

**ANALYSIS OF OPERATIONALIZATION OF NATIONAL INTEGRATED
MONITORING AND EVALUATION SYSTEM IN THE MINISTRY OF
AGRICULTURE IN KISUMU COUNTY**

BY

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ABSTRACT

The Directorate of Monitoring and Evaluation urgently requires operationalization of National Integrated Monitoring and Evaluation System (NIMES) to provide timely data for decision-making. Kenya established NIMES and the County Integrated Monitoring and Evaluation System in 2004 and 2016, respectively to enhance provision of credible data on performance of public sector policies and programmes according to the 2010 Constitution. The main objective of this study is to analyze the operationalization of NIMES in the ministry of agriculture in Kisumu County. The specific objectives include: to assess the extent to which the agricultural departments have been capacitated to operationalize NIMES through utilization of e-ProMIS platform; to measure performance of these departments towards achieving their M & E objectives based on NIMES standards and protocols; and to assess the key drivers influencing institutionalization of NIMES in these departments. The three departments were purposively selected. Six (out of all 15 M & E and ICT) officers were sampled. Single point face-to-face interviews were conducted using semi-structured questionnaires. Quantitative and qualitative approaches were applied to process and analyze primary and secondary data. Using Statistical Package for Social Sciences software, descriptive analysis generated frequency distributions, while inferential analysis obtained Odds ratios. Likert Scale was used to assess the level of staff satisfaction with NIMES, while binary logistic regression model estimated the likelihood of independent variables' influence on NIMES' operationalization. Regarding departmental capacity on NIMES, the departments had required capacity (with significant variation across departments); very minimal inter-departmental consultations on data management; no NIMES-specific indicators collected; no data uploaded onto e-ProMIS platform; and no department and NIMES database linkages observed. Notwithstanding capacity strengthening through trainings and budgetary allocations for M&E, operationalization of NIMES is insignificant. Concerning departmental performance against M & E objectives, 60% of basic M & E activities were undertaken, though poor quality reports noted due to lack of data and delays in reporting from the field. No staff had accessed M & E Policy and County Evaluation Guidelines. M & E tools are haphazard, with no departmental database. Regarding key drivers influencing operationalization of NIMES, inadequate integration of NIMES in planning and budgeting, limited departmental buy-in and ownership of the process and limited NIMES champions within departments was noted. In conclusion, though departmental capacity is enhanced, NIMES is non-operationalized; e-ProMIS unutilized; and no data uploaded onto NIMES. It is recommended that the departments should identify champions for NIMES and fast track adoption of NIMES through urgent integration of the 3 departments based on standard indicators.

1.1 Introduction

This chapter presents background of the study, statement of the problem, objectives of the study, research questions, justification and significance of the study, scope and limitations of the study, assumptions of the study, definition of significance terms used in the study and organization of the study.

1.2 Background to the Study

Monitoring and Evaluation (M & E) are twin and complementary processes supporting project and programme management by providing information upon which critical decisions regarding performance and budgeting are made (Wieman et al., 2001). On the other hand, M & E system refers to a complete set of interlinked activities that must be undertaken in a coordinated way to enhance M&E planning as well as to gather, collate and analyze information and report and to support decision making and the implementation of improvements (Arild, 2001). Khan (2003) established that lack of emphasis of M & E across governments and institutions has sidelined M & E systems function, restricting it to periodic reporting in many forms and shapes with fancy presentations of figures and graphics and without thorough analysis and future guidelines.

Globally, M&E has increasingly come to the fore over the past three decades in being regarded as the key in providing evidence of programme and organizational performance (Chelimsky, 1997; Christie, 2007; Johnson et.al., 2009; Mackay, 2006; Paton, 2001; and Picciotto, 2003). Empirical research shows that operationalization of M & E systems has significantly been influenced by donor demands (AfrEA, 2007; Porter, 2013; OECD, 2005), strong internal pressures (Kusek & Rist, 2004), need to show value for money (Hauge, 2001), as well as increased need for organizational learning (Chen, 2005; Samset et al., 1992). Colombia, for example developed its National Results-Based Management and Evaluation System (SINERGIA) to aid in enhancing the country's reform towards performance-based management, particularly at the central administration through promoting joint planning and budgeting using system-generated data. The system achieved a high level of development and customization and is held up as an example of best practices by multilateral organizations, donor agencies, and other governments (Manuel, 2009).

In the United Kingdom, the government's performance targets contained in the Public Sector Agreements between the Treasury and each of the 18 main departments ensured that the M & E system contained the state department's overall goal, priority objectives, and key performance targets that are also annually reported on (Mackay, 2007). In Germany, M & E system is used by central government to monitor all the activities within the departments to fight corruptions (David, 2003). In Australia, the government's "whole-of-government evaluation system" is managed by the Department of Finance, and all ministries evaluate each of their programmes every three to five years (Buse & Vigneri, 2008). In India, South Africa, Nigeria, and Kenya, the adoption of M & E system is taking root gradually (Kremer, 2003; World Bank, 2004), with most African governments not showing commitment to ensuring the operationalization of M & E system (Fleischer, 2009).

Despite the pivotal role of M & E in providing credible information for continental development and decision-making, most government institutions in Africa lag in not only designing user-friendly M & E systems, but also operationalizing them to generate timely M&E data for decision making in all sectors (Mackay, 2006; Kusek & Rist, 2004; Diabre, 2002; Vestman, 2006). However, studies show that countries with operationalized M & E systems enjoy timely and reliable feedback that informs budgeting and ensures synchrony of government programs (World Bank, 2001b; Mackay, 2007; Owen, 2007).

Like in many African countries, the introduction of NIMES in Kenya in 2004, coupled with the policy on e-government created room for M & E to be an integral part of policy formulation and implementation process at the national level (GOK, 2007). NIMES was expected to be used for informing national development planning and policy dialogue within government and with private sector, civil society organizations and development partners (MPND, 2007; MDP, 2014; and GOK, 2003). This has not been realized. Similarly, through the coordination of the Directorate of M & E, all ministries, public sectors and sub-sectors at the national and county level were expected to operationalize NIMES and their respective Country Integrated Monitoring and Evaluation System (CIMES) by collecting accurate and up-to-date data and information on the implementation of County Integrated Development Plan, the national Medium Term Plan (2013-2018) and its Vision 2030 as well as global and continental data on Sustainable Development Goals (SDGs) and the Comprehensive African

Agricultural Development Programme (CAADP) of New Partnership for African Development (NEPAD) respectively (Adesina & Sirajo, 1995). These have not been undertaken.

Operationalization of NIMES requires various components across individual, institutional and systemic levels. The process focuses on resource capacity for operationalizing NIMES through its e-ProMIS platform, levels of implementation of M & E objectives, creation of enabling environment for M & E, M & E work planning and budgeting, M & E system support and supervision, communication, advocacy and culture, as well as partnerships. This study focused on three of the components only; resource capacity for M&E, implementation of NIMES in the departments of agriculture, fisheries and livestock, as well as assessment of the key drivers that influence operationalization of NIMES.

1.2.1. Capacity for Operationalizing NIMES

Effective M & E is dependent on good planning and resource capacity (Nyonje et al., 2012). Effective operationalization of NIMES requires availability of the following capacities: skilled staff to handle M & E and ICT (including M & E officer, ICT officer, data manager, consultants, etc.); data collection tools and protocols, with clear data upload procedures; data storage facilities (especially computer external and internal hard drives, servers, USB, etc.); training regimes for staff; adequate resources reflected in annual budgets (at least 2.5% of total annual budget), among others.

As part of addressing any potential or emerging challenges in operationalizing NIMES, the Directorate of M & E conducted capacity strengthening of county staff to manage and coordinate the following activities: (a) update the government and donor financed projects in the e-ProMIS and geo-code associated project activities; (b) support the National Treasury to collect project information on government-funded projects; (c) facilitate development of roadmaps (theory of change) for the achievement of the development result chain including the identification of outputs and outcomes, as well as their indicators and targets, all of which should be subsequently captured in the e-ProMIS; (d) update all the project work-plans in the NIMES; (e) sensitization and information dissemination of relevant facts on the importance and utilization of M & E information to all the stakeholders to motivate target users to upload and update information in the e-ProMIS platform; and (f) build capacity within the County

Government in order to guarantee sustainability and effective use of e-ProMIS and geo-data (CIDP, 2013; MPND, 2007; MDP, 214; GOK., 2003).

Notwithstanding the capacity strengthening initiatives, the extent to which Kisumu County has complied with the policy on e-government and operationalized NIMES standard protocols and procedures is unclear. It is further unclear to what extent agricultural departments mandated to submit data to Directorate of M & E have aligned their M & E system with NIMES, as well as how interoperable their M & E systems are to each other, both horizontally among similar departments and vertically along administrative levels. To help actualize operationalization on NIMES in Kisumu County, selected staff members were trained on the use of the electronic Project Monitoring Information System (e-ProMIS). This training was designed to enable them manage data and information in conformance with the e-government policy entrenched in the NIMES, as well as to produce annual and semi-annual Project Monitoring Analytical Reports and District Annual Monitoring and Evaluation Reports. The data are expected to be generated at the County level using CIMES, which is also aligned to NIMES through the e-ProMIS. However, it is unclear to what extent these trained personnel have applied the acquired skills in using e-ProMIS and enhancing operationalization of NIMES.

1.2.2. Achievement of M&E Objectives based on NIMES

NIMES clearly spells out key principles that each department at all levels need to comply with. These include: to ensure that monitoring is involved at all stages of the programme or project design and implementation; to involve all stakeholders in monitoring activities, and ensure that there are incentives in place for them to engage therein; to create an environment in which monitoring is perceived as beneficial both to individual performance and to organisational capacity; to use a diversity of methods, including both qualitative and quantitative indicators; to ensure that monitoring processes address the objectives, outputs of the respective projects and programmes; to provide opportunities for county M & E staff to be trained in effective monitoring techniques; to build in enough time within the programme and project implementation process for participants to engage in the consultations and discussions of M&E results; and to ensure that good practices and lessons learnt are shared among all stakeholders (GOK, 2016; Porter, 2013). The extent to which different departments are achieving their M & E objectives based on these principles spelt out in the NIMES is

unclear and undocumented. Data and information from counties are intended to be periodically consolidated within the Directorate of M & E to enable them: (i) prepare Cabinet papers on issues pertaining to NIMES; (ii) coordinate development of policy and other strategic papers required by the Cabinet; (iii) maintain a documentation centre on NIMES-related functions; (iv) avail relevant information to all stakeholders for informed decision-making; and (v) inform citizens, including policymakers on key achievements documented in performance contracting and appraisals (MPND, 2007; MDP, 2014; and GOK, 2003). There is no evidence that these have been accomplished. It is also unclear to what extent different departments required to provide reliable information to Directorate of M & E have been capacitated and providing regular data.

1.2.3. Key Drivers for Operationalizing NIMES

The Directorate of M & E has faced several challenges during the implementation of NIMES. Due to delays in issuing the Annual Progress Reports, they have not been used in the budget preparation discussions. Past annual progress reports have observed some disconnect between priority setting and planning processes within government agencies, which threaten successful implementation of the Medium-Term Plans. Similarly, at the county level, the governments are beginning to set up units and departments responsible for developing crucial systems needed for M & E, performance management, and statistical data collection. In counties that have established M & E units, their M & E reports are not well coordinated resulting in the use of different M & E definitions and concepts. These data required by Directorate of M & E include progress made by Kenya (through the 47 counties) in not only meeting the Sustainable Development Goals but also achieving the Sustainable Accelerated African Agriculture Growth and Transformation enforced by the Malabo Declaration. Kenya is required to present data on key agricultural indicators at the first biennial presidential and heads of government meeting in February 2018. Whether this will be achieved through NIMES is unclear.

1.3 Problem Statement

Kisumu County government, its Ministry of Agriculture and Rural Development as well as the three departments of agriculture, fisheries and livestock, face challenges in operationalizing NIMES. These challenges range from limited capacity of the departmental staffs to undertake M & E functions, including regular data collection, analysis and

consolidation of periodic reports and other relevant information, to the utilization of M & E findings to inform departmental decision making and budgeting. The factors determining the operationalization of NIMES in the targeted departments are undocumented, while the extent to which available data has been uploaded on to the e-ProMIS platform, and eventually feeding into NIMES are not articulated. It is further unclear how these three departments have complied with the NIMES standard protocols and procedures in reporting on key indicators of performance.

Based on these gaps, the main purpose of this study is to analyze the extent to which NIMES has been operationalized in the three departments in the county. The study hypothesizes that unless NIMES is operationalized using the required e-ProMIS platform, the Directorate of M & E will not be able to fulfill its mandate of adequately reporting on progress in the implementation of public policies, programmes and projects, including Kisumu County's contribution to County Integrated Development Plan, the Medium-Term Plan, the Vision 2030, the Comprehensive African Agricultural Development Programme and the Sustainable Development Goals.

1.4 Objectives of the Study

The main objective of this study was to analyze the operationalization of national integrated monitoring and evaluation system in the ministry of agriculture in Kisumu County.

The specific objectives include:

1. To assess the extent to which the agricultural departments have been capacitated to operationalize NIMES through utilization of e-ProMIS platform
2. To measure the performance of agricultural departments towards achieving their M & E objectives based on parameters for NIMES.
3. To assess the key drivers contributing to the operationalization of NIMES in agricultural departments in Kisumu County.

1.5 Research Questions

The study sought to answer the following questions:

- 1) How does capacity strengthening of M & E influence the operationalization of NIMES through utilization of e-ProMIS platform within the departments of agriculture,

fisheries and livestock?

- 2) What is the performance of agricultural departments towards achieving their M & E objectives based on parameters for NIMES?
- 3) What are the key drivers that influence the operationalization of NIMES in the agricultural departments in Kisumu County?

1.6 Justification of the Study

The study showed the M & E capacity gaps that exist at the individual and departmental level in their efforts towards operationalization of NIMES through utilization of the Directorate M & E-recommended e-ProMIS platform. It provided the heads of these departments and their staffs with relevant information and approaches on how to fast track their programme and project performance in the implementation of the County Integrated Development Plan, the Medium-Term Plan, the Vision 2030, Comprehensive African Agricultural Development Programme and Sustainable Development Goals. The study further generated vital lessons that the departmental staff could borrow from to address the existing gaps and to initiate operationalization of NIMES, not only in the County, but also in other counties and government departments. The findings provide a steady platform for the departments on how to strengthen NIMES as an integrated part of public management practice and culture. It also identified the most effective ways of developing M & E capacity within and across the departments, besides indicating how to integrate NIMES in the annual departmental planning and budgeting. Insights to help strengthen accountability requirements by the Directorate of M & E was also provided.

1.7 Scope and limitations of the Study

This study covered three agricultural departments in the county, all drawn from sub-sectors mandated to submit data to the Directorate of M & E through adoption of NIMES's e-ProMIS platform. The study was also done to generate primary data from key informants from affiliated agriculture-based departments. However, it is noteworthy that the study neither focused on household surveys, nor on individual projects, but on institutional systems and structures.

