

IMPACTS OF LABOUR SHORTAGE ON ORGANIZATION PERFORMANCE: A CASE STUDY MINISTRY OF WATER AND IRRIGATION-TANZANIA

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Abstract: Labour shortage is the most challenging factor in economic growth in Tanzania particularly in Water and Health sectors. The Ministry of Water currently is facing critical labour shortage particularly technical staffs and engineers in both rural and urban water Offices. This problem have caused by many factors including, lack of promotion, lack of motivation, job mishmash, and low salary. This paper analysis and demonstrated recognition and good working environment as the key players in retaining labour and removing labour shortage in an organization. Many scholars demonstrate low salary and promotion as the only key players and forget about good working environment and recognition. The objective of this study is to investigate the scope and impacts of labour shortage on organizational performance. Likewise, the study has more significant in reminding the organization about the values of Human Resources for its development. In analyzing the study problem in this study conceptual and theoretical framework have been used. The study has used both qualitative and quantitative method in collecting and analyzing data obtained from different sources. Likewise this study has used hypothesis and theories to describe the results. The results of this finding is described through figures percentages and statistics charts which shows the importance and significant of promotion and good working environment in employees retention. All in all Tanzania suffers from considerable human resources constraints including inadequate staffing, imbalances in deployment and retention of professional water technical experts and supporting staffs, hence poor service delivery and economic stagnation, here the government must create good policies and proper environments to the workers.

Keywords: *Impacts, Labour shortage, Organisation, Performance, Ministry of Water, Tanzania.*

1. Introduction

Labor shortage occurs when the demand for workers for a particular occupation is greater than the supply of workers who are qualified, available and willing to work under existing market conditions. Tanzania went through a period of steep economic decline from the mid-1970s to the mid-1980s, which disrupted national Human Resource Development due to budget constraints. A combination of lower wages and the decline in the performance of various institutions resulted into a severe brain

drain, especially in the health sector and water sector experts. For the statistics of employment labour data in 2012 at MoWI-Tanzania Staffing level, recruitment and Vacancy Water sector at the Regional Sector and water department (LGAs) levels have the requirement of 63 and 1,775 posts for technical staff.

Currently, The Ministry have 1500 employees at head quarter while it is supposed to have 3000 workers hence there is a shortage of 1500 employees. Likewise, Ministry of Water and Irrigation (MOWI) have water supply authority in each Regional and District which needs enough workers, the situation in these offices is very bad because the government decide to remove from work all standard seven workers, Moreover, before that announcement these authorities experienced critical labour shortage. MOWI deals with distribution of Water resource to all Tanzanian hence it has many offices which need enough manpower to accomplish its vision. Labour shortage has great negative influence on the performance of any organization. If it is not addressed properly it may cause poor production or complete failure of the organization. The introduction of more efficient water supply and distribution systems supposes the minimization of impacts on the environment, preservation of the water lines and natural values present (Caroça, 2017)

In this paper, I have identified and emphasize on training, proper and friendly environment and government policies, because poor policies and working environment are seemed to be major cause of labour shortages in Tanzania particularly in water sector, although these areas are not much mentioned and discussed by researchers. Government and researchers focus more of poor motivation, low salary and lack of promotion as the major cause of labour shortage while leaving behind poor environment and poor government policies. Employees needs good working environment which will bring their satisfaction, motivation, trust, commitment, and concern, this must be done through proper policies which can guard and protect the implementation of organization projects hence organization performance rise up. If these area will not be addressed the situation will remain and continue regardless of having few Water profession manpower due to poor working environment employees will continue to quit out from job after they get good job with attractive environment. Furthermore the government of Tanzania is trying to address and reduce this problem through different approaches for example the government have constructed the Water College *Rugemalila Water Institute* which deal with training of water experts, the government also have increased water budget. The design of training contents depends on the objectives of training. For example, if the purpose of training is to refresh the engineers, the training contents would predominantly be related to the technical aspects of the job (Khanka, 2014). Water supply slightly more than half the population of Tanzania is estimated to have access to an improved water source, with stark differences between urban areas (about 79% in 2010) and rural areas (about 44% in 2010). In rural areas, access is defined as meaning that households have to travel less than one kilometer to a protected drinking water source in the dry season. Through these strategies, the overall labour shortage levels in Tanzania have slightly decreased from 45% in 2010 to 23% in 2016. The number of the unemployed people has risen to 2.3 million up from 2.2 million in 2006 (Labors statistics level, 2016).

Tanzania has been divided into nine Boards in water supply administrative units corresponding to the nine major river or lake basins. Basin Water Offices (BWOs) are responsible for regulating and planning the use of water resource (“Water Resources Management Act Nr. 11 of 2009”). The *National Water Sector Development Strategy (NWSDS) 2006-2015* sets out a strategy

for implementing the National Water Policy *NAWAPO* of 2002. The *National Water Sector Development Programme* (WSDP) of 2006-2025, and Water and sanitation policies in Tanzania are developed in line with *Development Vision 2025*. In rural areas, water supply and sanitation services are provided by Community Owned Water Supply Organizations (*COWSOs*). They have been established through the local government framework of village councils following the adoption of the Water Sector Development Strategy. Out of 10,639 villages, 8,394 had a Water Committee dealing with issues in the water and sanitation sector as of 2007. The role of *COWSOs* is to operate and maintain the water supply systems on behalf of the community (Supply, 2009). The General objective of this study is to investigate the impact of labour shortage on organizational performance and development, also to demonstrate solutions. Likewise this study assesses the current situation of labour shortage in (MoWI), and determine the impact of labour shortage on employee performance in (MoWI).

