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Efficacy of selected human resource management practices on performance of public sector organizations: A study of public water utilities in Tanzania

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Abstract
The purpose of this study was to analyze the efficacy of selected human resource management practices on organizational performance in the public sector organizations: A study of water utilities in Tanzania. The descriptive correlation design was used, and both qualitative and quantitative approaches were adopted. Simple and purposive random technique was used in selecting 370 respondents including 15 other managers, 5 human resource managers and 5 managing directors from five selected public water utilities included Dare s Salaam water and sewerage corporation (DAWASCO), Morogoro urban water supply and sewerage authority (MORUWASA), Lindi urban water supply and sewerage authority (LUWASA), Tanga urban water supply and sewerage authority (TAUWASA), Mtwara urban water supply and sewerage authority (MTUWASA). Questionnaire, interview, observation and documentary tools were used in collecting data and SPSS 20.0 version through T – test analysis; multiple regression analysis, descriptive statistics and content analysis were used to analyze the data. Pearson moment correlation coefficient and ANOVAs Analysis were used in measured the relationship between human resource management practices (human resource planning, recruitment and selection, training and development, compensation and benefits, and performance appraisal) and organizational performance. The findings revealed that, there is a positive relationship between human resource management practices and organizational performance. In this multiple regression analysis revealed that organizational performance will rise up when human resource management practices such as human resource planning, recruitment and selection, training and development compensation and benefits and Performance Appraisal were implemented effectively. The study suggested that, in order to increase and ensure efficacy of human resource management practices on performance of public water utilities in Tanzania. Water utilities' management should consider employees participation on formulating matters related to HRMP so as to simplify the operationalisation of human resource management practices, board of directors and management should adopt ethical practices on recruitment and selection process by avoiding political interference; also Tanzanian government should formulate a harmonized operational scheme of service that can be used in all public water utilities in Tanzania.

Keywords: Human resource management, water utilities, HRMP, Tanzania

Introduction
The water utilities across the world face tremendous challenges, such as aging infrastructure, an aging workforce, increased mandates as well as competing priorities within the communities they serve. The global experience shows that water utilities have been effectively used to manage water services. In China accelerated urbanization and high speed economic growth continue to aggravate the water shortage problem. On the other hand, water and waste water treatment industry have for many years been managed by utilities with only limited fees levied for the consumption of resources and provision of services.
Tanzania started reforms in the water sector by establishing Dar es salaam Water and Sanitation Authority (DAWASA) in 1997 (DAWASA Act, Cap 273), after amending Act No. 7 of 1981, which the then was established National Urban Water Authority (NUWA) with the responsibility for the development and management of urban water supply on the mainland of Tanzania). DAWASA established with the main roles such as; Supply of water for lawful purposes, Promote conservation and proper use of water resources, Advise the Government on water policies Plan and execute new water projects and to Provide public education on water issues.

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In the further steps towards better service strategies, Dar es Salaam Water Supply Corporation (DAWASCO) was established on 20/05/2005 under the Public Corporations Act, 1992 Order No. 139 of 2005, to be the operator under DAWASA and assumed responsibilities such as; Buying water from DAWASA and distribute, dealing with provision of Sewerage Services and will invest on infrastructure related to water distribution and sewerage Operations, Issuing bills and collecting revenues from customers, Implementing major and emergency repair works under DAWASA financing, Undertaking water connections and metering of new customers. This reform ideally benefited Dare s salaam City, Kibaha and Bagamoyo Districts in the Coast region.

The second major reform came out in the country by establishing Public Water Utilities in 1997 under the Water Supply and Sanitation Act, 2009 (Cap 272). This was one of the historical and major reforms implemented in the water sector since independence in 1961, but it is only focused on Tanzania Mainland as the matter of facts that water affairs is not among of the agreed union matters. Under this context the established PWU were given mandate for the provision of water supply, sewerage and sanitation services to their designated areas as per the licenses issued by the Energy and Water Utilities Regulatory Authority in Tanzania. In addition, the ministry responsible for water affairs in Tanzania classified Public Water Utilities with different status such as Regional, and National Water Supply and Sanitation Authorities (R&N-WSSAs) and District and Small Town Water Supply and Sanitation Authorities (DST-WSSAs). Currently Tanzania mainland has managed to establish the total of 113 public water supply utilities throughout the country. However, the ministry of water ranked the PWUs in the three main categories which are; regional PWUs, National Projects PWUs, and District and Small Towns Water Utilities. In this reporting time there are total of twenty three (23) PWUs, Eight (8) National Projects PWUs and Eighty two (82) District and Small Towns Public Water Utilities. DAWASA and DAWASO are not among of the 23 PWUs as ranked by the ministry responsible for water affairs in the country as its establishment order and mode of operation are different.