1.8 Assumptions of the Study

The study assumes that NIMES is already introduced within the three departments, and that the e-ProMIS platform is already set. It also assumes that all the M & E and ICT staff within the departments are responsible for data management, and that they have received requisite training to handle different datasets as required by the Directorate of M & E. besides, the study assumes that the Directorate of M & E often interacts with the M & E and ICT officers within the targeted departments, and provides them with requisite guidance on data management.

1.9 Organization of the Study

The study is organised into five chapters. Chapter one presents the background information of study, statement of the problem, purpose of the study, objectives, research questions, significance of the study, and limitations of the study. Chapter two provides a review of literature on the operationalization of NIMES, the existing capacities within the three departments of agriculture, fisheries and livestock as well as the review of conceptual frameworks. The third chapter consists of the design and methodology that was applied to source and process data, including sections on research design, target population, sampling procedures, instruments, data collection and analysis procedures, as well as operationalization of variables in logistical model and indexed measurements for assessing staff levels of satisfaction with NIMES. The fourth chapter presents study findings, discussions, and interpretations of the findings; followed by chapter five, which provides a summary of the findings, conclusions, as well as recommendations and areas for further studies.

CHAPTER TWO: LITERATURE REVIEW

This chapter presents a comprehensive critique of other findings related to operationalization of M & E systems as well as provide the theoretical fulcrum on institutional capacity building in M & E, institutional achievements of M & E objectives as well as factors determining operationalization of M & E Systems. Finally, it presents the proposed conceptual framework for the study.

2.1 Institutional Capacity for Operationalizing NIMES

2.1.1. Concepts of Institutional Capacity

Institutional capacity building comprises skill upgrading, procedural improvements, and organizational strengthening, leading to transformation of government departments and public sector into functional systems (Mackay, 2006; UNDP, 2013; Mosse & Lewis, 2005). One of the key characteristics of institutional capacity building is the acquisition of resources, especially human, financial, networks, knowledge, systems and culture, and integrating these resources to generate individual behavioral change that ultimately causes efficient and effective operations of institutions and organizations. Studies have shown that to achieve optimal capacity development, institutional capacity building must balance between tangible (hard) and non-tangible (soft) capacities. The tangible capacities include physical assets such as better training, improved infrastructure, clear organizational structure and systems, user-friendly M&E frameworks and policies. On the other hand, the intangibles include social skills, experience, creativity, departmental social cohesion, social capital, values, motivation, habits, traditions, and institutional culture (World Bank, 2006).

2.1.2. Components of operational NIMES

Generally, an institution or department is regarded to have an operational integrated M & E system when the following are in place: effective leadership and a champion to coordinate and spearhead alignment of M & E tools and frameworks; sufficient readiness and receptiveness for M & E; a critical mass of skilled and full-time personnel to undertake monitoring and process evaluation as well as information and communication technology (ICT) activities (mainly comprising M & E officers and systems analysts); network between departmental and national databases; appropriate data storage and retrieval infrastructure; commensurate budget for M & E activities (at least 2.5% of total sector or departmental

budgets); articulate logical or results framework; clear job descriptions for M & E and ICT staff, including who is responsible for accessing and managing the integrated system platform (e.g. e-ProMIS), entering required datasets as well as troubleshooting the system whenever required; routine planning, budgeting and decision making based on M&E findings; carefully selected set of indicators of performance; learning through regular project and programme portfolio reviews; generation of reports based on system-generated results; periodic review of programme and project performance based on system-generated datasets; and compliance with required frequency of data uploads onto the electronic system (Kusek & Rist, 2004; Rist, 2000; Khan, 2003). This shows that an institution or department is regarded as having fully operationalized the National Integrated Monitoring and Evaluation System (NIMES) if most of these characteristics and processes are in place. The extent to which the targeted departments have applied these steps is unknown.

Operationalization of M & E system has been observed to enhance performance of institutions, especially agricultural departments as well as public policies, programmes and projects against pre-set targets by ensuring informed decision-making and institutional learning (Mackay, 2006; Birckmayer & Weiss, 2000; Rebien, 1996; and Bledsoe, 2005). Donors' increased requirements for credible data through M & E as well as regular reporting poses requirements for capacity building of individuals and departments (Carman & Fredericks, 2008; Hendricks et al., 2008; Behrens & Kelly, 2008). However, the capacity of individuals and departments to respond to the government and donor requirements for regular and credible data and information on social programmes, public expenditures, multi-year development projects, programmes and plans, as well as the creation of M & E networks has not kept pace with the increasing demand (Newcomer, 2004; May et al., 2006; Bornstein, 2003, 2006; Acevedo et al., 2010; Acevedo et al., 2010).

Sadoshima (2010) noted in the Annual Evaluation Report on Japan's Economic Cooperation on the Official Development Assistance (ODA) that nearly all the projects without functional M & E systems were rated as "below expectation". This point is further emphasized by Porter (2013) who indicated that for M & E evidence to have a stronger influence on decision-making and the political allocation of resources, there needs to be coherence between the mandates and efforts of crosscutting ministries such as the three selected departments of agriculture, fisheries and livestock. The authors confirm that any serious public reform effort

that focuses on results requires an institutional design in which results information is used in planning and budgeting, thereby affecting resource allocation and decision-making.

This gap calls for the need to capacitate personnel within the targeted departments on M & E systems in Kenya. Capacity building in data quality management has not been adequately dealt with, while data development strategy (at an organizational or national level) has not been considered as part of the long-term strategy of building a credible M & E system.

2.2 Institutional achievements of M & E objectives

There is global increase in demand for ensuring effective institutional mainstreaming of M&E systems (Acevedo et al., 2010; Imas & Rist, 2009; Kusek & Rist, 2004; Mackay, 2007; May et al., 2006; Paton, 1978). This demand is very evident within agricultural departments where budgetary allocation is informed by available data (Coryn et al., 2011). Increased push for M & E data has been amplified by development partners who demand for mutual accountability, value for money and demonstrable results. Studies have shown that departments with well-operationalized M & E systems have more benefits than those without (Paton, 1980, 1997, 1998). Based on assorted evaluations and research, NIMES is regarded as fully operationalized when the targeted departments and institutions have robust M & E planning and reporting regimes; M & E structures and human resources; clear M & E processes and procedures; and whenever there is steady data and information management. **Table 1** below illustrates the vital components that any fully operationalized NIMES should have.

Table 1: Components of fully operationalized NIMES for achievement of M & E objectives

M & E Planning and Reporting	Data and Information Management
<ul style="list-style-type: none"> ▪ Detailed M & E Plan and Results Frameworks aligned with core indicators from the Directorate of M & E ▪ Adequate budget for M & E (5 – 10%) ▪ Reporting based on Standard Indicators 	<ul style="list-style-type: none"> ▪ Clear user-friendly data collection tools ▪ Elaborate protocols for collecting Standard Indicator data ▪ Data collection protocols harmonized with electronic data entry platform ▪ Data quality assurance conducted
<p>M&E Structures and Human Resources</p> <ul style="list-style-type: none"> ▪ Dedicated M&E and ICT staff ▪ Clear roles and responsibilities of staff ▪ Technically skilled staff in M & E ▪ Available champions / leadership commitment from senior management 	<ul style="list-style-type: none"> ▪ Adequate infrastructure for data analysis and storage (e.g. computers, servers, databases, statistical package) ▪ Consolidated reports based on system-generated data ▪ Timely sharing of complete reports with Directorate of M & E
<p>M&E Processes and Procedures</p> <ul style="list-style-type: none"> ▪ Articulate M & E documents and Standard Operating Procedures ▪ Clear reporting procedures 	<ul style="list-style-type: none"> ▪ Report used for planning, learning, influencing policies and decision-making ▪ Effective feedback mechanism from stakeholders.

Source: Author, 2017

Key benefits documented by departments with functional M & E systems include: (i) enhanced national, county and institutional evidence-based policymaking; (ii) valuable source of knowledge capital, especially in guiding national and county government ministries in day-to-day policy development, policy analysis, dialogues, debates, approvals, and programme development (Sadoshima, 2010); (iii) enhanced institutional accountability and transparency by revealing the extent to which governments at all levels have attained desired objectives; (iv) enhanced institutional learning, especially by enabling managers to identify project and programme weaknesses timely (Diabre, 2002; Nevo, 1981, Pawson, 1997; Patton 1978, 1997, 1998, 1980; Rabien, 1996); (v) appropriate timely action planning to address emerging institutional weaknesses; (vi) provision of clear evidence of value for money and

efficiency in government interventions leading to donor confidence; and (vii) provision of continuous flow of information to partners (Guba, 1981; Dearden et al., 2003; Coryn et al., 2011; Bhattacharjee, 2011; Carlsson, 1999).

These findings show significant benefits that the county is likely to forego by not operationalizing NIMES. It further illustrates the potential of the county in particular, and the country in general in generating similar benefits and enhancing fast tracking of the County Integrated Development Plan, the Medium-Term Plan, the Vision 2030, Comprehensive African Agricultural Development Programme and Sustainable Development Goals via the operationalization of NIMES and achievement of M&E objectives set out in departmental and national strategy documents.

2.3 Major drivers influencing operationalization of NIMES

Operationalization of M&E systems depends on strong government champions (World Bank, 2001d; GAO, 2003; Kusek, 2004), and especially the highly placed champions with significant potential in not only advocating operationalization of M & E system among peers, but also ensuring that attacks from counter-reformers and rivals or challengers of such systems are neutralized (Sanders, 1994; Thoenig, 2000; Torres et al., 1996). Similarly, programme managers and researchers have a role to play in operationalizing M & E system within organizations (Kusek, 2004; Mackay, 2007). The success or lack of operationalization of any M&E system also depends on the knowledge of who the champions are, where they are located in the governments, and how to reach them with current information for either approval or further advocacy (Mackay, 2007; Kopczynski, 2004; Madaus et al., 2000).

Operationalization of any system, including M&E needs enabling environment, usually characterized by a culture of learning and accountability as well as determination of: (i) the degree to which information is accessed regarding past performance; (ii) the extent to which departments are motivated to learn and improve; and (iii) the need for accountability for actions taken, thereby showing value for money for undertakings (Adams, 2010; Alkin, 2004; Arnold, 2006; and Bennett, 1995).

Studies have indicated that M & E receives high demand whenever decision-makers, whether political or bureaucratic, seek to use evidence from M&E systems to assist them in making

decisions and budgeting. Several researchers have noted that effective and sustainable utilization of M&E system arises whenever demand is endogenous to the governance demands, as opposed to when the demand arises from exogenous structures such as donors (Bemelmans-Videc et al., 2003; Boyle & Lemarie 1999; Chelimsky 2006; Lopes & Theisohn 2003; Mackay 2007; Picciotto 1995; Plaatjies & Porter 2011; Pollitt et al., 2009; Toulemonde 1999; Vedung 2003; Weisner 2011). This observation calls for introduction of a system that will promote endogenous demand for M & E.

A comparative study on operationalization of M & E system in eight countries from the Organization for Economic Corporation and Development (OECD) and middle-income countries shows some wide variations required by the country in general, and Kisumu county in specific to ensure reformed M & E systems (**Table 2**) below. Among the key reforms needed by the county to address these variations hinge on operationalization of NIMES through: enhancing the county's adherence to the outcomes and programmes reporting framework as clearly indicated in the NIMES; fast tracking advocacy for approval of the M & E policy by parliament and its implementation by the departments; enforcement of budgeting using M & E data; and periodic review of NIMES in each department.

Table 2: Comparison of OECD and middle-income countries' M & E systems

Country	Year	Reform	Purpose
Australia	2009	New Outcomes and Programmes Reporting Framework	Improved specification of outcomes to make them more measurable and tangible
Canada	2009	New Policy on Evaluation	Requires 100% evaluation coverage every 5 years of all programmes with Direct Programme Spending
Chile	2010	Review DIPRES M & E/Performance Budgeting functions	Discussing creation of an independent evaluation agency
Colombia	2005	Medium-Term Expenditure Framework	Improve budget planning
Mexico	2011	New Ministry of Finance Performance Evaluation Unit	Creates a technical unit within the Ministry of Finance to coordinate and integrate performance information to inform the budget
South Africa	2011	Government-wide M & E improvement	National Evaluation Policy Framework, management performance assessment tool (MPAT), frontline service delivery monitoring, outcomes monitoring
United Kingdom	2010	Review of the System	Expand mid-term spending reviews, abandons public service agreements and PM Delivery Unit
United States	2011	Evaluation Initiative	Reconfigure programme assessment rating tool, increase impact evaluations

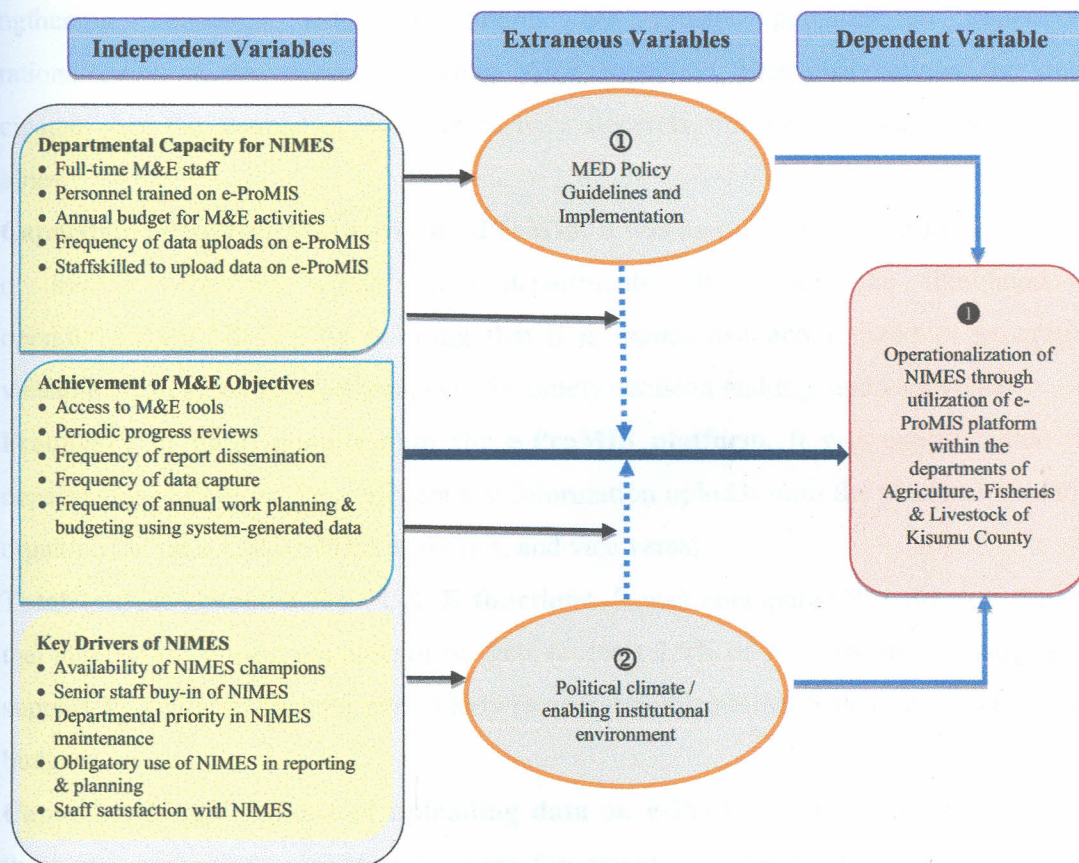
Source: AMES, 2012

2.4 Conceptual Framework

The study was anticipated to determine the extent of operationalization of NIMES through utilization of the e-PromIS platform within the three departments of agriculture, fisheries and livestock. The operationalization of NIMES (here taken as the dependent variable) was

assumed to be heavily influenced by three independent variables, namely: the extent to which each of the targeted departments has been capacitated to operationalize NIMES; the level to which each of the departments has achieved their M & E objectives based on the requirements by the Directorate of M & E; and the key drivers influencing departmental operationalization of the system. The framework further posits that an operationalized NIMES within the county and its constituent departments is likely to contribute to institutional growth, development and performance against the strategic objectives and targets. **Figure 1** below shows the hypothesized relationships between the independent, the intermediate and the dependent variables.