2. Literature Review

2.1 Various Discussions on the Concept of Labour Shortage.

According to *Barnow et al (2013)*, labor shortage is defined in multiple dimensions. “*Barnow*” has identified two dimensions as presence of unfilled vacancies and longevity of vacancies. For the present study, one additional dimension is introduced. The additional dimension introduced in this study is the vacancies to workforce ratio. These three variables identify firms with vacancies, how many vacancies are available in those firms and whether firms have to take unreasonably longer period to fill vacancies.

The term “labor shortage” “A sustained market disequilibrium between supply and demand in which the quantity of workers demanded exceeds the supply available and willing to work at a particular wage and working conditions at a particular place and point in time. “If the quantity of labor offered exceeds the quantity that firms wish to purchase, there is a surplus, and if the quantity of labor desired by firms exceeds the amount workers offer at the prevailing price, there is a shortage. In general, the quantity that workers are willing to provide is an increasing function of the wages such as price they can obtain, and the relationship between wages and the amount that workers are willing (*Barnow, Trutko, and Piatak 2013*).

Most of the literature on labor shortage is highly concentrated on skills shortage in advanced countries. (*Dobbs, et al., 2012*) predicts that there will be a 13 percent of high skilled and 15 percent of medium skilled workers’ shortage and a 10 percent of surplus of low skilled workers at the global level. *Dobbs et al, (2012)* further predicts that the shortage will be more visible in advanced economies and the surplus will be more concentrated in developing economies.

Shah and Burke (2003), identify labor shortage as: demand for workers for a particular occupation is greater than the supply of workers who are qualified, available and willing to work under existing market conditions. Labor shortage can be either quantitative (not enough numbers) or qualitative (not required qualifications) (*Shah & Burke, 2014*).

An economy can experience labor shortage in the presence of an ageing population where by more people go on retirement and new additions to labor market are relatively less. Mass scale out migration of youth can also be a cause for labor shortage (*Shah & Burke, 2014*).

Barnow, Schede, & Trutko, (2010) presented several dimensions of the labor shortage namely: (1) geographic scope of the shortage (depending on the occupation and the nature of the market,

labor markets can be national or regional in scope. Similarly, a particular occupation may have a nationwide shortage, or the shortage may be confined to a few labor markets or a single region of the country), (2) longevity of the shortage (shortages can be relatively brief, lasting for a few weeks or months, or prolonged, lasting for one or more years), (3) severity of the shortage, and (4) sub-specialty shortages (Barnow, Trutko, & Piatak, 2013).

2.2 A summary of possible causes for labor shortage is presented in the Table 1 below.

Table 1: Determinants of Shortage of (skilled) labor:-

| Labour Supply | Labour demand |
|---|---|
| Demographic changes | Innovation activities requiring new qualified personnel |
| Lack of migration, regional immobility | High product demand (business cycle) |
| Over-qualification | High recruiting costs |
| Family/work conflicts | Qualification-related mismatch because of structural change |
| Too small public investment in education system | Lack of further education measures |

Source: Adopted from (Horbach, 2014)

Longer working days than expected at current wage level, and assigning works for which they are not qualified (misallocation) are the main consequences of labor shortage on individual workers. Likewise, in the presence of labor shortage, individual firms are compelled to use their workers and equipment less efficiently than they desire resulting in lower output and reduced profits.

At the aggregate level, the major consequence of a sustained shortage is that the economy will be operating less efficiently than it could; meaning resources are not put to their most productive use. Thus, aggregate production for the nation is below capacity (Barnow, Schede, & Trutko, 2010). Production of lower quality output, lower productivity of workers and machinery, higher wages and the economy settling into a low-skill equilibrium and lower economic growth as it misses opportunities can also be recognized as consequences of labor shortage (Trendle, 2008)

In the absence of vacancy measures, shortages can only be identified by employer actions to obtain additional labor (Barnow, Schede, & Trutko, 2010). If a shortage exists, employers would increase their recruiting efforts. Further, the employers would increase use of overtime, reduce minimum qualifications for the job, restructure work to use less of the “shortage” occupations, substitute machinery and equipment for labor, train workers for the jobs, improve working conditions, offer bonuses to new workers, improve pay and fringe benefits, contract out work, and turn down work to reduce the labor shortage (Barnow, Schede, & Trutko, 2010).

2.3 Theoretical framework.

Many researchers have discussed and contributed their ideas on labour shortage in relation to organisation performances. The most popular among these theories are Douglas McGregor Theory X and Y. With Theory X assumptions, management's role is too coerce and control employees to perform since; People have an inherent dislike for work and will avoid it whenever possible, secondly People must be coerced, controlled, directed, or threatened with punishment in order to get them to achieve the organizational objectives, thirdly people prefer to be directed, do not want responsibility, and have little or no ambition and finally people seek security above all.

2.3.1 With Theory Y assumptions

Management's role is to develop the potential in employees and help them to release that potential towards common goals since employees view; Work as natural as play and rest, secondly People will exercise self-direction if they are committed to their own objectives, thirdly people are committed to objectives since it is a function of the rewards associated with their achievement, fourthly people learn to accept and seek responsibility, creativity, and imagination are widely distributed among the population therefore people are capable of using these abilities to solve problem hence these people are vital tool on organizational performance.

2.3.2 Herzberg Two Factor Theory

A two-step theory based on hygiene and motivator factor status, the equity theory which explains motivation in terms of trying to be like the Jones's - social comparison between themselves and their peers, the expectancy theory which indicates that people are motivated by working towards some sort of benefits or bonuses.