Armstrong (2006) [36] defined human resource management (HRM) as a strategic and consistent approach for managing people who working in an organization and who are individually and collectively contribute to the achievement of its objectives. Researchers have given several definitions of human resource management and practices on their context such as Nickson (2007) [26] defined human resource management as a set of professional practices which include a range of personal practices that can be integrated to ensure a professional approach in managing people in the organization. Randhawa (2007) [27] arguing that human resource management practices is all about planning, organizing, directing, and controlling of the procurement, development, compensation, integration, maintenance, and separation of human resources so that individual, organizational, social objectives are achieved. In the same way, Noe *et al*, (2007) [19] argued that human resource management practices refers to the policies, practices, and systems that influence employee's behavior, attitudes and performance.

Access to safe water, sanitation and sewerage services in Tanzania is still very challenging and inadequate in the whole country. Only 58 percent have access to water supply services in the urban areas compared to 25 percent in rural area (NBS report, 2014). Sewerage and sanitation services ranked to below 30 percent in urban and regional areas and very low and minimal in the district and small towns (EWURA, 2014). Population directly served with water supply has been decreasing over the past three years (EWURA, 2014), and it is now 57% (EWURA, 2015) [35]. Water production for all regional water utilities is ranging at 53% to 55% in 2014/15 and Non-Revenue water is still very high reading to 36.2%, and Overall efficiency indicator which is given as actual collection expressed as a percentage of the value of total water production reads at 55% in 2014/15 (Ewura, 2015) [35].

Poor performance of the PWUs has led to the public outcry as revealed in the Energy and Water Utilities Regulatory Authority reports spread over three consecutive years 2011 to 2014. Over the period, the water demand increased by 16% in the urban areas districts and other small towns, however the production to demand ratio for all regional Public Water Utilities has not exceeded 55%. According to National Bureau of Statistics (NBS) report on basic demographic and socio-economic profile report for Tanzania (2014), it is revealed that overall 36% of all households used piped water as their main source of drinking water (11 percent had water piped into their houses, eight (8) percent piped into yard and 17 percent used public taps). In urban areas percentage of households using piped water was 58 percent compared to 25 percent in rural area where the main source was unprotected dug well (25 percent). This is big picture evidence that public water utilities in Tanzania have not been performing to the satisfactory and acceptable level.

The annual report from the Energy and Water Utilities Regulatory Authority in 2014 on performance of public water utilities shows that the overall average performance of the water utilities is sharply declining from year to year for water supply and sewerage services. This is primarily caused by the insufficient water production, high non-revenue water, low water service coverage and high personnel costs. According to the Tanzania National Bureau of Statistics (NBS) in their Basic Demographic and Socio-Economic profile report (2014) on provision of piped water supply to the respective population, these regions are still underperforming, For instance, Mtwara regional water Utility is only directly serving 57.0% of the population in its service area, NRW is 38% and provides its service for 11 hours per day. Per capita consumption is 38 liters per person per day. Water quality compliance with TBS set standards for E-coli was 86% compliance. The utility has neither sewerage system nor sewage treatment plant. Lindi regional water Utility is only directly serving 40.0% of the population in its service area, NRW is 41.0% and provides its service for 8 hours per day, Per capita consumption is 13.8 liters per person per day. Water quality compliance with TBS set standards for E-coli was 50% compliance. The utility has neither sewerage system nor sewage treatment plant (EWURA, 2015) [35]. DAWASCO City and regional water Utility is only direct serving 50.1% of the population in its service area, NRW is still very high at 57.4% and provides its service for over 8 hours per day, Per capita consumption is 22.8 liters per person per day. Water quality compliance with TBS set standards for E-coli was fair at 100% compliance. The utility has a sewerage system with

sewer line length of 265 Kilometers long and uses a total of 8 stabilization ponds and partly the waste water is being discharged into Indian Ocean (EWURA, 2015) [35].

Tanga regional water Utility is only direct serving 96.79% of the population in its service area, NRW is 22.64% and provides its service for over 23 hours per day, Per capita consumption is 65 liters per person per day. Water quality compliance with TBS set standards for E-coli was 50% compliance. The utility has a sewerage system with sewer line length of 35.15 Kilometers with no treatment system and waste water is being discharged directly into Indian Ocean (EWURA, 2015) [35].

Methodology
Research Design of the study
A correlation and descriptive research design were used for this study. Correlation study enabled the researcher to examine the relationship between human resource planning and Organisational performance. Descriptive study design was used in describing the working conditions of employees in public water utilities employees was used. This enabled the researcher to observe the conditions as they are without changing their environment

Study region
This study was conducted in the United Republic of Tanzania. Tanzania as a country is found in the Eastern part of the African continent. The country lies on 5.6944^0S and 36.3223^0E latitude and longitude, and has total area of 945, 087 Square Kilometres.