Figure 1: Conceptual framework for operationalization of NIMES



Source: Author's conceptualization

Dependent variables

This study anticipated that the level of operationalization of NIMES as well as the utilization of the e-ProMIS platform by each of the targeted departments fitted well as the dependent variable. To measure this variable, the study assigned a binary response dummy variable of **1** if NIMES was operationalized by the targeted department, and **0** if otherwise. This dependent variable was also anticipated to be greatly influenced by specific independent variables.

Independent variables

The study conceptualized that operationalizing NIMES(●) in the case study departments hinges on studies conducted by Boudreau (1996), UNDP (2009), World Bank (2004), Lahey (2005), and Polo & Lopez (2005) who opined that availability of sustainable capacity strengthening initiatives within institutions has greater potential in supporting operationalization of any system, including M&E. based on these observations, the study anticipated that the dependent variable heavily depends on the following independent variables:

- 1. Capacitated departmental staff on e-ProMIS.** It was assumed that the more the number of trained personnel within these departments, the higher the likelihood of operationalizing NIMES by ensuring that it is maintained and utilized in generating valuable information for policy makers for timely decision making, and vice versa;
- 2. Frequency of data uploads onto the e-ProMIS platform.** It was expected that the departments with more frequent data and information uploads onto the platform are more organized in their routine M&E activities, and vice versa;
- 3. Total budget allocated for M & E functions.** It was anticipated that the departments that allocate significant amounts of budgets (at least 2.5% of the total annual budgets) to support M & E activities are more likely to operationalize NIMES than those with lower budgets;
- 4. Capacitated staff capable of uploading data on e-ProMIS.** The study theorized that there was a positive correlation between the extent of capacity strengthening of each department and the number of departmental staff/officers able to upload data on e-ProMIS according to protocols and procedures, especially those that have benefited from trainings on management of e-ProMIS platform;
- 5. Access to relevant M & E tools and approaches.** The study projected that the departments with quick access to relevant M & E tools, protocols, instruments as well as

approaches and methodologies were more likely to adopt NIMES and operationalize its standards and procedures than those without;

6. **Staff engaged in M & E activities.** The study assumed that enhanced participation of departmental staff in M & E activities according to NIMES standards and procedures was likely to positively influence transparency, accountability and NIMES sustainability within these departments. This was anticipated to inculcate ownership and accountability among the staff; and
7. **Personnel satisfaction with NIMES.** The study posited that the more the departmental staffs were satisfied with the benefits derived from the functional and user-friendly NIMES, the higher the probability that they would ensure its sustainable implementation.
8. **Availability of NIMES champions.** The study projected that departments that had champions for the operationalization of NIMES were better able to institute the system. These champions were regarded as agents or friends of the system, and were expected to support its financing, establishment and maintenance.
9. **Senior staff buy-in of NIMES.** Like in the case of champions, the study anticipated that those departments with ownership and buy-in by the senior staff members, including heads of department, deputy directors, as well as directors were better positioned to operationalize NIMES than those without such ownership and buy-in by management.
10. **Obligatory use of NIMES in reporting and planning.** The study theorized that those departments that made it obligatory to only produce bi-annual and annual reports using data generated by the e-ProMIS platform and NIMES were able to quickly operationalize NIMES than those that allow the reports to be generated via other approaches other than through NIMES.

Intermediate / extraneous variables

Two intermediate / extraneous variables were anticipated to moderate the independent variables on the dependent variables. They include:

1. **M & E Policy Guidelines(Ⓢ).** The study anticipated that the departments that accessed and implemented the of policy guidelines as indicated by the Directorate of M & E were better positioned to operationalize NIMES. These guidelines provided them with requisite steps and procedures to undertake M & E functions. This variable contributes to enhanced capacity of the departments on M & E, such that the departments whose M & E and ICT

staff understood and implemented the policy guidelines were more likely adopt NIMES than those without; and

2. **Political climate**(②). The study projected that an enabling political climate and institutional environment was vital in ensuring operationalization of NIMES. This was supported by the fact that unstable political environment would not permit discussions leading to allocation of resources for M & E or the hiring of the critical staff to undertake the M & E functions.

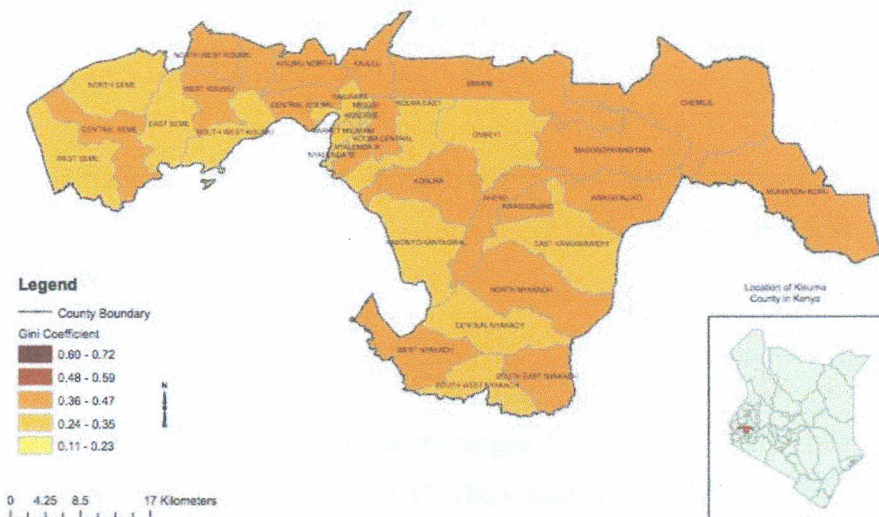
CHAPTER THREE: METHODOLOGY

3.1 Study Area

3.1.1 Location

Kisumu County is one of the 47 Counties in Kenya. It is situated along the shores of Lake Victoria in western Kenya, and lies within longitudes $33^{\circ} 20'E$ and $35^{\circ} 20'E$ and latitudes $0^{\circ} 20'S$ and $0^{\circ} 50'S$ (CBS, 2001). It is bordered by Homa Bay County to the South, Nandi County to the North East, Kericho County to the East, Vihiga County to the North West and Siaya County to the West. It is home to 952,645 people, with a projected growth to 1,145,749 by 2017 (PAI, nd). The present administrative boundary covers an area of 2,009.5 km² and another 567 km² covered by water. Its 35 administrative wards are located within seven sub-counties, namely: Kisumu East, Kisumu West, Nyando, Muhoroni, Nyakach, Seme, and Kisumu Central (Figure 2) below indicate detailed map of the County.

Figure 2: Detailed map of the County



Source: Kenya National Bureau of Statistics, 2010

3.1.2 Physiographic

Physical and Topographic Features

The County predominantly occupies the lowland parts of the Winam Gulf. Its headquarters is Kisumu Town, situated right at the tip of the gulf. The undulating Kano Plains is situated on the eastern part of the town. Generally, the County occupies three distinct topographical

zones namely: the Kano Plains, the Nyabondo Plateau, and the Maseno midlands. The Kano Plains lie on the floor of the Rift Valley, while the upland area comprises ridges which rise gently to an altitude of 1,835m above sea level.

Ecological Conditions

Over 70% of all soil types found in the County are clay. The soils mainly comprise the lake sediments, and are commonly sand and clay. In Kano Plains, the soils are dark brown and grey, poorly drained and are generally very deep and firm. The western part of the plains mainly comprises the dark cotton soils commonly associated swamping. The main cash crops are sugarcane, rice and cotton.

3.1.3 Climatic conditions

Rainfall

Generally, the county largely receives substantial rainfall. The mean annual rainfall within the County varies with altitude and proximity to the highlands along the Nandi Escarpment and Tinderet. The area has two rainy seasons, with the long rains occurring in March and May while the short rains occur in September to November. During the short rains, the average annual rainfall ranges between 450mm and 600mm. For example, Maseno has a mean annual rainfall of 1,630mm, Kisumu 1,280 mm, Ahero 1,260 mm, Kibos 1,290 mm, Muhoroni 1,525 mm, and Koru 1,103 mm.

Temperature

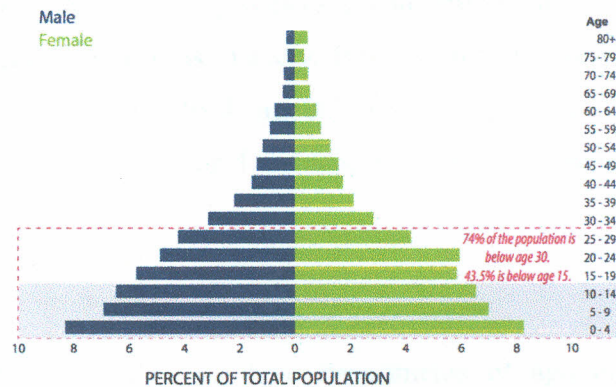
The general mean annual maximum temperature ranges 25⁰C to 35⁰C, while the mean annual minimum temperature ranges from 9⁰C to 18⁰C. The County's altitude also varies from 1,144 metres to 1,525 metres above sea level in the plains and within Maseno and Lower Nyakach areas, respectively. These topographies greatly influence temperatures and rainfall in the County.

3.1.4 Demography

Kisumu County has a transitional population structure comprising 968,909 people (GoK, 2009 Census), with 474,687 males and 494,222 females. **Figure 3** below shows the distribution of the population by age groups. At the beginning of 2012, the population of reproductive age was 250,639, while the youth were 318,297. Projections indicate an increase

of these groups by 11.1% to 278,403 and 353,557 respectively by 2017. On the other hand, the aged population, comprising mainly persons aged over 65 years was 33,807 in 2012 and is projected to increase to 37,552 by 2017.

Figure 3: Population Pyramid for Kisumu County



Source: KNBS (2013)

3.1.5 Economy

The economic activities within the county range from private investment to public activities and individual engagements. The County has ten active ministries, namely: (i) Finance and Planning; (ii) Environment Management; (iii) Water, Energy and Natural Resources; (iv) Health Services; (v) Education, Youth, Culture and Social Services; (vi) Physical Planning, Roads and Public Works; (vii) Communications, Information and Technology; (viii) Commerce, Tourism and Heritage; (ix) Industrialization, Transport and Enterprise Development; and (x) Agriculture, Livestock and Fisheries.

According to Gini Index, the County ranks at 0.43 (compared to Nairobi County's 0.341) and Turkana's 0.283. This is a clear indication that there is more inequality in Kisumu than Nairobi County with respect to distribution of incomes across the entire population of an area. Gini Index measures the extent to which the distribution of consumption expenditure among individuals or households within an economy deviates from a perfectly equal distribution. A Gini index of '0' represents perfect equality, while an index of '1' implies perfect inequality. Among the most unequal counties in Kenya, Kisumu County is placed at position 11.

3.1.6 Agriculture and rural development sector

Within the ministry of agriculture, livestock and fisheries, there are several departments that drive the agriculture and rural development sector. These departments manage specific strategic projects implemented within the County that focus mainly on poverty reduction, promotion of sustainable agricultural production and environmental conservation. For instance, there are two flagship projects, namely: fresh produce markets and fishponds. The former aims to provide market for fresh agricultural produce, while the latter seeks to promote fish farming to reduce stress on Lake Victoria, besides enhancing nutrition to the local communities.

3.2 Research Design

The research involved case studies of three departments of agriculture, livestock and fisheries, backed up by empirical studies and observations from key informants. This design was chosen since it stresses the importance of detailed data, enhances learning and acts as reliable benchmark for other departments within the agriculture and rural development sector to borrow from. The design typically answered questions like “how?” or “why?” with regards to operationalization of NIMES in the County. Since the study heavily relied on behavioural events, whereby the investigator had very little control of the events or practices, case study design proved appropriate in answering the research questions and proving the conceptual framework.

3.3 Target population

Within each of the three agricultural departments of the County (agriculture, livestock and fisheries), two units are fully responsible for providing data / information from programmes and projects, as well as for maintaining the NIMES. These include the M & E as well as the ICT units. Each of these units contains one head of M&E, two M & E officers, one head of ICT, and one ICT officer. Based on this, the target population for this study comprises 15 officers.

This study focused on three purposively selected representative departments, namely agriculture, livestock and fisheries within the agriculture and rural development sector. These three departments were selected because agriculture: (i) has received strong acclamation by presidents and heads of governments in Africa at their various forums such as in Malabo,

Equatorial Guinea in July 2014 where the Malabo Declaration was born to help push NEPAD's Comprehensive African Agricultural Development Programme and to meet Sustainable Development Goals through Sustainable Accelerated African Agriculture Growth and Transformation; (ii) accounts for over 20% of the County's GDP; (iii) contributes over 47% to household income (compared to 10% from rural self-employment; 17% from wage employment; and 11% from urban self-employment); (iv) benefits over 240,000 persons (25%) directly employed in the sector; (v) attracts a budgetary allocation of over 20% of the total Country budget (CIDP, 2013); and (v) is top on the list of the five pillars of the County's development for sustained growth agenda, with others being: industrialization and enterprise development; tourism; technology; and sports and talent.

3.4 Sampling Procedure

To avoid over-saturation of the sample size, a total of six respondents (out of the 15 personnel) were randomly selected and interviewed. This represents 40% of the targeted population. It was assumed that selecting more than one respondent from each of the departments would end up with similar responses. From each of the departments of agriculture, livestock, and fisheries, two respondents were selected, comprising one M & E officer and one ICT officer, all randomly drawn from the pool of five personnel per department(**Table 3**) below illustrate the sample size distribution.