2.3.3 The Arrow-Capron Dynamic Shortage Model

Arrow and Capron (1959) developed an alternative model of occupational shortages. Their definition, which they refer to as a dynamic shortage, is based on the premise that “a steady upward shift in the demand curve over a period of time will produce a shortage, that is, a situation in which there are unfilled vacancies in positions where salaries are the same as those currently being paid in others of the same type and quality”. The Arrow-Capron model is characterized by increased demand. However, Arrow and Capron note that markets are characterized by a “reaction speed,” and that institutional arrangements (such as long-term contracts) and the time it takes for information to spread will affect the time required for employers to adjust wages. Thus, Arrow and Capron conclude that shortages will be characterized by vacancies.

2.3.4 The rate of return model

The “rate of return model” is based on the application of internal rate of return analysis to alternative occupations. The costs of investing in a particular occupation are defined as the sum of the direct costs for higher education, training, and supplies, plus the indirect costs of fore-gone wages that are incurred during periods of training. The benefits are the earnings typically derived from the occupation each year.

2.3.5 The Blank-Stigler Model

One of the first major studies of occupational shortages was conducted by *David S. Blank and George J. Stigler (1957)*. Blank and Stigler define a shortage as follows: “A shortage exists when the number of workers available (the supply) increases less rapidly than the number demanded at the salaries paid in the recent past”. Blank and Stigler then argue that to alleviate the shortage, wages in the occupation must rise, and some of the work formerly performed by the occupation with the shortage will now be performed by others.

2.3.6 Causes of labour shortage in Ministry of Water and Irrigation (MOWI) - Tanzania.

Before to explain the Cause of labour shortage there Indicators which demonstrates if there is labour imbalance in an organization these are, vacancy rate, unemployment rate, net vacancies and wages. Through that concept explain below as some causes of labour shortage in MoWI (*Shah & Burke, 2014*)

Geographical shortages

An area with a booming economy, but poor housing experiences much labour shortages than the rest of the economy. Tanzania has strong employment demand but suffers from high rent costs which make some region relatively unattractive to workers like Rukwa, Singida, Kigoma and Simiyu , this situation has created labour shortages in Water sector offices located in these regions because most of employees leave their jobs or get transfer to big Cities or town like Dodoma and Dar-es-Salaam. This point is associated with poor working condition. Rapid employment growth, low unemployment, and above-average wage growth are all consistent with a tight labor market and may signal the presence of a shortage(*Barnow et al., 2013*)

Likewise, high skilled jobs

Occupations which require particular skills/qualifications have only a limited pool of workers who can apply. For example, an occupation like Engineers and water technicians requires a lengthy training period. If there is a shortage, there will be a considerable time interval in training new workers. This have been experienced in Tanzania, thus why the recovery of MOWI labour shortage is very low regardless of government efforts.

Furthermore, unattractive jobs

In Tanzania most of water technicians upgrade their education skills and become promoted in engineer post hence in technical section remain a gap because that work is not much attractive like these of engineers there for most of people has negative social perceptions about the job, likewise in the Ministry of Water and Irrigation, water Technicians performs their works in difficult environments particularly in village area with low salary/payment and no any motivation therefore most of them they decide to run away from the organization.

Persistent increase in **labour demand** which outpaces the capacity of labour market to supply labour is low in Tanzania although now the government is trying to create stable labour market by the introduction of “*recruitment and selection secretariat*” which deals with employee selection from the market.

Social prestige

Job professions are not just about wages but the prestige attached. In Tanzania there has been a push to increase the rates of students studying at university particularly science subjects. For many schools and parents, vocational jobs, such as plumbing, electrician and technician are seen as relatively unattractive.

Fixed pay

in Tanzania Public sector jobs have pay determined by the government and not market forces. For political reasons, the government implement a sustained pay freeze – even in public sector occupations where shortages are beginning to show. This is often a problem for an occupation particularly to the laboratory technicians and Engineers, which is high-skilled but relatively low paid compared to private sector alternatives thus why in Tanzania most of engineers and laboratory technicians drop out from work. The assumption statistics of general labour wage in Tanzania is demonstrated below by the given *chart*:-

| |  TANZANIA |  MAURITIUS |  LESOTHO |  SOUTH AFRICA |
|------------------------------------|---|--|---|---|
| Current average manufacturing wage | \$0.51 | \$7.31 | N/A | N/A |
| Average wage 2011 | \$0.41 | \$4.18 | \$0.65 | \$7.46 |
| Current minimum wage | \$0.34 | \$0.45 | \$0.64 | \$0.90 urban \$0.77 rural |

*Comparison of hourly wages (in US Dollars) between Tanzania and some Sub-Saharan African countries
Source: National Statistics Services in these countries.*

Table 2: Labour wage

2.3.7 Impacts of labor shortage on organization performance.

National economic has been affected

Water sector is one of the vital sectors since the water sustainability always had a certain position in Tanzania. Water sector has generated large contribution and also created certain amount of financial sources to Tanzania although it is service oriented. However, the problem of labour shortage makes the whole water service development has calm down and the output of the service and sustainability it is reducing.

Service provisional cost increase

since water supply has faced the problem of labour shortage, therefore service costs has definitely rise at the same time(Datuk Michael Yam, 2005) views the rising in service costs can act as a major challenge to the water sector. It consists of the higher labour costs, pipes costs, and utility bills collections become high.