The research selected five public Water Utilities in the Tanzania Mainland. The selected five public water utilities operate in the urban areas of each respective region/City in Tanzania. The five regions involved were Lindi, Mtwara, Morogoro, Tanga and Dar es Salaam.

Target Population
The study population comprised of 1355 employees from the five selected Public Water Utilities.

Sampling Method and Sample Size
The study employed both probability and non-probability sampling techniques. Probability sampling used simple random sampling, stratified sampling and population proportional sampling (PPS). Stratified sampling was used for the selection of the five public Water utilities for the

study. A population proportionate sampling (PPS) technique was used for the purpose of making equal ration of sample distribution in the respective Public Water Utilities. Simple random technique was used to get hold of employee representation from all departments of the five selected public water utilities. Purposive sampling a type of non-probability sampling was used to sample managing directors and line managers.

A sample size of 417 employees was used in the study which was obtained by adopting Krejcie & Morgan (1970) [28].

Data collection methods
The study used closed ended questionnaire which had a 5 level likert scale: Strongly agree. Agree, Neutral, Disagree, Strongly Disagree. The questionnaire had factors measuring Human resource planning and organizational performance. Face to face interview was conducted to mangers to seek clarification of the objective of the study.

Data presentation and Analysis
Data collected was entered in excel spreadsheet before being imported to IBM SPSS version 20.0 for analysis. Both descriptive and inferential statistics were obtained. In descriptive analysis, frequencies were used and inferential statistics used correlation and ANOVA.

Results and Discussion
Combined effects of human resource management practices on organizational performance

T- Test analysis
Table 1 illustrates the performance differences in the public water utilities in Tanzania.

Table 1: One Sample statistics showing performance of each human resource management practice and organizational performance

Attributes	N	Mean	Std. Deviation	Std. Error Mean
Human Resource Planning	370	3.8118	.85214	.04430
Recruitment & selection	370	3.5791	.28254	.01469
Training & Development	370	3.8139	.40379	.02099
Compensation & Benefit	370	3.7177	.31352	.01630
Performance Appraisal	370	3.4598	.19920	.01036
Organizational Performance	25	4.3567	.11667	.02333

Table 2: One-Sample Test showing performance of each human resource management practice and organizational performance

	Test Value = 0					
	t	df	Sig.(2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Human Resource Planning	7.039	369	.000	.31182	.2247	.3989
Recruitment & selection	5.382	369	.000	.07905	.0502	.1079
Training & Development	14.951	369	.000	.31385	.2726	.3551
Compensation & Benefit	13.358	369	.000	.21772	.1857	.2498
Performance Appraisal	-3.886	369	.000	-.04024	-.0606	-.0199
Organizational Performance	36.714	24	.000	.85667	.8085	.9048

Source: Field research, (2016)

From the table 4.21 organizational performance (M = 4.36, Std. Deviation =.12), t (24) = 36.7, $p<.001$ reported significantly very low level than human resource management practices (human resource planning, Recruitment and selection, training and development,

compensation and benefit, as well as performance appraisal). The result reject hypothesis that "There is no significant performance differences in the Public Water Utilities". The findings resemble the study of Tiwar & Saxena (2012) [29], Sial *et al.* (2011) [30], caliskan (2010) [7]

and Katou (2008) [31] who found that there is positive relationship between human resource management practices and organizational performance. In this they explain when HRMP is poorly implemented, automatically and the

performance was become poor.

Multiple regression analysis

Table 3: Coefficients of regression between human resource management practices and performance of public water utilities

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
(Constant)	5.917	.680		8.699	.000	4.493	7.341
Human Resource Planning	.276	.144	3.457	1.924	.069	-.024	.577
Recruitment & Selection	-.176	.180	-.634	-.978	.340	-.554	.201
Training & Development	.021	.152	.164	.139	.891	-.297	.339
Compensation & Benefits	-.341	.310	-1.885	-1.099	.285	-.989	.308
Performance Appraisal	-.219	.144	-.645	-1.523	.144	-.521	.082

a. Dependent Variable: Organizational Performance
Source: Field Research Data, (2016)

In multiple regression analysis the relationship between human resource practices and organizational performance analyzed by using the following model.

$$Y = a_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5$$
From the model,

Y = Organizational Performance

a_0 = Constant

β_1 = Regression Coefficient of X_1;

X_1 = Human resource planning

β_2 = Regression Coefficient of X_2;

X_2 = Recruitment and Selection

B_3 = Regression Coefficient of X_3;