Table 3: Sample size distribution

Department	Respondent	Population	Sample
Agriculture	ICT Officers	2	1
	M & E Officers	3	1
Livestock	ICT Officers	2	1
	M & E Officers	3	1
Fisheries	ICT Officers	2	1
	M & E Officers	3	1
Total		15	6

3.5 Data Collection Methods

The main tools applied in primary and secondary data collection were questionnaires, observation forms / structured checklists, as well as key informant schedules. This included

observations on the status of the physical environment surrounding operationalization of NIMES, availability of relevant infrastructures, databases and proforma instruments as well as availability of staff with adequate capacity used for data collection and maintenance of NIMES and e-ProMIS platform. Primary data collection comprised face-to-face interviews of the six respondents to validate their responses to, perceptions of, and attitudes to operationalization of NIMES within their departments. Primary data were validated by secondary data through documentation of critical steps that the departments took in establishing the system, the challenges faced in the process, how they were addressed, and the key lessons learned in the process.

Assessment of extent of operationalization of NIMES was done by checking progress made by targeted departments towards linking up to the NIMES. This check was based on the main stages required in ensuring effective operationalization of NIMES. Among the key stages for progress assessed included: (i) Level to which the departments have conformed with NIMES based on protocols and standards; (ii) Extent of application of NIMES in the departments' reporting, budgetary preparation and planning; (iii) Frequency of advising departmental heads in specific, and county government in general, on the overall performance of the departments; and (iv) the main processes undertaken in formulating departmental development plans, annual progress reports and strategic documents for sharing with the Directorate of M&E through e-ProMIS platform or otherwise.

3.6 Data analysis and Presentation

In this study, both quantitative and qualitative researches were used to obtain data to address the identified research problem, mainly through face-to-face interviews using semi-structured questionnaires. The questionnaire was used, and consisted of specific sections related to departmental and individual characteristics; level of implementation of NIMES; as well as key qualitative questions. Analysis, presentation of results and discussions, as well as conclusions and recommendations followed this. The unit of analysis is each of the departments housing NIMES, e-ProMIS platform and other M & E systems and infrastructure.

Statistical data was analyzed using Statistical Package for Social Sciences (SPSS) programme for windows. Initial analysis was anticipated to generate descriptive statistics in form of

means, modes and frequency distributions. A binary logistic regression model was fitted to estimate the probability of selected independent variables influencing operationalization of NIMES.

To determine the extent of operationalization of NIMES in the three departments of the County, the probability of the case study department adopting or utilizing NIMES standards and procedures was determined using the following model:

$$\ln ON_i = \beta_0 + \beta_i \ln X_i + U_i \quad (1)$$

where $\ln ON_i$ = the natural log of the dependent variable, here taken as the likelihood of each department operationalizing NIMES; X_i = the vector of explanatory variables; β_0 and β_i = the parameters to be estimated, and whose magnitude are to show the direction and impact of change; and U_i = the random error term. The double log regression is preferred because all the variables are expressed in the natural log, thus enhancing interpretation.

The above equation is then transformed to estimate the expected likelihood of operationalization of NIMES based on some predictor variables (selected factors and covariates).

$$\ln ON = \beta_0 + \beta_1 \ln AGE + \beta_2 \ln GR + \beta_3 \ln FU + \beta_4 \ln SX + \beta_5 \ln EDU + \beta_6 \ln OT + \beta_7 \ln GD + \beta_8 \ln UN + \beta_9 \ln NS + \varepsilon_i \quad (2)$$

where ON = the likelihood of each department operationalizing NIMES; UN = Dichotomous variable showing whether the institution updates NIMES (1 = Yes; 0 = No); GR = Checks whether the institution generates reports via NIMES (1 = Yes; 0 = No); FU = Assesses the frequency of uploads (i.e., 1 = regularly; 0 = irregularly); BG = Total budget allocated to M&E activities (US\$); OT = Total number of personnel able to upload e-ProMIS; NS = Total number of staff engaged in M&E activities; EDU = level of education of the staff, measured in years of schooling; SX = sex of the staff (1 = male; 0 = female); GD = grade or position held in department (1 = management position; 0 = junior staff); AGE = age of the staff, measured as actual years since birth; and ε_i = the error term.

The level of respondents' satisfaction with NIMES was assessed using the five-point Likert Scale. The central idea behind using the Likert scaling theory is because the unknown position of a person on a latent mental attribute (such as disposition, attitude, opinion, impression, view, conception and judgment), is estimated by his/her agreement or disagreement with statements that are relevant and valid for this latent attribute. In this study, this scale was used to measure complex concepts such as attitudes towards operationalization of, and satisfaction with NIMES, among others. It is used to combine a battery of variables into a single index to measure the level of stakeholder satisfaction and perceptions.

Devellis (2003) found that the number of questions asked affects the reliability of the number of choices that should be used in creating a survey using Likert-type scale. Based on this, the researcher assigned the number of choices arbitrarily according to personal taste and past convention to quantify results and obtain shades of perceptions.

The choices (or categories of responses) are set to range from strongly disagree to strongly agree. As the categories move from one level to the next, the value increases by one unit. In this study, five alternatives were used, and values assigned from one (strongly disagrees) to five (strongly agrees), with three assigned to the undecided position. These five-point statements yield a distribution resembling a normal distribution (Likert, 1932).

3.7 Ethical consideration

The permission to carry out the research was obtained from Maseno University Ethics Review Committee. The permission was sought to interview staff members within the departments of agriculture, livestock and fisheries, as well as from key informants drawn from affiliated agricultural departments. Meetings were held with the respondents to explain the study objectives and procedures, after which the targeted respondents were requested to participate in the study after providing written consent.

It is noteworthy that the study did not involve participants who are particularly vulnerable or unable to give informed consent, nor did it require gatekeepers for access to respondents. The following were not anticipated: discussion of sensitive topics; administration of drugs, placebos or other substances (e.g. food substances, vitamins); invasive, intrusive or

potentially harmful procedures of any kind; blood or tissue samples from the respondents; psychological stress, anxiety, harm or negative consequences beyond the risks encountered in normal life; prolonged or repetitive testing; and financial inducements to the respondents.

CHAPTER FOUR: FINDINGS AND DISCUSSION

This chapter focuses on the main findings generated from the study; provides detailed discussion of these findings based on the study objectives; and shows the statistical facts that answer the research questions. It concludes by providing a comparative assessment of the departments with respect to operationalization of NIMES as well as on the current utilization of the e-ProMIS platform.

4.1 Departmental capacity to operationalize NIMES

The effectiveness of M&E systems and operationalization of NIMES depends on the proportion of staff who have accessed appropriate training. This section provides the capacity strengthening activities undertaken within each of the departments and the resultant effects of these functions in operationalization of NIMES.

4.1.1. Specific activities undertaken in each department

Results indicate that each of the targeted departments has been capacitated to undertake some level of M & E. It is noteworthy that the capacities exhibited by the respondents varied significantly among the departments, such that all the M & E officers within the agriculture department have been trained, compared to at least one officer from the livestock and fisheries departments. All the six officers indicated that not only do the departments regularly coordinate assorted M & E activities, but that they also regularly conducted assorted these activities. The most commonly undertaken activities by all the respondents included: data collection and collation; data analysis and interpretation; and preparation of reports to stakeholders.

It is generally required that operationalization of NIMES is possible when the M & E and ICT officers are actively engaged or takes lead in the following key activities: participatory project design; development of user-friendly data collection and monitoring tools and instruments; coordinating baseline studies of all the projects and programmes; development of departmental logical or results frameworks; coordinating selection of key performance indicators for department-funded or coordinated projects and programmes; setting of project targets and periodic milestones; overseeing the development of interactive project databases;

facilitating consultative work planning and budgeting sessions; designing and conducting process tracking, validation and evaluation of department-supported projects; convening bi-annual and annual portfolio review meetings for assessment of departmental performance and progress; supporting processes leading to the development of departmental strategic and mid-term operational plans; participating in the review of project/programme concept notes and full proposals for funding or evaluations; coordinating periodic data quality assurance and assessment (ground-truthing) to enhance credibility of data; reviewing evaluation recommendations on behalf of the department for closer follow up; coordinating regular data collection, collation and analysis; and preparing periodic reports to the Directorate of M & E and key department stakeholders.

However, it is also worth noting that some of the M & E related activities were not undertaken by all the departments and the respondents. For example, all the two respondents from the department of agriculture were engaged in development of monitoring tools and instruments; development of logical frameworks; and selection of key performance indicators, while similar activities were undertaken by either one or no respondent from other departments. On the other hand, all the two respondents from the department of fisheries were engaged specifically in development of project databases; and Organizational Strategic and Operational Planning. This varied spread of M & E-related tasks undertaken by the respondents within each department clearly shows the existence of different strengths that these respondents could tap into through elaborate and strategic networking. This can further be achieved through ensuring that the M&E and ICT personnel worked together through the common platform created by e-ProMIS and NIMES (**Table 4**) shows Extent of participation in M & E related activities within the departments.

Table 4: Extent of participation in M & E-related activities within the departments

Activity	Agriculture		Fisheries		Livestock	
	Done	Part	Done	Part	Done	Part
Participatory project design	2	1	2	0	1	1
Developing monitoring tools and instruments	2	2	2	1	1	1
Conducting baseline studies	2	1	2	0	1	1
Development of logical frameworks	2	2	2	1	1	1
Selection of key performance indicators	2	2	2	2	1	1
Setting of project targets and milestones	2	1	2	0	2	2
Development of project databases	1	0	2	2	1	1
Consultative work planning and budgeting	2	1	2	1	1	1
Process monitoring and evaluation	2	1	2	1	2	1
Bi-annual or annual review meetings	2	1	2	0	1	1
Organizational strategic planning	1	0	2	2	1	0
Data collection and collation	1	0	2	2	1	0
Organizational operational planning	1	2	2	2	1	2
Review of project concept notes and proposals	1	0	2	1	1	0
Data quality assessment (ground-truthing)	2	1	2	1	1	1
Review of evaluation recommendations	2	2	2	2	1	1
Data analysis/interpretation	2	2	2	2	1	1
Preparation of reports to stakeholders	2	2	2	2	2	2

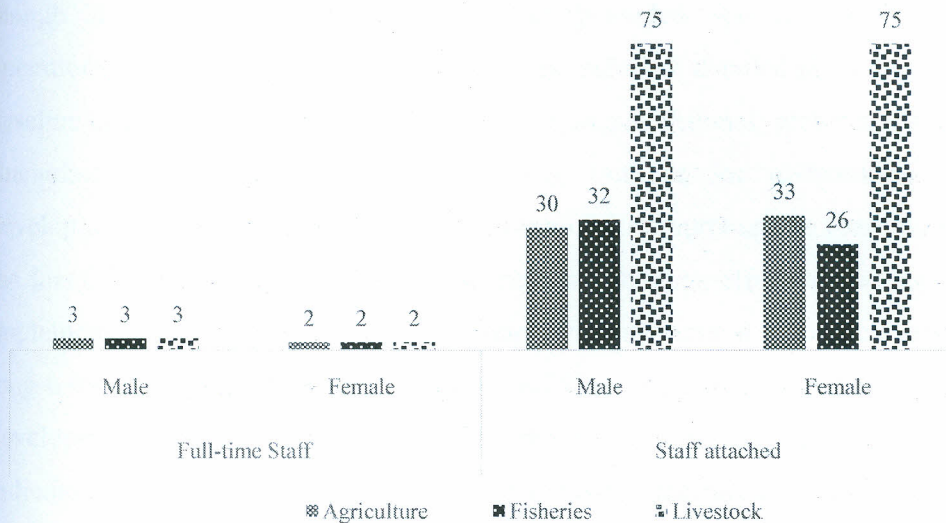
Source: Survey Data, 2017

4.1.2. Departmental staff capacity

All the departments have designated staff members who devoted at least 50% of their time to support departmental programmes and M & E-related functions, especially data collection

and overall data management. All the three departments have a total of 286 staffs, of whom 15 are dedicated M & E staff members (9 male; 6 female), while the rest 271 (137 male; 134 female) serve as part-time programme staff. These staff members are expected to provide data to the M & E for uploading onto the NIMES' e-ProMIS platform (**Figure 4**). However, this task has not been conducted, while requisite data on required indicators are not available.

Figure 4: Total number of other departmental staff



This observed low capacity of staff to handle M & E activities contradicts the basic responsibilities of every M & E officer. Based on the general M & E responsibilities, these M & E officers are expected to have requisite skills, knowledge and technical capacity to perform most of the following tasks: comprehend M & E concepts and the importance of M & E; develop/use M & E tools with special reference to departmental projects, programmes and policies; develop and design an M & E frameworks; develop and implement an M & E plan; identify, develop and evaluate selected sets of indicators; link indicators with data sources and data collection methods; collect, analyze, manage and interpret data; assess and maintain quality of data with respect to validity, reliability, integrity and precision; design and conduct periodic surveys and process evaluation on emerging issues; articulately write or compile periodic reports; communicate and timely disseminate M-& E information; evaluate available designs and conduct an ex ante and other forms of evaluations; manage and lead the M & E team by critically understanding NIMES and appraising the departmental M & E system; identify relevant tools, principles and guidelines to guarantee ethical compliance with

M & E, thereby enhancing application of M&E data in management decision making and advocacy processes; and actively engage key stakeholders at all levels.

However, the findings show that majority of these critical responsibilities are not undertaken. The low implementation of these critical M & E tasks clearly explains the low adoption of M & E practices that lead to operationalization of NIMES. This is further exhibited by the very poor levels of access by the M & E and ICT personnel into the e-ProMIS platform, even though the Directorate of M & E had provided specific guidelines to enhance operationalization of NIMES. These guidelines included: detailed procedures for undertaking baseline or situational analysis of the M & E status at national, sector and subnational levels (including county and other lower levels); outlines for undertaking M&E capacity development needs analysis, including outline of a comprehensive road map on how to fill the identified gaps; implementable strategies and policies; effective and sustainable M & E implementation plan, as well as the accompanying systems at policy and operational levels; long-term strategies for broad-based knowledge appreciation and use of M & E for development management; performance indicators that track performance against standard indicators in the NIMES; procedures for undertaking structured and systematic technical and managerial capacity building for key institutions and stakeholders; comprehensive mechanisms for strengthening the sustainability of NIMES through strategic capacity building initiatives, especially Training of Trainers (ToTs) programme; detailed technical guidelines and manuals for operational guidance and capacity building; county-based strategies for provision of technical advice, guidance, mentoring and M & E oversight; plans for continued facilitation of refresher training in M & E for project and implementing partner staff, local organizations and primary stakeholders, thereby enhancing local M & E capacity; and instruments for enhancing sector-wide discussion forums where lessons learnt through the M & E process are shared and corrective measures taken.

However, only half of the respondents indicated awareness of these guidelines. These staff members have also accessed, but partially utilized these guidelines in informing their M & E operations.