Low quality of work

Furthermore, the quality of water service datively to the societies have been greatly affected due to labour shortage particularly in rural areas. This situation forces some water offices to employ

unskilled labour and overloads the available employees since they have no any skills or knowledge with water issues hence the quality of service have been reduced for 40 percent.

Slow down the progress of water sector development

in this aspect, the problem of labour shortage have bring some effect on the speed of the water service progress. Less skilled labour, for example the unskilled labour is never been trained and without experience, thus they can't complete their task of water distribution and water service to the people, hence slow down the whole process.

Difficulties in controlling and managing

During the execution of water productions and projects, the problem of labour shortage have brought hardness in controlling and managing the time, cost and quality services. Employers may have to use their workers and equipment less efficiently than they desire, and this may result in lower output and reduced.

2.3.8 Solutions on labour shortage

To extend the retirement age

According to the (Datuk Lam Wu Chong, 2010). It is importance to extend retirement age of employees in order to utilize them effectively, for stance in Tanzania the retirement age is between 55 and 60, the private or government agencies need to take full advantage on this human resource. In the ministry of Water many employees are retiring and not there is no potential strategic to utilize them, therefor there is a great need to retain and reemploy them.

To attract the young generations

This group will be the next skilled trade labour in water sector. According to (Mwl J. K. Nyerere1967) young generation is the tomorrow's development if handled and used properly. Likewise water sector must attract and prepare young water expert in order to success the older/retired in avoiding labour shortage.

Restructure work in order to use current employees in other occupations

When employers gets difficult time in filling vacancies with workers in one occupation, it is sometimes possible to restructure the work to make use of workers in other occupations in order to avoid labour misuse.

Improve working conditions

Improving working conditions sometimes is an effective way to attract new workers and/or reduce turnover. Working conditions include factors such as hours worked, upgrades in equipment and facilities used by workers, and recognition of works.

To provide bonuses to new employees

although this approach is not commonly used, firms sometimes offer new employees bonuses for joining the firm. Signing bonuses are similar to paying current employees bonuses for recruiting new employees for occupations that are difficult to fill, except that bonuses go to the new employees rather than the current employees.

To improve wages and benefits

Based on the simple supply and demand curve analysis, increasing wages is an obvious way to increase the number of workers willing to work in a particular occupation. This increase employees motivation and commitment hence it is difficult to quit job.

The government should provide Education and Training

to the people, public employment service that cannot detect and address skill shortages is only part of the problem, as there has also been insufficient provision of quality research, education and formal training opportunities (Quirk, 2016). Therefore trainings shapes and motivate the minds of employees.

Provision of suitable incentives

“An incentive refers to one particular form of payment that is intended to achieve some specific change in behavior (Adams & Hicks, 2000)

The Ministry should create and find alternative labour source such as woman or ethnic group, managing labour migration also is very vital, The number of Tanzania workforce moving to various parts of the world to acquire strategic job opportunities. Likewise to improve Human capacity and elimination of all employment discrimination is very vital. The government also must introduce and create capable labour market institutions (Ministry of Labour and Human Resources, 2013).

3. Methodology

This study have used both qualitative and Quantitative method in describing the data, the use of mathematical models and statistics for analysis (Moore, 2016). This part explains the methodology employed in the research to get desired findings. It presents the research design, data collection methods, the study area, sampling methods, study population, sample size and data Analysis.

Sampling methods, the study have used stratified random sampling technique in selecting the samples. This technique was selected because it gives unbiased data covering the entire sub-groups in the organization such as the different departments of the organization. In this study 50 employees have been selected by random sampling method out from 250 as sample representative.

This study focused on both primary and secondary data source such as getting information through website: www.maji.go.tz, MOWI policy documents, annual reports, and Water supply regulations. Also primary data has been used such as online survey.

The study population comprises of the employees from Ministry of Water and Irrigation in Tanzania based on their job title such as management team, technical staffs and supporting staffs. A total number of employees were 50 given questionnaires and good enough all targeted population of 50 people returned the answers.

4. Research Hypothesis

There is positive relationship between labour shortage and organization performance, this mean that when there is labour shortage it affect organization performance badly. Organization depends on availability of labour to accomplish its tasks.

5. Data Analysis

In this study Data was analyzed through Frequency, Percentage, and statistic table as demonstrated bellows:

Table 3: Statistics graph of Urban Water Supply and Sanitation Authority in small Town and District Authority on labour shortage

| S/NO | Urban Water Supply and Sanitation Authority | Available employees | Needed employees | Shortage |
|------|---|---------------------|------------------|----------|
| 1 | Kiteto, | 110 | 180 | 70 |
| 2 | Same | 140 | 280 | 120 |
| 3 | Gairo | 95 | 190 | 95 |
| 4 | Magu | 86 | 190 | 104 |
| 5 | Monduli, | 150 | 200 | 50 |
| 6 | Hanang | 40 | 100 | 60 |
| 7 | Muheza | 30 | 90 | 60 |
| 8 | Wang'ingombe | 125 | 200 | 75 |
| 9 | Arumeru, | 180 | 300 | 120 |
| 10 | Htm | 110 | 250 | 130 |