X_3 = Training and Development

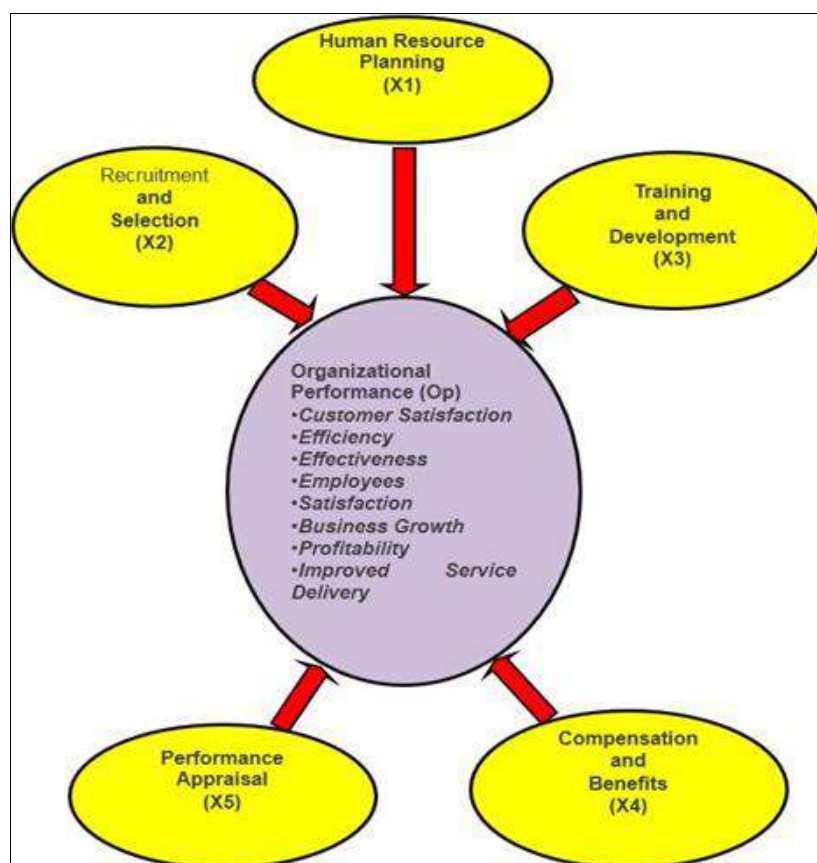B_4 = Regression Coefficient of X_4;

X_4 = Compensation and Benefits

B_5 = Regression Coefficient of X_5;

X_5 = Performance Appraisal

Change the figure in percentage (%)

$$Y = 5.919 + 0.276 x_1 - 0.176 x_2 + 0.021 x_3 - 0.341 x_4 - 0.219 x_5$$

Source: Research Findings, (2016)

Fig 1: Model for the Organizational Performance for the Public Water Utilities

Implication of the model

$$Y = 5.919 + 0.276x_1 - 0.176x_2 + 0.021x_3 - 0.341x_4 - 0.219x_5$$

Holding all other variables constant a unit increase in organisational performance can be attributed to a 27.6% increase in human resource planning. Thus an increase in human resource by 27.6% increases the performance of public water utilities by one unit. This is in agreement with Farman *et al.*, (2013) [32] who after factor analysis of HRP found, employee motivation, training and incentives and organisational performance. He found a significant and positive relationship between HRP and organisational performance. Holding all other variables constant, a unit increase in performance of public water utilities in Tanzania can be attributed to 17.6 decreases in recruitment and selection of staff. The negative relationship in staff recruitment and selection by water utilities is due to political appointments of staff working in water utilities some of who do not have the required skills and experience. Ekwoaba J.O *et al.* (2015) [33] observed that the more objective the recruitment and selection criteria, the better the organization performance. Holding other variable constant a unit change in performance of public water utilities is explained by 2.1% increase in training and development. Training and development is key to inducting staff members. Ngang'a R., 2013 found at that there is a positive correlation between training and development and organizational performance. Holding all other variable constant a unit increase in organizational performance is caused by 34.1% decrease in compensation and benefits of the employee. The scheme of compensating and benefiting public water utilities is biased to only top management while the junior staff do not enjoy. The findings are contrary to those of Odunlami I.B *et al.*, 2014 [34], who found a significant positive relationship between good welfare services and employee performance. He pointed out a significant relationship between compensation management and productivity, and retirement of staff. Holding all other factors constant a unit increase in performance of public water utilities in Tanzania is caused by a decrease in performance appraisal by 21.9%. Odunayo P.S, 2014 *et al.* [37] pointed out that if managerial decisions are fair and just wit equitable reward and promotion, it increases employees' commitment and loyalty to the organization Lastly, the findings suggested that Board of Directors and management in the Public Water Utilities should adopt the five human resource practices used in this study in order to increase performance. This model in chapter four shows that organizational performance depend on the listed attributes as HRMPs.

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