4.1.3. Access to e-ProMIS platform

The findings indicate that none of the respondents had either accessed the *Users* section of the e-ProMIS, or seen how the portal looked like. This explains the very limited efforts made towards operationalizing NIMES. It is noteworthy that access to the portal is possible if one has access rights, also made possible by having User Name and Password. The Uniform Resource Locator (URL) or web address is *e-promis.treasury.go.ke/e-promis/*. This leads to the *Users* section of the *Administration Centre* of the e-ProMIS platform (**Figure 5**).

Figure 5: Kenya's e-ProMIS Platform



Source: The Treasury, Kenya, 2017

Capacitated departmental staff can access the platform by logging in the correct **User Name** and unique **Password**. Before accessing or entering data into the e-ProMIS platform, the authorized user is permitted to register with the following information: **First Name**, **Last Name**, **Registration Number** and **Date** (the date when the user registered for a User Name and Password). Once this process is completed, the system shows the authorized

user's **Status** (current status which may be set to either active or inactive). Within the *Users* section, the authorized user can manage other users, such as by adding new users, editing the data of an existing user, and deleting any user as recommended. The authorized user can also change other user's current status, as well as filter the user list to view the blocked or recently registered ones (**Figure 6**). With these features, the M & E officers and ICT personnel are enabled to enter the required data in the appropriate data fields, before uploading for access by the Directorate of M & E. However, as already noted, none of the respondents is aware of such processes and steps.

Figure 6: User's Section

ADMINISTRATION CENTER About | Help | Logout

Welcome, Synergy Admin!

Users Filter

Username: First Name: Last Name: Status:

Pending & Blocked Users

	Username	First Name	Last Name	Registr. Date	Status
<input type="checkbox"/>	I	Synergy	Admin	17/08/2008	Active
<input type="checkbox"/>	Okwalia	Joseph	Sunguti	17/05/2010	Active
<input type="checkbox"/>	AAjode	Elizabeth	Ajode	23/10/2015	Active
<input type="checkbox"/>	AKioko	Anne	Kioko	11/11/2014	Active
<input type="checkbox"/>	ANGATIA	EVERLYNE	MILIMU	08/06/2010	Active
<input type="checkbox"/>	Abdirahman	Abdirahman	Mohamud	23/04/2014	Active
<input type="checkbox"/>	Agaloettah	Agalo	Ettah	13/05/2013	Active
<input type="checkbox"/>	AgnesHumbi	Agnes	Mumbi	01/04/2014	Active
<input type="checkbox"/>	Akeroachiando	Akelo	Julius Achiando	13/05/2013	Active
<input type="checkbox"/>	Andreww	Andrew	Wanjala	13/05/2013	Active
<input type="checkbox"/>	Armstrong	Armstrong	Onyango	13/05/2013	Active
<input type="checkbox"/>	Athansmokaya	Athanas	Mokaya	26/06/2010	Active
<input type="checkbox"/>	Aturee	Arthur	mburu	01/04/2014	Active
<input type="checkbox"/>	Bernadetta	Bernadetta	Juma	24/05/2010	Active
<input type="checkbox"/>	CAmbasa	Christine	Ambasa	21/11/2011	Active

1 2 3 4 5 6 7 8 9 10 >>>

A Z A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

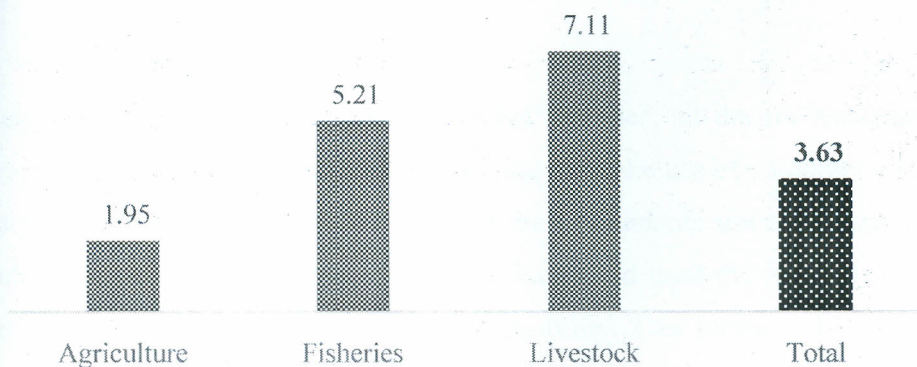
Pending & Blocked Users

The above findings show that operationalization of NIMES can be ensured by enhancing the capacity of all the M & E and ICT staff mandated to manage data and oversee the management of NIMES. This explains why many systems in Africa and its respective countries, counties and departments have not fully utilized or operationalized NIMES (Lahey, 2005; Mackay, 2007). On the other hand, Simister (2009) also observed that staffs' participation in M & E of programme activities was not only important for deepening knowledge and improving skills but also for ensuring that programme objectives are addressed effectively. This calls for rapid mechanisms for enhancing the capacity of the departmental staffs.

4.1.4. Annual budget allocation to M&E

The study shows that all the departments dedicated an average of 3.6% of their annual budgets to M & E functions. The total budget allocated to the three departments is US\$ 1,865,249 and a total of US\$ 67,650 was dedicated to M&E functions. The largest percentage allocation was in the department of livestock, where 7.11% of the annual budget was ring-fenced to support M & E (Figure 7) shows allocation of departmental annual budgets.

Figure 7: Allocation of departmental annual budgets



Notwithstanding these modest budgetary allocations to M & E activities, very little progress has been made in ensuring that appropriate M & E tools and protocols are developed and used in data collection. There was no evidence of any functional M & E system in all the departments. The archival system is not adequate, and no time series data could be easily accessed. There is need to assess the expenditure levels of these departmental budgets (Table 5) below shows Budgets allocated to M & E by departments.

Table 5: Budgets allocated to M & E by departments

Department	Annual Total Budget(US\$)	M&E Annual Budget(US\$)	Percentage of total budget allocated to M&E
Agriculture	1,135,260	22,150	1.95
Fisheries	335,941	17,500	5.21
Livestock	394,048	28,000	7.11
TOTAL	1,865,249	67,650	3.63

4.1.5. Utilization of M&E tools for data collection

Findings from this study indicate that in as much as all the six respondents were involved in data collection, only one respondent from the livestock department collected NIMES-specific indicators. However, this M & E officer could not clearly show which of the indicators she collected were for uploads onto the e-ProMIS platform. Similarly, in as much as all the respondents, apart from the Director from the Department of Fisheries stated that there were tools available to aid the collection of NIMES-specific datasets, none could show the actual tools they used in the data collection, and what datasets they collected. Instead, they stated that they used the M&E Reporting Matrix that was developed by the M & E officers within the departments, and not based on the standards and procedures from the Directorate of M & E.

Regarding data storage and existing storage facilities, all the six respondents reported that they had some forms of data storage, ranging from the use of computer external and internal hard drives as well as USB. Only one of the respondents from the department of livestock indicated the use of departmental servers. None had used the NIMES database. This poses serious risks to data management and accessibility. This further calls for urgent attention in ensuring that all the datasets are periodically backed up in the departmental servers to cushion these datasets from virus attacks, hacking or manipulation.

Results further show that these M & E officers developed these tools without getting relevant inputs from the information and communications technology (ICT) unit. This flouts the regulations stipulated in the NIMES, and that specifically requires the involvement of ICT units in supporting the M & E units, especially with respect to data uploads, troubleshooting

of the e-ProMIS platform as well as in ensuring that the tools used for data collection are conformed or harmonized with the e-ProMIS platforms. The findings indicate that the data collected by these officers have not, and are not likely to be uploaded, since they are not only collected using the unapproved format by the Directorate of M & E, but also since the datasets exclude the standard indicators required in specific fields within the NIMES. The above observation shows poor conformity with NIMES.

4.1.6. Uploading data onto e-ProMIS platform

In as much as there is commitment by all the departments to support M & E functions, very minimal progress has been made in uploading data onto the e-ProMIS platform, further indicating non-operationalization of NIMES in all departments. In as much as all the six M & E officers indicated that they periodically collected data, it was evident that these datasets were processed for internal use, and not shared with the Directorate of M & E. This confirms the overall observations from the Directorate of M & E that they hardly receive datasets from the counties to enhance the development of relevant policy papers to inform national budgeting and planning decisions. None of the respondents reported on the linkages between the department and NIMES database, and as such no data had been uploaded onto the platform. Instead, all the two respondents from the department of agriculture and one from livestock department stated that they had project and programme databases and archival systems for the data. This could not be verified, apart from the existence of excel spreadsheets developed and maintained by the M & E officers. However, the department of livestock engaged a consultant to help in designing some database. This is not yet functional.

To maintain NIMES, data collected by capacitated personnel must be credible and fulfil specific characteristics if they are to be useful for evidence-based decisions making. Therefore, quality data must be: **timely** (up-to-date/current and available on time, such that they are entered into the system as soon as they are received by a designated reporting officer); **accurate** (measuring what they are intended to measure); **reliable** (collected, stored, and reported based on protocols and procedures that do not change according to who is using them and when or how often they are used); **granular** (are correct and bears appropriate levels of detail); **complete** (inclusive information system from which the results are derived; of **integrity** (protected from deliberate bias or manipulation for political or personal reasons;

valid (findings truly representing the phenomenon being measured); **conformable** (data values conform to specified formats); **consistent** (reliable, trusted and well-documented); **accessible** (easily available and quickly retrieved); **secure** (access to data is appropriately restricted to maintain security).

Regarding receiving feedback from the Directorate of M & E, all the respondents apart from one M & E officer from the livestock department had received any feedback. However, the feedback included some instruction that specific datasets be included as part of the standard indicators required by the Directorate of M & E. This shows very minimal communication with the Directorate of M & E as expected, further explaining the evident concerns raised by them that they are unable to provide accurate and up-to-date information and data on the implementation of the Medium-Term Plan 2013-2018 (through the County Integrated Development Plan, the Medium-Term Plan, the Vision 2030, Comprehensive African Agricultural Development Programme and Sustainable Development Goals, besides inability of making reliable recommendations to the decision makers and parliament due to lack of relevant and timely datasets.

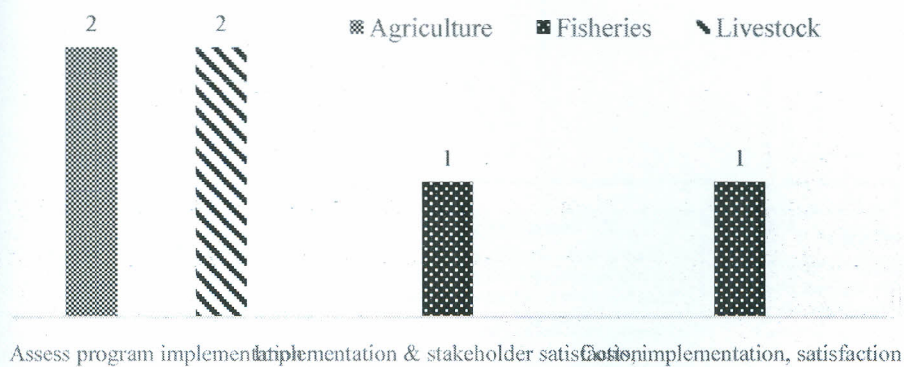
4.1.7. M & E documents used in the departments

The study findings show some variations among the departments with respect to the kind of M&E documents they use in guiding their process M & E functions. For example, the department of fisheries use the performance measurement plans (PMP), while the departments of agriculture and livestock heavily depended on the M & E Plan. None of the departments uses the M & E Framework, the M & E Strategy or the Handbook of Indicators. However, good M & E practice demands that departments need to develop Standard Operating Procedures (SOPs) for their M&E functions.

These SOPs are intended to ensure that each of the required M & E processes are detailed enough such that different people at different times, given the task of collecting data for any given indicator, would collect identical types of data. Unfortunately, these procedures are missing, and none of the reviewed documents shows a detailed definition of each performance indicator; the source, method, frequency and schedule of data collection; and the office, team, or individual responsible for ensuring data are available on schedule.

Apart from one respondent within the department of livestock, all the five respondents from the three departments had participated in the evaluation of public programmes. This indicates that over 33% of the departmental staff responsible for M & E and data management had participated in actual evaluations of some programmes, thereby providing them with vital information to guide the senior management in their decision making processes. These staffs recalled that the main purpose of the evaluations they engaged in included: to measure the impact of the projects and programmes on the targeted stakeholders, thereby soliciting their perceptions and isolating tangible impacts generated; and to assess the levels of programme implementation, resource utilization as well as to measure stakeholders' satisfaction with the programmes. Findings from such assessments are usually very helpful in guiding the senior management to track their obligations and make relevant implementation adjustments (Figure 8) below shows the primary purpose of departmental evaluation.

Figure 8: Primary purpose of departmental evaluations



One of the staff from the department of fisheries was involved in the evaluation of ongoing projects and programmes, mainly to assess the efficiency and cost-effectiveness of the projects. The findings formed part of the departmental planning for the 2016/2017 financial year. It is noteworthy that such evaluations contribute significantly to enhancing timely adjustments of not only the programmes, but also the budgeting processes.

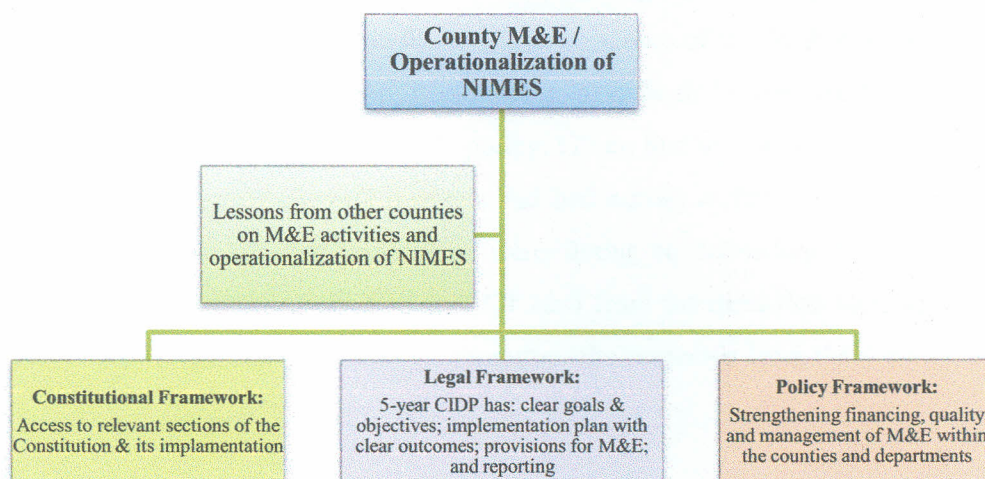
M & E Policy

As part of ensuring credible M & E within the departments, there is need to access and implement the M & E Policy. M & E functions at the County is controlled by three

fundamental frameworks: constitutional, legal, and policy frameworks (**Figure 9**) below illustrates County M & E Frameworks. This Policy is entrenched within the Constitution of Kenya (2010), which also encourages greater transparency and accountability.