Table 4. Statistical table on Urban Water and Sanitation Authorities (UWSAs) in Region Urban Area on labour shortage:-

| S/NO | (UWSAs) | Available employees | Needed employees | Shortage |
|------|-----------|---------------------|------------------|----------|
| 1 | AUWSA | 420 | 620 | 200 |
| 2 | BAWASA | 210 | 450 | 230 |
| 3 | BUWASA | 150 | 320 | 170 |
| 4 | DAWASA | 800 | 1008 | 2008 |
| 5 | DAWASCO | 1250 | 2000 | 750 |
| 6 | DUWASA | 360 | 500 | 140 |
| 7 | IRUWASA | 260 | 600 | 340 |
| 8 | KUWASA | 100 | 200 | 100 |
| 9 | LUWASA | 90 | 130 | 40 |
| 10 | MOROUWASA | 270 | 400 | 130 |
| 11 | MTUWASA | 70 | 250 | 180 |

| S/NO | (UWSAs) | Available employees | Needed employees | Shortage |
|------|----------|---------------------|------------------|----------|
| 12 | MUWASA | 205 | 400 | 200 |
| 13 | MUWSA | 75 | 135 | 60 |
| 14 | MWAUWASA | 280 | 400 | 120 |
| 15 | MBUWASA | 320 | 500 | 180 |

According to (Supply, 2009), In increasing and facilitating water distribution to all people in Tanzania, The Ministry of Water and Irrigation have created nine (9) Basic Water Boards and eight (8) National Water Project which deals with Water supply and protection in all zones of Tanzania as listed below:

Basin Water Boards, There are nine Water boards in Tanzania thus are:- Internal drainage Basin, Lake Nyasa Basin, Lake Rukwa basin, Lake Tanganyika Basin, Lake Victoria Basin, Pangani Basin, Rufiji Basin, Ruvuma and South river basin and Wami Ruvu.

National Water Project. There are eight water projects thus are:- Wanging’ombe National Project, Handeni truck main project, Makonde National Project, Mgango-Kiabakari National Project, Maswa national Project, Masasi- Nachingwea National Project, Chalinze National Project and Kahama-Shinyanga Project.

In every Basin Water Boards and National Water Project Offices there is a critical labour shortage particularly shortage of skilled Engineers and water technicians which hinder the sector to get its goal.

Table 5: Basin Water Boards, this table shows labour shortage in Board Zone Offices.

| S/N | Basin Water Boards | Available employees | Needed employees | Shortage |
|-----|-------------------------|---------------------|------------------|----------|
| 1 | Internal drainage Basin | 80 | 200 | 120 |
| 2 | Lake Nyasa Basin | 70 | 190 | 120 |
| 3 | Lake Rukwa basin | 200 | 350 | 150 |
| 4 | Lake Tanganyika Basin | 65 | 130 | 65 |
| 5 | Lake Victoria Basin | 200 | 400 | 200 |
| 6 | Pangani Basin | 150 | 320 | 170 |
| 7 | Rufiji Basin | 95 | 200 | 105 |
| 8 | Ruvuma and South river | 130 | 200 | 70 |
| 9 | Wami/Ruvu | 150 | 180 | 30 |

| S/NO | Nationa Water Project. | Available employees | Needed employees | Shortage |
|------|-------------------------------------|---------------------|------------------|----------|
| 1 | Wanging’ombe National Project | 40 | 65 | 25 |
| 2 | Handen truck main Project | 150 | 200 | 50 |
| 3 | Makonde National project | 125 | 150 | 25 |
| 4 | Mgango-Kiabakari National Project | 108 | 150 | 42 |
| 5 | Maswa National Project | 39 | 100 | 61 |
| 6 | Masasi- Nachingwea National project | 86 | 186 | 100 |
| 7 | Chalinze National Project | 78 | 120 | 42 |
| 8 | Kahama-Shinyanga Project | 110 | 200 | 90 |

Table 6: National Water Project.

6. Findings and Results of The Study

6.1 Demographic Characteristics.

A total of 50 staffs out of 250 technical staffs, management and supporting staff participated in this study by filing and returning the complete online survey questions. All participants were from MoWI- headquarter where this study focused as detailed in table7 and explanations below:

Table 7: Demographic characteristics of Gender, Age and Marital status

Descriptive Statistics

| Items | Frequency | Percent | |
|----------------|-----------|---------|-------|
| Gender | Male | 37 | 66 |
| | Female | 13 | 34 |
| Age | 18 – 29 | 11 | 22 |
| | 30 – 39 | 7 | 14 |
| | 40 – 49 | 11 | 22 |
| | 50 – 59 | 19 | 38 |
| | 60 –Above | 2 | 4 |
| Marital Status | Single | 13 | 26 |
| | Married | 33 | 66 |
| | Divorced | 4 | 8 |
| | Total | 50 | 100.0 |

The result of descriptive statistics displayed in the table above shows the demographic characteristics of respondent's gender, age and marital status. The result indicates that 37 respondents which count (66%) who participated on survey were Male while Female counts to 13 was (34%) of the respondents. These reveals further that there are slight differences between the male and female respondents which count to 32% difference. In terms of age variable, majority of respondents (14%) who participate to the survey belongs to 30-39 years old followed by respondents belonging to 18 – 29 years old (22%) and respondents with 40-49 years old were (22%) respectively. The respondents of 50-59 years old were 38% while 60-above years were 2 which count of (4%). On the other hand, the results show that, (66%) of respondents participate in this study were married (26%) respondents were single while divorced 8%.

Table 8: Demographic characteristics of job position and working experience

Descriptive Statistics

| Items | | Frequency | Percent |
|------------------|------------------|-----------|---------|
| Job Position | Management Team | 16 | 32 |
| | Technical staff | 20 | 40 |
| | Supporting Staff | 14 | 28 |
| | Total | 50 | 100.0 |
| Years Working of | Less than 3yrs | 5 | 10 |
| | 3 - 5yrs | 13 | 26 |
| | 6 - 10yrs | 20 | 40 |
| | 11 - 15yrs | 12 | 24 |
| | Total | 50 | 100.0 |

The result shows that 16 respondents 32% were Management team while 20 participants 40% were Technical staffs and 14 respondents account 28% were Supporting Staffs. Among these, 20 (40%) has work experience from 6 – 10 years, 13 of them 26% have worked for 3-5 years, 12 which count 24% have working experiences of 11-15 years and 10% have worked for less than 3 years.

