit No	Total Pax	Amount		Application Date	Park	Entry Type	Entry Date	Exit Date
				USD	TZS					
26	7575	4988	1	-	40,120	26/02/2020 12:47	Ikona WMA	Entry and Bednight Permit	04/03/2020	06/03/2020
27	8013	4988	1	-	40,120	26/02/2020 12:47	Ikona WMA	Entry and Bednight Permit	26/02/2020	28/02/2020
28	8150	5134	2	543.00	-	28/02/2020 05:17	Selous Game Reserve	Entry and Bednight Permit (Without Transport)	02/03/2020	05/03/2020
29	8206	5134	4	-	-	28/02/2020 04:55	Engaresero - Lake Natron GCA	Entry and Bednight Permit	29/02/2020	02/03/2020
30	8764	5613	5	236.00	40,120	09/03/2020 07:40	Ikona WMA	Entry and Bednight Permit	09/03/2020	11/03/2020
31	8803	5613	3	59.00	20,060	09/03/2020 07:40	Randilen WMA (Monduli)	Entry and Bednight Permit	10/03/2020	11/03/2020
32	9112	5791	2	-	47,200	19/03/2020 12:39	Selous Game Reserve	Entry Permit	19/03/2020	20/03/2020
33	9094	5791	5	-	-	19/03/2020 10:54	Burunge WMA	Entry and Bednight Permit	19/03/2020	22/03/2020
34	9708	6035	6	-	60,180	10/07/2020 10:54	Burunge WMA	Entry and Bednight Permit	11/07/2020	12/07/2020
35	9671	6035	6	142.00	17,700	10/07/2020 12:12	Engaresero - Lake Natron GCA	Day Trip	11/07/2020	12/07/2020
36	9899	6133	2	77.00	35,400	20/07/2020 04:00	Nyerere National Park	Day Trip	20/07/2020	20/07/2020
37	9913	6133	4	-	40,120	16/07/2020 03:35	Randilen WMA (Monduli)	Entry and Bednight Permit	21/07/2020	22/07/2020

S/N	Applic ation No	Permit No	Total Pax	Amount	Application Date	Park	Entry Type	Entry Date	Exit Date	
			USD	TZS						
38	11096	6701	2	30.00	20,060	24/08/2020 05:26	Burunge WMA	Entry and Bednight Permit	24/08/2020	25/08/2020
39	11021	6701	5	-	60,180	24/08/2020 01:16	Randilen WMA (Monduli)	Entry and Bednight Permit (Without Transport)	24/08/2020	26/08/2020
40	11101	6702	3	59.00	56,640	24/08/2020 08:36	Engaresero - Lake Natron GCA	Entry and Bednight Permit	24/08/2020	26/08/2020
41	11022	6702	5	-	60,180	24/08/2020 01:16	Randilen WMA (Monduli)	Entry and Bednight Permit (Without Transport)	24/08/2020	26/08/2020



**Appendix III: Permits with zero amount**

S/ N	Application No	Permit No	Total Pax	Application Date	Entry Type	Entry Date	Exit Date	Park
1		7222	4	28/09/2020 05:14	Entry Permit (Camping)	03/10/20 20	04/10/20 20	SERENGETI BIG CATS SAFARIS (T) LTD
2	12068	7221	4	28/09/2020 05:13	Entry and Bednight Permit	29/09/20 20	04/10/20 20	EBN HUNTING SAFARIS LTD
3	11443	7220	5	28/09/2020 05:05	Entry and Bednight Permit	30/09/20 20	02/10/20 20	SERENGETI BIG CATS SAFARIS (T) LTD
4	12037	7210	1	28/09/2020 11:25	Entry and Bednight Permit	28/09/20 20	30/09/20 20	HIGH VIEW HOTEL LTD
5	12036	7204	2	28/09/2020 11:20	Entry and Bednight Permit (Without Transport)	28/09/20 20	30/09/20 20	ZARA INTERNATIONAL TRAVEL AGENCY LIMITED
6	11955	7198	3	28/09/2020 09:43	Entry and Bednight Permit	02/10/20 20	04/10/20 20	Chacha Massae
7	12021	7196	2	28/09/2020 07:34	Entry Permit	28/09/20 20	28/09/20 20	GRUMETI RESERVES (T) LTD
8	11380	6928	4	11/09/2020 11:51	Entry and Bednight Permit	11/09/20 20	12/09/20 20	ET INVESTMENTS LIMITED
9	9524	5985	2	30/06/2020 11:56	Sleep Over	30/06/20 20	01/07/20 20	HEMED SELEMANI CHIWANGO
10	9525	5984	1	30/06/2020 11:52	Sleep Over (Without Transport)	30/06/20 20	01/07/20 20	Hemed Selemani
11	9094	5791	5	19/03/2020 10:54	Entry and Bednight Permit	19/03/20 20	22/03/20 20	KILIMANDSCHARO ACTIVE TOURS LTD
12	8206	5134	4	28/02/2020 04:55	Entry and Bednight Permit	29/02/20 20	02/03/20 20	KILIMANDSCHARO ACTIVE TOURS LTD