Specifically, within the **Constitutional Framework**, this Constitution requires that government use M & E mechanism as an integral part of developing and executing government policies, programmes and projects and in resource allocation and management at the two levels of government – national and county. This requirement is reflected in the several sections of the Constitution that relate to good governance and planning (GOK, 2010). The appropriate sections include: articles 10, 56, 174, 185,189, 201, 203, 225, 226, and 227.

Figure 9: County M & E Frameworks



Source: Author’s conceptualization, 2017

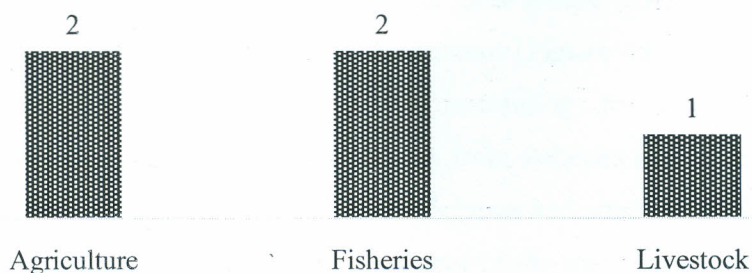
Regarding the **Legal Framework**, the County Governments Act No. 17 of 2012 outlines the responsibilities of the devolved levels, and the processes and procedures governing the relationship between the national and county levels (County Governments Act 2012 Sections 47, 54, 102, 103, 104, 108 and 1130). Section 108 (1) specifically states “*There shall be a five-year CIDP for each county which shall have: (a) clear goals and objectives; (b) an*

implementation plan with clear outcomes; (c) provisions for monitoring and evaluation; and (d) clear reporting mechanisms.” This calls for attention on M & E by the departments.

Finally, within the **Policy Framework**, the M & E Policy of 2012 articulates the Government’s commitment to manage for development results at all levels. The policy provides a clear framework for strengthening the coverage, quality and utility of the assessment of public policies, programmes and projects. It shows that finances for M & E are clearly allocated within the national budget. It enables the two levels of executive government, the legislature and other actors to access greater evidence to inform policy and programmatic decisions, and to hold the public sector accountable for its application of resources.

Based on the above requirements on adherence to existing frameworks, the study showed that five out of the six respondents were aware of the existence of the M & E Policy, apart from one respondent from the department of livestock who indicated otherwise (**Figure 10**) below shows Awareness on existence of M & E policy. Given that all the respondents from within the departments of agriculture and fisheries had had access to this Policy indicates that the key staff responsible for managing data were doing so according to the Constitution. Considering that not all the 15 M & E and ICT staff from the three departments could not be interviewed due to the risk of sampling saturation, the response from these five respondents represents a good status of the departments.

Figure 10: Awareness on existence of M & E policy



It was further noted that only one of the respondents from the livestock department had received the M & E Policy and was aware of its contents, in as much as she could not produce a copy of the same. This clearly shows capacity gap among the M & E officers who

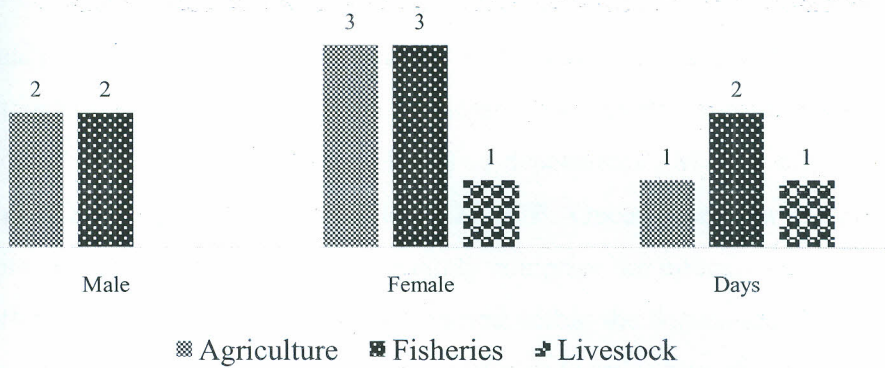
are entrusted with the operationalization of NIMES in the departments. Lack of knowledge of the contents of this M & E Policy is a clear indication that these officers might not be aware of their roles, responsibilities, and what they should be accounted for. This is because, the NIMES requires that all the associated policy documents related to M & E within the counties should not only be availed to the relevant personnel, but should also be internalized and utilized by all departments. This gap is worth focusing on by all heads of departments.

All the six respondents confirmed that none of the three departments was equipped for NIMES. This situation is worth addressing urgently by the head of these departments and the ministry of agriculture and rural development under whose umbrella these three departments sit. Given the timeframe allotted for the rolling out of NIMES and its CIMES, any further delay in operationalizing it poses serious threats for the national government, even as it gears up for the 2018 biennial review of the achievement of the Malabo targets.

4.1.8. Targeted M & E trainings

Implementation of M & E systems all over the world has indicated that M & E requires competent professionals in the public service. Competent staff can be realized when the frameworks describing these competencies are implemented, appropriate training curricula developed, and advanced training in M & E for use by local universities and other training institutions is undertaken. Where necessary, in-service training courses, tailored for different stakeholders and target groups, is essential for enhancing operationalization of NIMES. Based on this vital requirement, the study noted that 15 departmental staff were trained in NIMES in the previous year. These included two male beneficiaries, each from the departments of agriculture and fisheries and three female beneficiaries, each from the same departments, and one from livestock department (**Figure 11**) below shows the Number of departmental staffs trained on M & E. The trainings for the staff from agriculture and livestock lasted 1 day each, while the staffs from fisheries department attended the training for two days. However, none of these beneficiaries had applied the skills they acquired. This further raises the question on the management of the trainings and subsequent follow up on the impacts of these trainings.

Figure 11: Number of departmental staffs trained on M & E



Within NIMES, it is required that all personnel tasked with managing data, including M & E officers, ICT personnel and data managers should undergo training on the components of NIMES as well as the e-PromIS. None of the trained personnel could recall the three main themes or topics covered in the trainings, hence none had implemented whatever they learned. This minimal capacity strengthening of relevant personnel clearly shows the unpreparedness of these departments and the County in general in the operationalization of NIMES.

On the other hand, none of the respondents was aware of the existence of an institution-wide M & E policy framework that guides and informs the departments, the county and the local governments in their efforts to institutionalize M & E. They were not only unaware of who developed the policy framework, but were also not sure of the status of the three departments' compliance with these frameworks. These handicaps spell serious issues with the departments' readiness to operationalize NIMES. However, some of the respondents indicated their awareness of the main players involved in setting up their own departmental M & E systems. The key players involved in the setting up of these M & E systems comprised mainly the M & E officers as well as the ICT and the Directorate of M & E personnel. The involvement of the latter could not be adequately established.

Regarding their rating on the current level of engagement of the departmental personnel, one respondent from the department of livestock cited full (100%) engagement, while four other respondents (2 each from departments of agriculture and fisheries) rated the level of engagement at less than 50%. This dismal rating of performance clearly shows the challenges

these three departments are likely to face in their endeavors to operationalize NIMES:

The study indicated that several personnel and offices are consulted and engaged in setting project outcomes, key performance indicators, the interim and final results targets, and milestones. Top on this list include: heads of departments, M & E officers, ICT personnel, planning officers, and the Directorate of M & E. Once these data are collected, they are submitted for reviews. The reviewers mainly comprise the directors, deputy directors and M & E officers. The periodicity of reviews varied within the departments, with the departments of agriculture and fisheries holding quarterly reviews, while the department of fisheries conducted annual reviews. This varied frequency of reviews further indicates the disparity in operationalizing NIMES and the departmental M & E systems. This further raises the question on how these departments and the County government manages to consolidate its M & E findings, data and information. It further exposes the gaps in the utilization of M & E data in decision making and planning, not only within the departments, but also within the whole County.

In general, the study findings indicate that in as much as the three departments have been capacitated through trainings and budgetary allocations for M & E functions to operationalize NIMES via the utilization of e-ProMIS platform, the departments have not made any significant steps towards realizing this objective. None of the departmental personnel charged with ensuring the uploading of relevant data onto NIMES has neither accessed nor utilized the e-ProMIS platform. Therefore, it can be concluded that this poor performance of the departments in utilizing the skills and resources availed to them raises fundamental questions regarding the nature of reports anticipated to be relayed to the Directorate of M & E to enable them to prepare relevant documents for submission to the Budget Committees as well as to the Parliament for approval. This further raises the question on how the County in general has been conducting its budgetary estimates. This is because, under normal conditions, the budgetary estimates are to be guided by validated performance and progress reports based on previous allocations and disbursements. Therefore, the findings show questionable ability of the departments to operationalize NIMES according to the aim of the first objective of the study.

4.1.9. Model predicting likelihood of operationalization of NIMES

The study sought to fit a model to determine the extent of operationalization of NIMES in the three departments of the County through capacity building initiatives. To evaluate extent of institutionalization of NIMES within the three departments, a logit model (Maddala, 1983) is used. For simplicity, let P_i be the probability or likelihood that the department operationalizes NIMES, and X comprise a vector of explanatory (independent) variables related to, of influencing institutionalization of the system and its e-ProMIS platform. In this study, vector X has been assumed to be a function of three sets of factors: capacity strengthening parameters; characteristics contributing to achievement of M & E objectives within the departments; and critical drivers influencing operationalization of the system, including the existing enabling environment characteristics.

This probability or likelihood of operationalizing NIMES by any of the selected departments is hereby specified as:

$$P_i = f(X_i, \varepsilon) \quad (3)$$

where ε is the error term with a logistic distribution. It is noteworthy that logit model has been widely applied in assorted adoption studies (Bagi, 1983; Polson and Spencer, 1991; Adesina and Sirajo, 1995), and can be applied in this study as well. Based on the above, the conceptual model is here defined as:

$$P(y = 1) = \frac{\exp \{x\beta\}}{1 + \exp \{x\beta\}}; P(y = 0) = \frac{1}{1 + \exp \{x\beta\}} \quad (4)$$

where the dependent variable, y , takes the value of 1 if the department has operationalized NIMES, and 0 otherwise; X is the vector of independent variables, which may include a constant; and β is the corresponding parameter vector. The larger the $x\beta$, the higher is the probability or likelihood of the department institutionalizing or adopting NIMES.

It was anticipated that the probability of the case study departments adopting or utilizing NIMES standards and procedures could be estimated using the double-log Ordinary Least Square (OLS), hereby represented as:

$$\ln ON_i = \beta_0 + \beta_i \ln X_i + U_i \quad (5)$$

where $\ln ON_i$ = the natural log of the dependent variable, here taken as the likelihood of each department operationalizing NIMES; X_i = the vector of explanatory variables; β_0 and β_i = the parameters to be estimated, and whose magnitude are to show the direction and impact of change; and U_i = the random error term. The double log regression is preferred because all the variables are expressed in the natural log, thus enhancing interpretation. The above equation is then transformed to estimate the expected likelihood of operationalization of NIMES based on some predictor variables (selected factors and covariates).

$$\ln ON = \beta_0 + \beta_1 \ln AGE + \beta_2 \ln GR + \beta_3 \ln FU + \beta_4 \ln SX + \beta_5 \ln EDU + \beta_6 \ln OT + \beta_7 \ln GD + \beta_8 \ln UN + \beta_9 \ln NS + \varepsilon_i \quad (6)$$

where ON = the likelihood of each department operationalizing NIMES; UN = Dichotomous variable showing whether the institution updates NIMES (1 = Yes; 0 = No); GR = Checks whether the institution generates reports via NIMES (1 = Yes; 0 = No); FU = Assesses the frequency of uploads (i.e., 1 = regularly; 0 = irregularly); BG = Total budget allocated to M & E activities (US\$); OT = Total number of personnel able to upload e-ProMIS; NS = Total number of staff engaged in M & E activities; EDU = level of education of the staff, measured in years of schooling; SX = sex of the staff (1 = male; 0 = female); GD = grade or position held in department (1 = management position; 0 = junior staff); AGE = age of the staff, measured as actual years since birth; and ε_i = the error term.

Based on the above procedures and processes, and to verify these observations, a logistic regression is performed to assess the likelihood of each of the targeted departments to operationalize NIMES and to ensure that all data are uploaded on to the e-ProMIS platform. The model contains nine independent variables thought to directly influence the dependent variable. Following regression iterations, six of the independent variables generated unique statistically significant contribution to the model. These included: UN = whether the institution updates NIMES; GR = whether the institution generates reports via NIMES; FU = frequency of uploads on to the e-ProMIS platform; BG = total budget allocated to M & E

activities; OT = total number of personnel able to upload e-ProMIS; and NS = total number of staff engaged in M&E activities.

Based on data generated from the study, this transformed model estimates the likelihood of operationalization of NIMES by each of the departments, and is illustrated in the following equation:

$$\ln ON = 1.61 - 0.32 \ln UN + 0.33 \ln GR - 0.21 \ln FU + 0.0002 \ln BG - 1.02 \ln OT + 0.05 \ln NS \quad (7)$$

The whole model with all predictor variables was statistically significant ($P \leq 0.05$). This shows that the model can be useful in predicting the likelihood of each of the departments operationalizing NIMES. It is reasonable to conclude that the model can explain between 37% (Cox and Snell R-Square) and 55.9% (Nagelkerke R-squared) of the variance in readiness to operationalize NIMES (Pallant, 2013). It also correctly classified 83.9% of the cases. This shows that up to 63% of variance may be explained by other factors not included in this study, while 16% of the cases could not be classified.

Among the strongest predictors of the likelihood of operationalization of NIMES within each of the departments is the amount of annual budget allocated to M & E activities and the number of M & E staff actively engaged in M & E functions (**Table 6**) below Logistic regression predicting likelihood of operationalizing NIMES . The noted odds ratio of 8.24 and 4.83, respectively indicate that the departments that annually allocate budgets to M & E functions and have regular M & E staff were over 8 and 5 times, respectively more likely to operationalize NIMES than those who do not (controlling for all other factors in the model).