Table 9: Demographic characteristics of Education

Descriptive Statistics

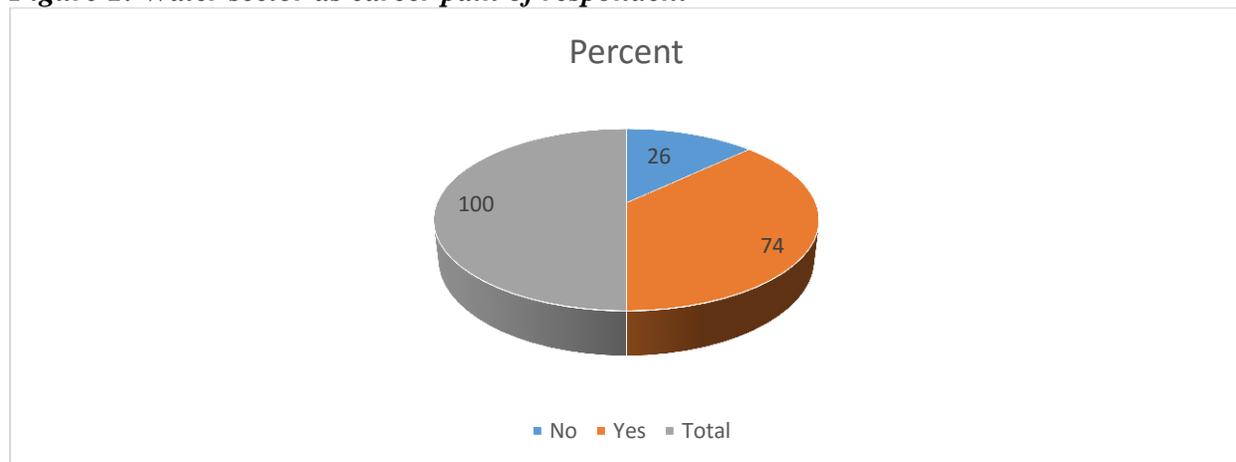
| Items | | Frequency | Percent |
|-----------|--------------------------|-----------|---------|
| Education | Non-Degree Holder | 10 | 20 |
| | Bachelor's Degree Holder | 26 | 52 |
| | Master's Degree Holder | 14 | 28 |
| | Total | 50 | 100 |

Comparing level of education, the analysis shows that, 26 participants (52%) have bachelor's degree, 14 (28%) has master's degree while only 10 (20%) participants are non-degree holder. This

mean that at MOWI most of people have bachelor degree and masters while few of respondents have diploma and certificate level. In 2017 the government of Tanzania decided to remove all standard seven from their job so as to get skilled and professional worker. MOWI gets many effects on this policy because most of employee's particular low level were standard seven.

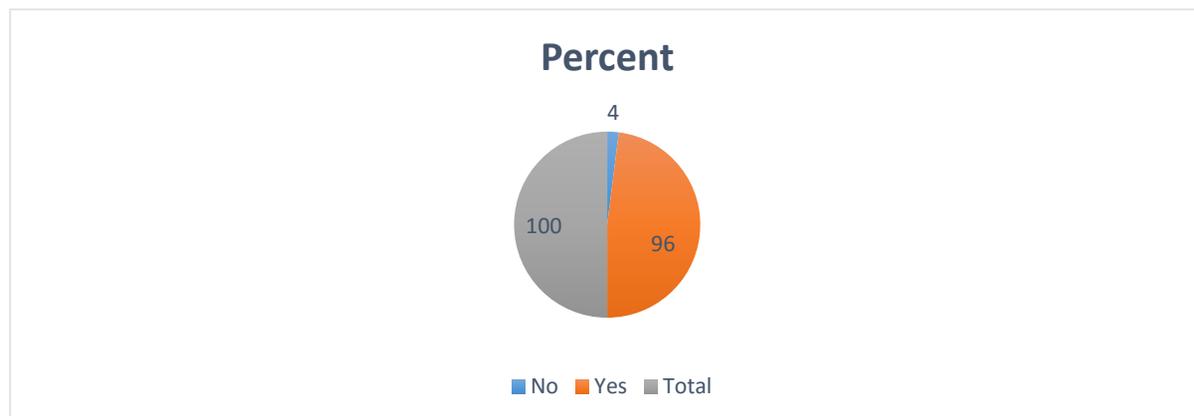
6.2 General Question: Yes or No

Figure 1: Water sector as career path of respondent



In this figure the analysis shows that 74% of respondent they have professional career with Water sector where by 26% have non-professional skills on water issues, This shows that in the Ministry there is mismatch of work due to shortage of manpower, you can find a supporting staff working as water engineer or technician's duties.