**Appendix IV: Day trip permits having difference between entry date and exit date of more than a day**

Application No	Permit No	Total Pax	Amount		Application Date	Park	Entry Date	Exit Date	Group Name
			USD	TZS					
10586	6433	6	306.8	27,140	08/08/2020 12:00	Nyerere Park	08/08/2020	09/08/2020	RASHID SALUM DUNDO
10474	6387	7	460.2	25,370	06/08/2020 09:14	Nyerere Park	08/08/2020	09/08/2020	Ghaddar x 6
10280	6286	1	0	25,370	01/08/2020 01:53	Nyerere Park	01/08/2020	02/08/2020	Metin x7
10257	6280	2	0	27,140	31/07/2020 09:49	Nyerere Park	31/07/2020	01/08/2020	KARAFUU TOURS & CAR HIRE LIMITED
10256	6279	9	141.6	63,720	31/07/2020 09:30	Nyerere Park	31/07/2020	01/08/2020	SRSS88
10193	6265	8	0	109,150	30/07/2020 01:29	Nyerere Park	31/07/2020	01/08/2020	Falguni Darbar
10210	6258	7	283.2	86,140	30/07/2020 11:51	Nyerere Park	30/07/2020	31/07/2020	TONNY*6
10161	6240	1	0	35,400	29/07/2020 11:51	Nyerere Park	29/07/2020	30/07/2020	HADJJA
9881	6125	2	76.7	35,400	19/07/2020 07:32	Nyerere Park	19/07/2020	20/07/2020	GEORGE RAPHAEL NJOVU
9847	6105	3	0	59,000	17/07/2020 12:40	Nyerere Park	18/07/2020	19/07/2020	RAHMAT HASSANI ABDULKADER
9671	6035	6	141.6	17,700	10/07/2020 12:12	Engaresero - Lake Nation GCA	11/07/2020	12/07/2020	VOLKES RATHKE 0673041128
9634	6002	1	0	11,800	05/07/2020 10:53	Nyerere Park	05/07/2020	06/07/2020	BRUNO C MBUNDA
9611	6001	4	460.2	70,800	05/07/2020 09:11	Nyerere Park	04/07/2020	06/07/2020	BERND LORENZ
9272	5860	2	76.7	35,400	29/05/2020 09:23	Nyerere Park	29/05/2020	30/05/2020	SIMA SAFARI LTD

**Appendix V: Permits created by system Administrator**

Application No	Permit No	Total Pax	USD	TZS	Application Date	Park	Entry Type	Entry Date	Exit Date	Status
9331	00005890	2	177	35,400	08/06/2020	Engaresero - Natron GCA	Entry and Bednight Permit	04/06/2020	07/06/2020	Pending
4148	00002353	1	0	20,060	23/01/2020	Burunge WNMA	Entry Permit	23/01/2020	23/01/2020	Used

**Appendix VI: Ilala Municipal revenue figures differences between LGRCIS and IFMS- Epicor Financial year 2019/20**

GFS	LGRCIS Amount	Epicor amount	Difference (LGRCIS - Epicor)
11110117	502,812,588.02	763,120,025.78	(260,307,438)
11310103	454,943,549.63	393,306,950.99	61,636,599
11440113	15,301,748,256.78	19,819,459,795.57	(4,517,711,539)
11451103	74,326,000.00	61,913,608.00	12,412,392
11451114	299,646,500.00	25,559,500.00	274,087,000
11610103	5,910,921,106.21	4,887,635,197.83	1,023,285,908
11610116	30,000.00	52,112,500.00	(52,082,500)
11610140	96,943,110.60	160,183,024.87	(63,239,914)
11610142	54,199,999.85	35,353,008.00	18,846,992
12110104	634,501.00	-	634,501
14220113	212,217,902.00	568,773,520.00	(356,555,618)
14220161	468,755,579.70	564,347,345.13	(95,591,765)
14220176	143,612,548.00	197,121,830.00	(53,509,282)
14220182	1,969,863,183.00	2,009,927,712.80	(40,064,530)
14220183	491,521,276.00	396,015,670.00	95,505,606
14220185	173,085,460.00	79,403,073.50	93,682,387
14220194	1,973,767,854.00	413,524,472.34	1,560,243,382