Table 6: Logistic regression predicting likelihood of operationalizing NIMES

	B	S.E.	Wald	p	Odds Ratio
Updates NIMES (UN)	0.32	0.030	18.10	0.03**	0.02
Generates Reports (GR)	0.33	0.122	4.71	0.04**	1.61
Years of Education (EDU)	0.02	0.002	1.24	0.27 ^{ns}	0.98
Frequency of Data Uploads (FU)	0.21	0.013	25.59	0.02**	1.20
Sex of staff (SX)	0.600	0.220	6.89	1.25 ^{ns}	0.24
Annual M & E Budgets (BG)	0.0002	0.00003	3.84	0.05**	8.24
Grade of the staff (GD)	0.24	0.070	5.66	1.02 ^{ns}	0.25
Number of staff uploading data (OT)	1.02	0.040	3.76	0.05**	3.19
Number of M & E staff (NS)	0.05	0.020	2.70	0.04**	5.13
Age of departmental staff	0.12	0.080	11.32	0.93 ^{ns}	0.72
Constant	1.609	0.420	35.87	0.00	12.38

Source: Survey data, 2017

** Highly Significant

4.2 Departmental performance towards achievement of M & E objectives

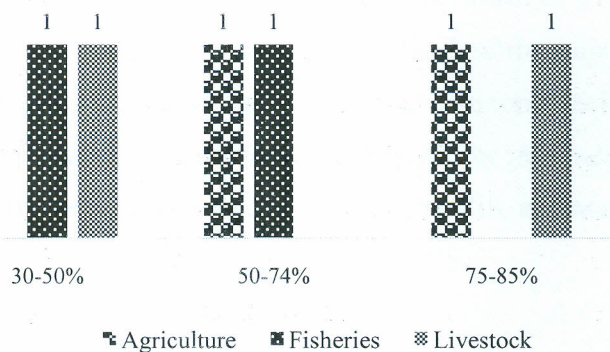
Regarding the achievement of the M & E objectives based on the principles spelt out in section 1.2.2, among which include: to ensure that monitoring is involved at all stages of the programme or project design and implementation; to involve all stakeholders in monitoring activities, and ensure that there are incentives in place for them to engage therein; and to create an environment in which monitoring is perceived as beneficial both to individual performance and to organisational capacity, the study isolated mixed responses from the departments.

From the above findings, it is appreciated that there is a significant relationship between the capacitated personnel within the departments and the credibility and accuracy of some of the datasets they collected. In some of the datasets availed to the investigator, it was clear that over 60% of the datasets met the threshold of good quality data, mainly because of previous trainings for some of the respondents. Generally, quality data must be: **timely** (up-to-date/current and available on time, such that they are entered into the system as soon as they are received by a designated reporting officer); **accurate** (measuring what they are intended

to measure); **reliable** (collected, stored, and reported based on protocols and procedures that do not change according to who is using them and when or how often they are used; **granular** (are correct and bears appropriate levels of detail; **complete** (inclusive information system from which the results are derived; of **integrity** (protected from deliberate bias or manipulation for political or personal reasons; **valid** (findings truly representing the phenomenon being measured); **conformable**(data values conform to specified formats); **consistent** (reliable, trusted and well-documented); **accessible** (easily available and quickly retrieved); **secure** (access to data is appropriately restricted to maintain security).

On the other hand, both respondents from the livestock department recorded the widest variation of what they regarded as their level of achievement of project targets. One of the respondents felt that the department had achieved up to 85% of its annual targets, while the other rated the same department at less than 50% (**Figure 12**) below. Notwithstanding these ratings, it is clear from these findings that the departments and the County at large has very unsatisfactorily operationalized NIMES and its M & E operations.

Figure 12: Level of achievement of project targets by departments



Four (out of the 6) respondents indicated that they were happy with the process within their departments to produce required reports. These included all the respondents within the department of agriculture, as well as one respondent each from the other departments. The two beneficiaries who indicated contrary opinion regarding the report generation within their departments stated that the officers in these departments were ill-equipped to produce quality reports given the perpetual delays in report submission from the field. They also indicated inadequate funding for their projects. Regarding timely delivery of periodic reports, all the two respondents from the department of fisheries indicated that they were not capable of such

deliveries, mainly due to the late arrival of reports from the field. This challenge could be addressed through adoption of NIMES and the utilization of e-ProMIS, for it will allow online data transmission and relay.

Five respondents (apart from one within the department of fisheries) indicated that these departmental reports were complete with up-to-date data, and that these reports covered all the achievements recorded within the ministry of agriculture and rural development. They felt that they contributed significantly to the ministry's annual targets, compared to other departments within the same ministry. However, this could not be verified in this study. Among the two key documents that the respondents indicated as their main source for reference included the framework for programme valuation as well as the evaluation reports. Unfortunately, these as well as the following vital documents that guide M & E activities within NIMES could not be accessed: Draft M & E Policy, County Evaluation Guidelines, M & E Training Curriculum, as well as relevant ICT materials, especially for data uploads and access. This causes doubts about their availability and utilization.

As already aforementioned, none of the targeted departments has a functional e-ProMIS. However, the M & E officers from the department of livestock stated that in as much as they have not uploaded their data to e-ProMIS platform, they expressed their preparedness to use the platform, since they anticipated some additional technical ICT staff equipped with skills to upload data onto e-ProMIS. Currently, all the respondents stated that no NIMES indicators have been updated with recent data in e-ProMIS, and none is even aware of the number of M & E reports so far prepared using the NIMES.

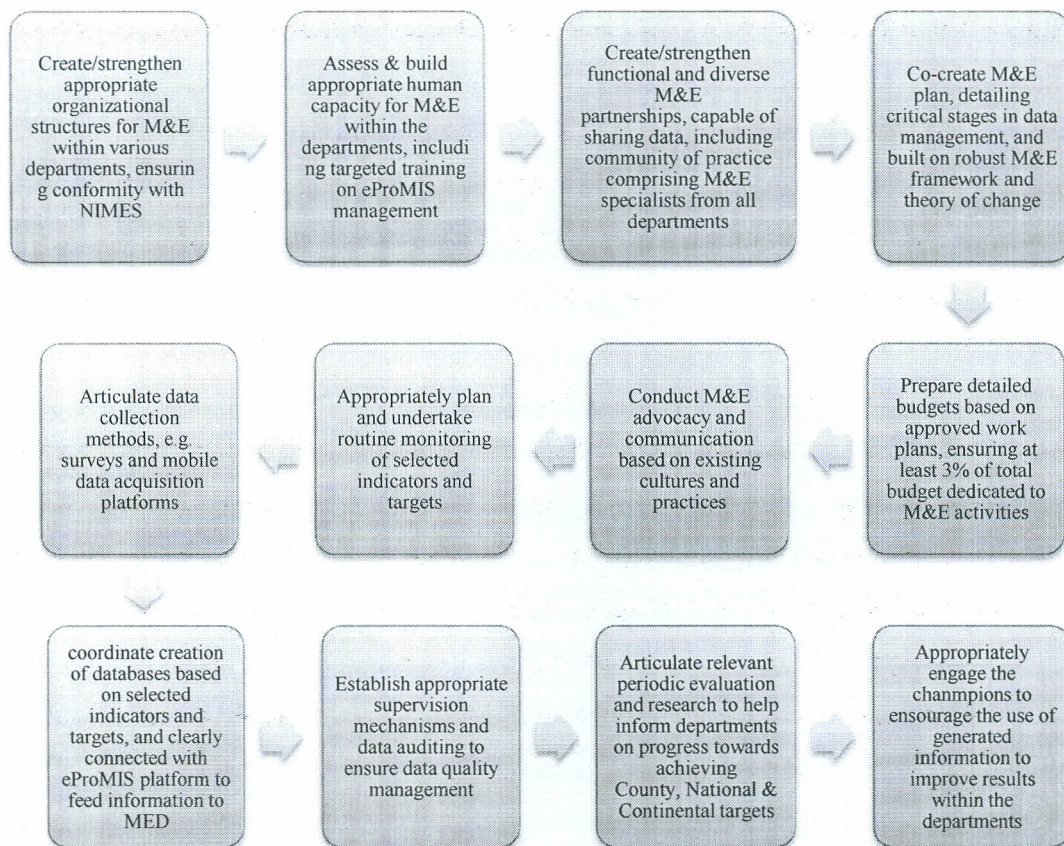
Based on the foregoing, and given the non-adherence to the NIMES through the e-ProMIS, the study shows an unsatisfactory performance of the targeted agricultural departments towards achieving their M & E objectives based on parameters for NIMES. This is supported by the fact that none of the requirements of NIMES has been adhered to, including the requisite stages of ensuring credible M & E processes such as data collection, data analysis, development of M & E tools, and adherence to NIMES protocols and standards.

The above point is supported by the fact that NIMES becomes operationalized when specific principles for M & E are observed. Among the key monitoring principles to be observed include: ensuring that monitoring is involved at all stages of the programme or project design and implementation; involving all stakeholders in monitoring activities, and ensuring that there are incentives in place for them to engage therein; creating an environment in which monitoring is perceived as beneficial both to individual performance and to organisational capacity; using diversity of methods, including qualitative and quantitative indicators; providing opportunities for M & E staff to be trained in effective monitoring techniques; building peer reviewing, consultations and discussions of M & E results; ensuring that good practices and lessons learnt are shared among all stakeholders; and involving stakeholders in learning. On the other hand, key evaluation principles include: ensuring that clear targets are identified at the start of the project/programme implementation process, and that delivery against these targets is used as the main framework for evaluation; incorporating clear framework (such as a Results Matrix and Gantt chart) in the design of the project or programme to provide the basis for subsequent evaluation; identifying and reporting important non-intended consequences; and ensuring that insights from the evaluation are disseminated externally so that others can learn from them.

In general, NIMES can only be operationalized within these departments when: (i) there is an appreciation of the potential role played by the M & E system; (ii) the departments ensure the development of an enabling environment to implement the M&E system; (iii) appropriate technical and diverse capacity of personnel are provided to supply M & E data and reliable information at the required time and frequencies; and (v) there is robust M & E infrastructure not only to demand and use M & E information, but also provide regular data through the e-ProMIS platform. This platform needs to be cascaded at the lowest level possible to allow all stakeholders to provide online data and information appropriately.

Based on the study findings, it is hypothesized that for the M&E practice to be ensured, thereby eventually contributing to effective operationalization of NIMES, all the three departments should ensure that the following processes are not only in place, but are also strictly followed (**Figure 13**) below illustrates the Requisite Stages for Operationalization of NIMES in Kisumu County

Figure 13: Requisite Stages for Operationalization of NIMES in Kisumu County



Source: Author’s conceptualization, 2017.

4.3 Key Drivers Influencing Operationalization of NIMES

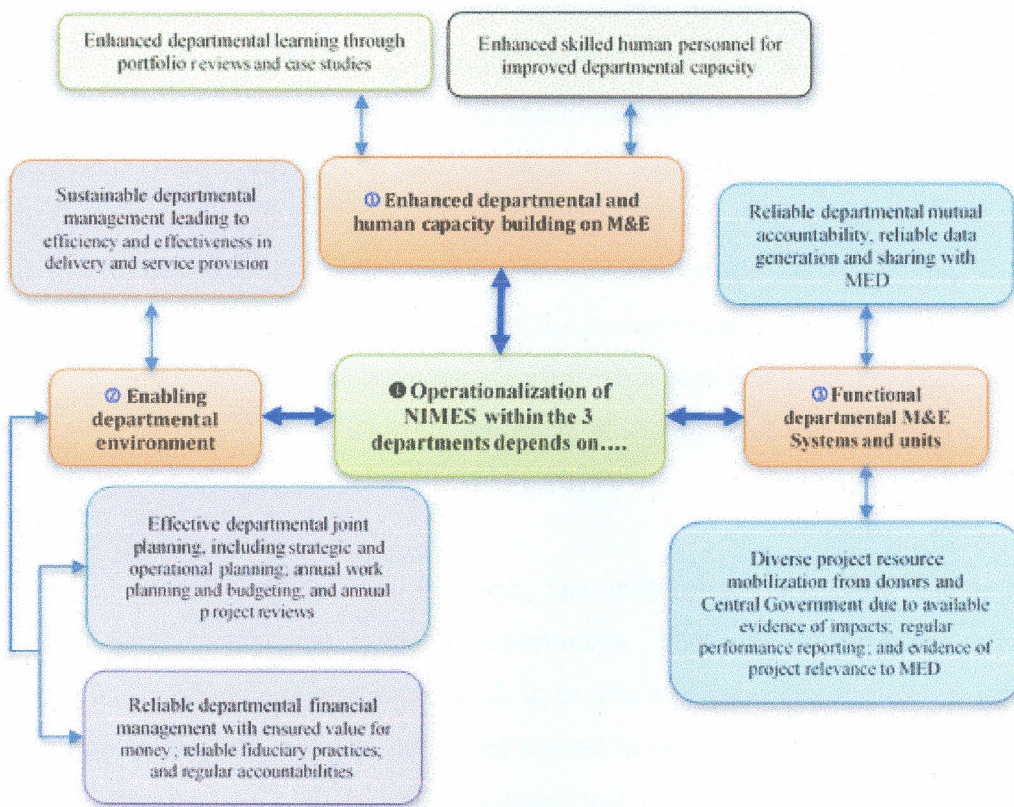
The study indicates that a common vision of accountability, good governance, transparency, transformation, good programme performance and mutual accountability in service delivery is upheld by all the three departments. It further emerged that M & E is regarded as a fundamental component of decision- and policy-making by all the departments, even though the actual implementation of M & E findings were not fully applied, leading to minimal implementation of evaluation recommendations.

The findings from the study showed that operationalization of NIMES (①) within the three departments significantly depended on the three interrelated factors, namely: (i) enhanced capacity of the departments towards M & E (①), such that individuals and departments whose capacity have been enhanced were observed to perform better than the other programme support personnel who had never benefited from any M & E training; (ii) an

enabling departmental environment that motivated the departmental staff to ensure credible data management (②).

The study findings showed that the department of agriculture performed better with regards to implementation of required M & E procedures and processes than the other two departments, though with very marginal range. The third factor identified to influence operationalization of NIMES was the extent of functionality of the three departmental M & E systems and M & E units (③), especially with respect to accountability, data generation and sharing, as well as resource mobilization for further implementation of planned tasks (Figure 14) below illustrates factors influencing operationalization of NIMES .