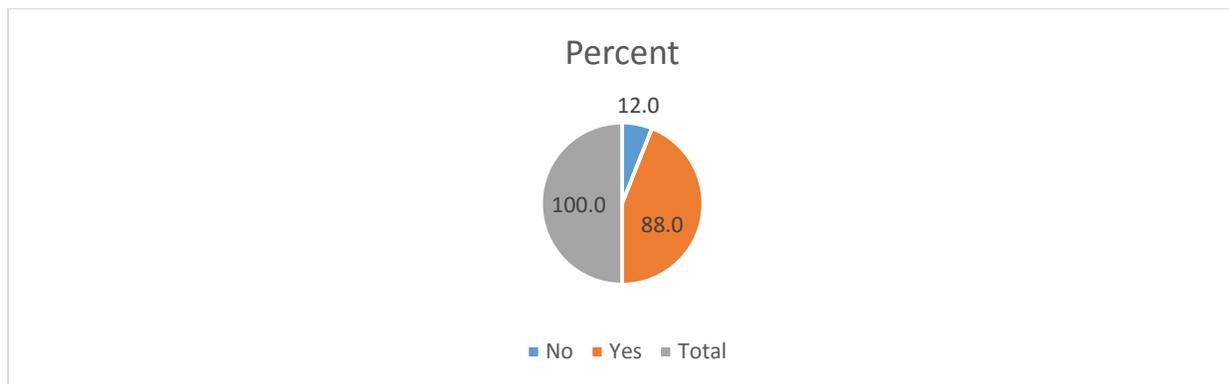
Figure 2: labour shortage as a major problem in MoWI- Tanzania



From the above analysis 96% of respondents agree that labour shortage is a major problem in Water sector in Tanzania while 4% disagree with the situation. Through this interpretation it shows that water sector is facing critical labour shortage both in rural and urban due to these reasons such

us:- Poor working condition, low salary, the situation of government to remove all standard seven in government service without positive alternative among others.

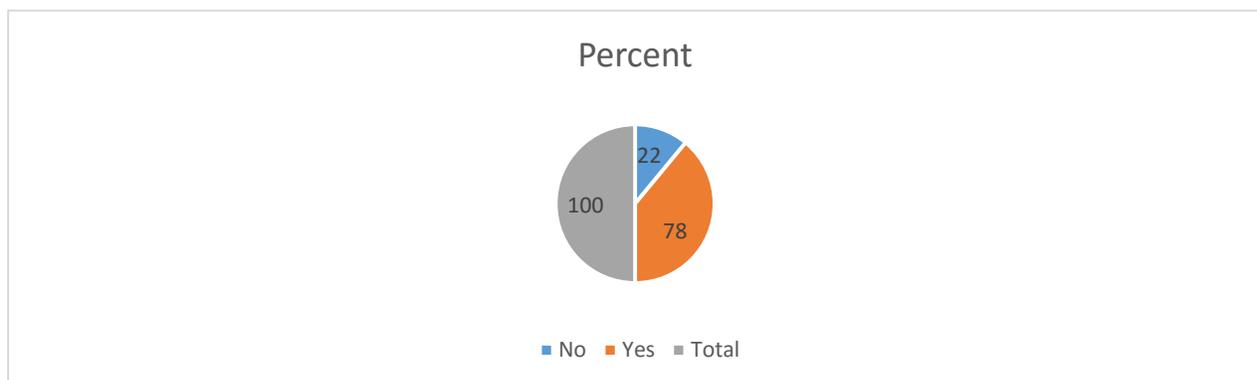
Figure 3: Aged manpower and low salary are major problems of labour shortage in MoWI



The chart illustrate that 88% of respondent do agree that having many aged manpower/retired manpower and paying low salary to the employees is the major sources of labour shortage in the Ministry hence poor performance. However 12 /% of respondents disagree on this aspect. Furthermore there many causes labour shortage out of the two mentioned above such as poor government policy, lack of motivation and poor working condition.

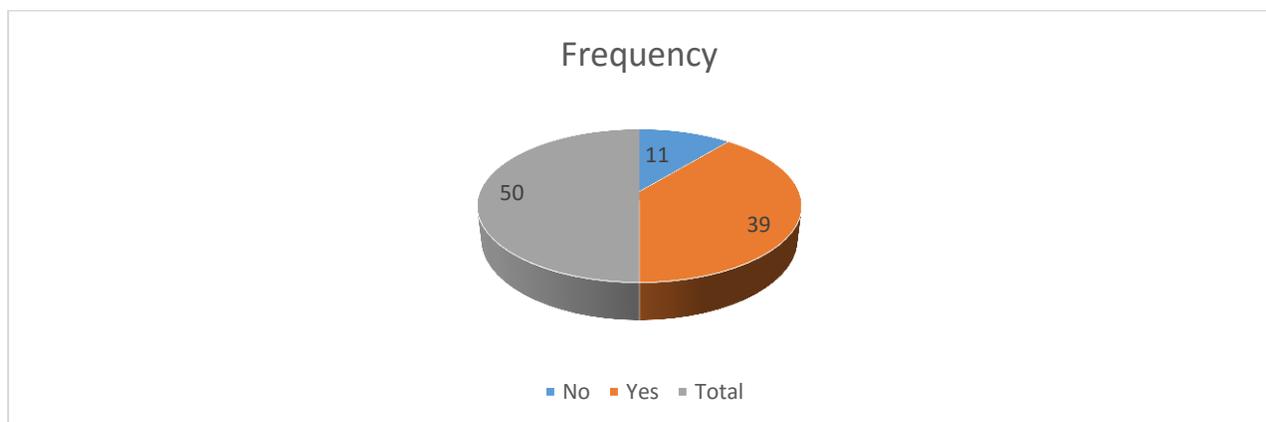
Furthermore, the overall limited of labour market, together with the high living costs to the employees led to the quits of employees from job(Arkani, Clarke, & Michielsens, 2003)

Figure 4: Skill training is sufficient for the new employees into MoWI



The chart shows that 78% of respondent appreciates and conduct the trainings offered by MoWI to the new employees (induction and orientation course) as stated in (Standing order, 2009) while 22% of respondents do not see the sufficient and effectiveness of training to new entrant employees. Likewise the organization shows that employees are getting induction course so as to enhance or increase their working capacity (skills and knowledge), regardless of 78% of respondent appreciate on training given but we cannot ignore 22% of respondents view, it still evident that here some challenges on induction and orientation course offered therefor there a need to solve them .