*Source: Revenue report from LGRCIS and IFMS- Epicor for financial year 2019/20*

**Appendix VII: Ilala Municipal revenue figures differences between LGRCIS and IFMS- Epicor Financial year 2018/19**

GFS	Revenue Source	LGRCIS	EPICOR	Difference(LGRCIS-EPICOR)
11110117	Miscellaneous Collection	2,061,563,088	2,225,268,853	(163,705,765)
11310103	Guest House Levy	482,944,600	482,943,600	1,000
11440113	Service Levy	20,089,719,105	0	20,089,719,105
11450101	Open space user charges	450,000	0	450,000
11450102	Permit fees for billboards, posters or ho	17	0	17
11451103	Motor Vehicles, Cycle, Tricycle Registrat	151,663,000	0	151,663,000
11451114	Other Motor Vehicles Parking Fee	64,733,500	0	64,733,500
11452101	Business and professional license	158,000	0	158,000
11610103	Business Licences	5,691,231,213	5,661,352,375	29,878,839
11610110	Registration and Corporate Management Fee	60,000	0	60,000
11610116	Registration of Sports Club	48,428,500	48,479,500	(51,000)
11610139	Commercial fishing license fees	25,636,749	26,881,749	(1,245,000)
11610140	Intoxicating liquor license fee	100,639,750	97,507,250	3,132,500
11610142	Plying permit fees	51,081,463	33,827,112	17,254,351
12110104	Receipts from TFDA	90,894,079	0	90,894,079
14210107	Receipts from Sale of Stores	50,000	0	50,000
14220113	Receipts from Ante Mortal and Meat Inspec	101,183,000	1,173,247,665	(1,072,064,665)
14220161	Building permit fee	509,481,531	464,763,170	44,718,362
14220176	Abattoir Slaughter fees	1,071,144,913	0	1,071,144,913
14220182	Market stalls / slabs dues	3,458,214,348	3,328,831,652	129,382,696
14220183	Sanitation fees and charges	509,301,000	500,499,200	8,801,800
14220185	Scaffolding / Hoarding permit fees	142,199,970	141,376,020	823,950
14220194	By law fines	282,739,148	0	282,739,148
14310101	Fines	15,000	0	15,000
<b>Total</b>		<b>34,933,531,975</b>	<b>14,184,978,146</b>	<b>20,748,553,829</b>

*Source: Revenue report from LGRCIS and IFMS- Epicor for financial year 2018/19*

**Appendix VIII: Ilala Municipal revenue figures differences between LGRCIS and IFMS- Epicor Financial year 2017/18**

GFS	LGRCIS	EPICOR	Difference (LGRCIS-Epicor)
11310101	35,943.13	1,668,769,721.52	(1,668,733,778)
14220176	143,612,548.00	942,923,899.00	(799,311,351)
14220113	212,217,902.00	397,284,534.63	(185,066,633)
14220194	1,974,297,854.00	1,977,060,388.00	(2,762,534)
11310103	454,943,549.63	455,481,799.63	(538,250)
14220185	173,085,460.00	173,085,560.00	(100)
11450102	202,283,830.24	202,283,830.24	0
14220161	469,649,085.69	468,405,434.92	1,243,651
11610140	96,943,110.60	95,654,020.00	1,289,091
11451103	74,326,000.00	68,018,500.00	6,307,500
11440113	15,301,748,256.78	15,288,997,858.32	12,750,398
14220183	491,521,276.00	448,839,700.00	42,681,576
14220182	1,969,863,183.00	1,826,324,489.00	143,538,694
11110117	504,232,588.02	#N/A	#N/A
11451114	298,226,500.00	#N/A	#N/A
11610103	5,910,921,106.21	#N/A	#N/A
11610116	30,000.00	#N/A	#N/A
11610142	53,306,493.86	#N/A	#N/A
12110104	634,501.00	#N/A	#N/A

*Source: Revenue report from LGRCIS and IFMS- Epicor for financial year 2017/18*

**Appendix IX: Municipal revenue figures differences between FFARS and GoT-HOMIS Financial year 2019/20**

HEALTH FACILITY	REVENUE- GOTHOMIS AND POS (A)	REVENUE- FFARS (B)	Difference (A-B)
Mnazi mmoja	1,259,221,410.00	1,259,138,758.14	82,652
Tabata A	126,704,212.86	132,833,089.44	(6,128,877)
Chaniika	435,550,090.89	435,843,563.62	(293,473)
Kinyerezi	115,549,570.24	110,057,672.91	5,491,897
Buyuni	47,892,920.00	47,644,932.49	247,988
Kiwalani	58,669,960.00	58,931,749.80	(261,790)

*Source: Revenue report for health facilities from GOTHOMIS and FFARS*