Figure 14: Factors influencing operationalization of NIMES



Source: Author's conceptualization, 2017

In addition to the above findings, other factors documented to significantly influence the operationalization of NIMES within the three departments include, but are not limited to the

following:

1. Limited departmental buy-in and ownership of the NIMES operationalization process. The study shows that there is a rather poor support by the entire County government in supporting the operationalization of NIMES within the three departments. This is evidenced by the fact that nearly all the departments have not engaged in the actual processes and capacity building towards NIMES and its e-ProMIS platform development. Unless this trend is changed at the departmental level, the County is likely to lag in operationalizing NIMES. Picciotto (2009) observed that when monitoring dominates the government M & E system (at the expense of evaluation), it indicates that there is weak demand and buy-in of M & E data by decision makers for evidence.
2. Limited NIMES champions within the departments and the entire County government. The absence of the champion for NIMES has contributed to the slow take adoption of the operationalization process of NIMES. None of the departments has an active champion. This finding is supported by Kusek & Rist (2004), Mackay (2007) and Plaatjies & Porter (2011) who observed that endogenous and exogenous demand for, and supply of M & E systems is ensured when there are well-positioned individual and institutional champions across the institutions and departments. Several researchers have further emphasized the importance of endogenous demand for M & E (Mackay, 2007; Toulemoude, 1999; Plaatjies & Porler, 2011; Lopes & Theisohn, 2011).
3. *Individual and institutional capacity gaps.* The study clearly indicates that there exist capacity gaps within the targeted departments. This gap hinders the efforts to *operationalize NIMES as was anticipated.* In as much as documentations exist indicating that some of the staff members had been trained to manage NIMES and e-ProMIS, the findings showed that only 16 staff members had benefited from such trainings. This implies that the department and the County government must seriously embark on equipping a set of staff members to manage NIMES. Several studies have shown identical results, thus emphasizing that effective operationalization of NIMES and other M & E systems behooves the government to channel more of their resources to enhance capacity

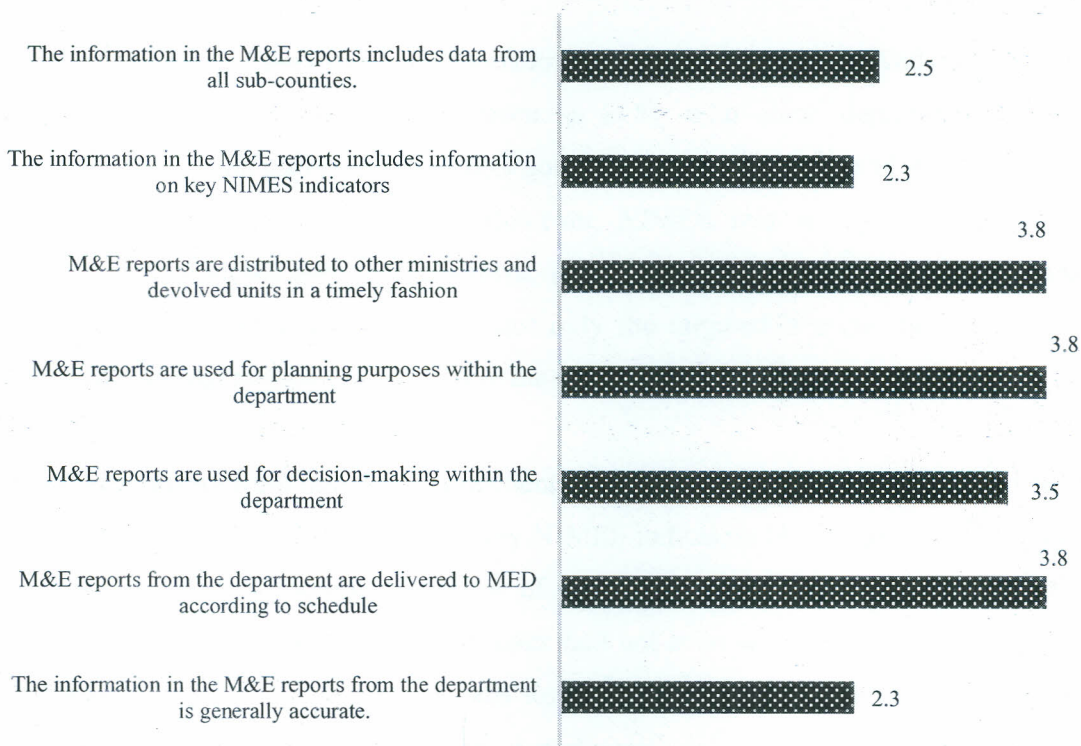
required for implementation of M & E (Berin, 2003; Benington & Moore, 2011; Perrin, 1998; polliett, 2009).

4. Limited availability of data and information as well as unclear information flow to decision makers on the performance and implementation of the County Integrated Development Plan, the Medium-Term Plan, the Vision 2030, the Comprehensive African Agricultural Development Programme and Sustainable Development Goals. Lack of these vital data and information makes it very difficult for the departments to appreciate their efforts in the implementation of flagship projects. This limits accurate and timely flow of information to the Directorate of M & E for timely and informed decision making.
5. Limited production of vital lessons for further operationalization of NIMES. So far, the lessons learned from implementation of assorted M & E systems have not been documented, neither are there clear mechanisms of ensuring learning through lessons already learned. It is anticipated that NIMES and its CIMES will only be adequately operationalized within the County when learning mechanisms are documented and acted upon, including the findings from this study.
6. Limited integration of NIMES as part of public management practice and culture. The study established that this gap can be addressed by ensuring urgent strengthening of NIMES as an integrated approach, regardless of the institution, and if those departments are functional within the County. This is anticipated to ensure ownership of the process among the staff members and lay County government officials.
7. Limited integration of NIMES in planning and budgeting. This indicates that the departments as well as the County government have been preparing the budgets without relying on NIMES for credible data, information and evidence to guide the process. To make budgeting effective, the departments ought to ensure reliable information flow from the Units and be eventually aggregated at the County Headquarters. This should be done through NIMES' e-ProMIS platform.

4.4 Attitudinal Assessment

Based on the Likert scale of assessment that focused on specific statements, an average score of 3.1 was recorded, indicating that the respondents were indifferent with regards to their feelings on the posed statements. The average responses from the sampled departments varied from 2.3 (agree) to 3.8 (disagree). For instance, the respondents agreed with the statements that the information in the M & E reports from the departments were generally accurate (2.3), while some departments were indifferent regarding this statement. This indifference was attributed to the fact that NIMES had not be fully adopted, and not feedback received from the Directorate of M & E to enable them to know the credibility of their reports (Figure 15) below illustrate likert scale ratings on attitudinal assessment.

Figure 15: Likert scale ratings on attitudinal assessment



Similarly, some respondents felt that the M & E reports from the departments were not delivered to the Directorate of M & E according to schedule (3.8), a fact proved during the study since none of the departments has a functional e-ProMIS that has been used to relay data and information to the Ministry of Devolution through the Directorate of M & E. One of

the departments indicated strong disagreement with the statement, basing it on the absence of NIMES as well as the dysfunctionality of the currently adopted systems that are not aligned with NIMES.

Some of the respondents further indicated that they were fairly satisfied that the M & E reports were used for decision making within the department (2.5). This illustrates that if these reports are submitted promptly and regularly to the Directorate of M & E through the e-ProMIS, they can be a very important tool for informing decision making and budgeting. However, this is currently not the case. That the M & E reports are used for planning purposes within their departments received an affirmation from the respondents. This is the priority role of NIMES and its associated M & E systems – supporting departments and departments in planning, budgeting, and timely decision making.

Regarding the distribution of M & E reports to other ministries and devolved units in a timely manner, the respondents had mixed reactions (3.5), with some departments indicating disagreement with the statement (4.0). It is noteworthy that the current M & E systems used cannot allow for such rapid sharing. However, NIMES was set up to help link these departments through the e-ProMIS platform. This finding further cements the quick need to ensure operationalization of NIMES in not only the targeted departments, but in all the departments and agencies operating within the County.

All the respondents were in near disagreement with the statement that the information in the M & E reports included information on key NIMES indicators (3.5). This near disagreement with the statement was because very few of the respondents were aware of the indicators spelt out in NIMES, while some departments had not even seen the guiding documents on NIMES and e-ProMIS platform. This calls for drastic action among the County government to ensure rapid rollout of NIMES in all the departments.

All the respondents disagreed with the statement that information in the M & E reports included data from all sub-counties (3.8). This indicates loopholes in the M & E system within the County, since all the sub-counties are expected to relay their data and information on standard indicators to the central data repository, expected to be managed by the County

M & E officers and ICT specialists. The absence of this system is an indicator of non-conformance of the County with the NIMES and CIMES.

Table 7 summarizes the scores based on each of the statements posited to help guide operationalization of NIMES.

Table 7: Average Likert Score

Statement	Average Score	Comment
1. The information in the M&E reports from the department is generally accurate.	2.3	Agree
2. M&E reports from the department are delivered to MED according to schedule	3.8	Disagree
3. M&E reports are used for decision-making within the department	3.5	Disagree
4. M&E reports are used for planning purposes within the department	3.8	Disagree
5. M&E reports are distributed to other ministries and devolved units in a timely fashion	3.8	Disagree
6. The information in the M&E reports includes information on key NIMES indicators	2.3	Agree
7. The information in the M&E reports includes data from all sub-counties.	2.5	Agree

In summary, the study indicates that the three departments face several challenges with operationalizing and coordinating M & E systems, including defining and clarifying roles and leadership, aligning and coordinating M & E activities across projects and programmes, and building internal staff capacity. Other challenges bordered on collection of credible, timely and accurate data, mainly due to unharmonized and refined tools and instruments, inadequate staffing capacity, infrequent training for data collection skills, duplication of efforts, delays in data collection and submission, and limited data verification. It was further observed that the

existing M & E systems were devoid of strategic frameworks mainly expressed as theoretical causal chain outlining activities, outputs, and outcomes. In most of the departmental activities, greater focus was on tracking outputs of programmes other than evaluating their outcomes or impacts. Most of these findings, and other M&E data were never considered for decision-making around strategy, budgeting, or programme management.

There is therefore urgent need to focus on aligning all the departmental M & E systems with NIMES through the e-ProMIS platform, particularly by ensuring the use of common standard indicators, “intelligent borrowing” of technical support from other departments, regular public dissemination of M & E data, and inculcation of adherence to M&E protocols and systems for mutual accountability. The departments should develop Standard Operating Procedures for M & E and for data collection, aggregation, and verification.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents a comprehensive summary of the study findings related to the operationalization of NIMES and its associated M&E systems within the targeted departments based on the study objectives and research questions. It also provides key recommendations that are worth addressing to ensure that NIMES is operationalized within the ministry of agriculture of Kisumu County.

5.1 Conclusions

In as much as the three departments have been capacitated through trainings and budgetary allocations for M & E functions to operationalize NIMES via the utilization of e-ProMIS platform, these departments have not made any significant steps towards realizing this objective. None of the departmental personnel charged with ensuring the uploading of relevant data onto NIMES has neither accessed nor utilized the e-ProMIS platform. This poor performance of the departments in utilizing the skills and resources availed to them compromises the credibility of reports submitted to the Directorate of M&E to enable them to prepare relevant documents for submission to the Budget Committees as well as to the Parliament for approval.

Given the non-adherence to the NIMES through the Directorate of M & E-approved e-ProMIS, the study shows an unsatisfactory performance of the targeted agricultural departments towards achieving their M&E objectives based on parameters for NIMES. None of the requirements of NIMES was adhered to, including the requisite stages of ensuring credible M&E processes such as data collection, data analysis, development of M&E tools, and adherence to NIMES protocols and standards.

Among the key factors that influenced operationalization of NIMES included dysfunctional M & E systems and units, sub-optimal departmental and human capacity on M&E, as well as limited enabling environment for joint planning, budgeting, peer review of performance, and mutual accountability. Other factors that significantly influenced the operationalization of NIMES within the three departments included: limited departmental buy-in and ownership of the process; limited NIMES' champions within the departments and the entire County government; pronounced individual and institutional M & E capacity gaps; limited

availability of data and information as well as unclear information flow to decision makers on the performance and implementation of strategic plans; partial production of vital lessons for further operationalization of NIMES; limited integration of NIMES as part of public management practice and culture; and inadequate integration of NIMES in planning and budgeting.

Based on the five-point Likert Scale that assessed the level of stakeholder satisfaction with NIMES, an average score of 3.12 (indifference) was generated. The binary logistic regression model further confirmed the above factors as significant influencers in the operationalization of NIMES. This study provides vital lessons for further operationalization of NIMES, not only in Kisumu County, but also in other government departments.

This study set out to prove the hypothesis that unless the NIMES is operationalized using the required e-ProMIS platform, the Directorate of M&E will not be able to adequately report on the progress made in implementation of public policies, programmes and projects, and thus the County's contribution to the County Integrated Development Plan, the Medium-Term Plan, the Vision 2030, the Comprehensive African Agricultural Development Programme and sustainable Development Goals will be unclear. This study and its findings confirms the hypothesis, thereby further exacerbating challenges for Directorate of M&E to provide credible data for reporting on Kenya's performance in implementing the Malabo Declaration on Sustainable Accelerated African Agriculture Growth and Transformation at the biennial continental meeting in February 2018.

On the other hand, given that the output of operationalization of NIMES within the targeted departments of Kisumu County was expected to provide credible data and information to be used for informing national development planning and policy dialogue within government and with private sector, civil society organizations and development partners, this has not been achieved, nor has the process of operationalizing NIMES and its implementing arm, the CIMES been initiated. This has clearly compromised the overall functions of the Directorate of M&E in linking and coordinating all ministries, public sectors and sub-sectors at the national and county level to operationalize NIMES and CIMES.

5.2 Recommendations

Based on the foregoing discussions, the study recommends the following:

1. There is urgent need for the heads of departments to facilitate capacity strengthening of the departmental staff to enable them to not only meet their M & E objectives, but also operationalize NIMES.
2. Clear roles and responsibilities need to be developed and shared with relevant M & E officers within the three departments. This should include documentation of the personnel responsible for ensuring the uploading of relevant data onto NIMES and those with permission to access the e-ProMIS platform.
3. All the M & E officers and researchers / scientists responsible for providing data and information on key departmental indicators should be encouraged to study, understand, and adhere to the standard requirements of NIMES and e-ProMIS platform. This is because, none of the requirements of NIMES was adhered to, including the requisite stages of ensuring credible M&E processes such as data collection, data analysis and development of M&E tools.
4. The departments should ensure that they buy-in and own the process of operationalizing NIMES. This is attributed to the fact that there are no champions for NIMES within the departments and the entire County government. These champions should fully comprehend the requirements for the establishment of NIMES, and what is involved in ensuring its operationalization.
5. Given that the departments have limited availability of data and information as well as unclear information flow to decision makers on the performance and implementation of strategic plans, there is urgent need for the heads of departments to strategize on how to ensure regular data collection based on standardized M & E tools. This should be jointly done with staffs from the three departments.
6. Given the limited integration of the three departments, there is need for the heads of these departments to develop inter-departmental meetings and exchanges among the M & E and ICT officers. This will strengthen and regularize data collection and information flow

among the teams, especially with regards to standard/common indicators required by the Directorate of M & E.

7. The three heads of departments should fast track the collection, collation, analysis and sharing of relevant data on the County's contribution to the County Integrated Development Plan, the Medium-Term Plan, the Vision 2030, the Comprehensive African Agricultural Development Programme and Sustainable Development Goals. This should enable Directorate of M & E to provide credible data for reporting on Kenya's performance in implementing the Malabo Declaration on Sustainable Accelerated African Agriculture Growth and Transformation at the biennial continental meeting in February 2018.
8. There is urgent need to integrate NIMES in planning and budgeting. This is currently not the case, and thus contributes to poor assessment of the performance of the County.

5.3 Areas for further studies

1. Undertake detailed assessment of the readiness of other departments within the ministry of agriculture and rural development in operationalizing NIMES
2. Assess the modus operandi of the Directorate of M & E in ensuring that the three departments, as well as other associated departments and units within the County can fast track the operationalization of NIMES.

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