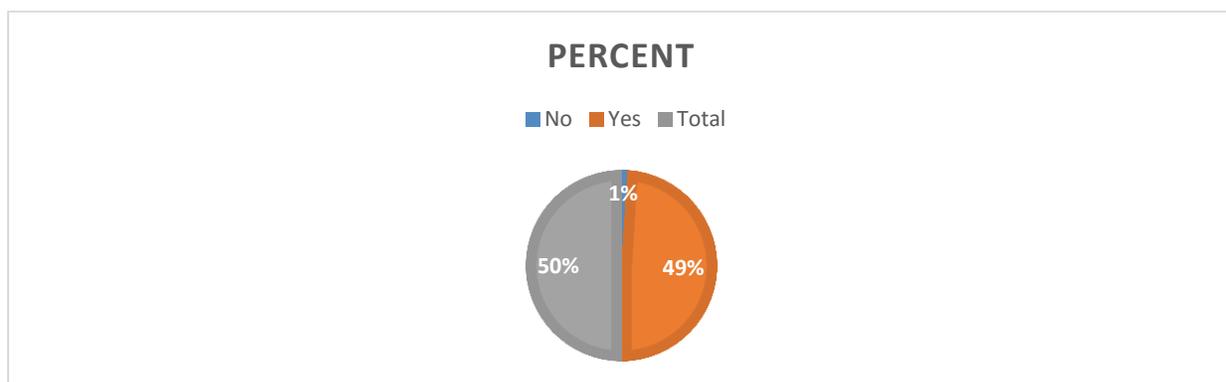
Figure 5: Mismatching skill training affecting the new entrant to state and continue work for the Water supply works



39% of respondents agreed that there is job mismatch at the ministry of water and irrigation in Tanzania which start even to new employees by assigning them works which does not suit with they are professional for stance a hydrologist to work as Water Resource Engineer. This situation is much dominant in MOWI as stated above by respondents' feedback.

6.3 Furthermore, after observing the challenge above the following mentioned here are some ways which can be used to eliminate labour shortage in the Ministry

Figure 6: To increase salary, this become major factor to motivate and encourage the workforce



The above analysis shows that 49% of respondent agree on the issue of high amount of salary / income as major factor to motivate and encourage the workforce while 50 do not agree on it while 1% of respondents didn't choose any side. Through this analysis it openly shows that salary is not only motivation factor to retain manpower in MOWI there are many factors such as employee recognition and good working condition can influence employee performance in an organization? 42% of respondents strongly agree on employee recognition and good working condition as an influence agent of employee performance in an organization, 28% of respondent agree while neutral and strongly disagree there are 12% as well as 6% only disagree on employees recognition. This mean that most of people need recognition in their works as well as security.

Likewise, 80% of respondents strongly agree on the benefits and contribution of good working environment and government policies on removing labour shortage in an organization. The government need to look more on the two aspect because good working environment can bring employees motivation, trust, satisfaction and commitment hence employees will not run or quit from work, good policies also contributes to good implementation of projects and plans.

7. Discussion and Research Gaps

Some scholars believe that increase in demand is only one possible cause of labour shortage. This believe was given by Blank-Stigler model which ignores other possible causes of labour shortages, while the reality is that there other many factors which causes labour shortages and they need faster and close attention to stop the problem such us lack of motivation, poor working condition and poor policy. In another side Blank-Stigler model indicate that a shortage can be identified by rising wages in the affected occupation, but in reality there other factors to be considered like creating good and friendly working environment and creating good employees policies.

Some of the labor shortage concepts that have been proposed, such as looking at the total amount of labor supplied and the potential economy-wide mismatch between employer needs and worker qualifications, are important, but they are not relevant to the study of occupational shortages particularly in the modern and technological world.

It is truly that Labour shortage is a major challenges on organizational performance as discussed by many scholars above but there are other factors which goes together with labour shortage on poor organization performance like poor technology and lack of innovative which have not discussed. Likewise the case of labour shortage can be solve by adopting new technology instead of employing new employees as many concepts from different scholars explain and believes.

8. Conclusion and Recommendation

Tanzanian suffers considerable human resources problems including inadequate staffing and imbalances in deployment and retention of professional water technical experts and supporting staffs between rural and urban areas, this become a major factor that undermines service delivery and the performance of water sector as a whole. Some of the factors that underlie these human resources constraints, which also affect other national sectors, relate to problems of poor economic performance and management. Power working environment, lower wages and poor policies resulted into a severe brain drain, especially in the water and health sector.

Recommendations, The government of Tanzania should create more and friendly water policies and conducive working environment in order to reduce the problem of labour shortage in water sector like to have balance uniformity salary for all government workers particularly for those who have same level and these who are working in rural area.

Abbreviation.

MOWI- Ministry of Water and Irrigation.

LGAs- Local Government Authorities

COWSOs-Community Owned Water Supply Organizations

NWSDS- The National Water Sector Development Strategy

WSDP- The National Water Sector Development Programme

Declaration.

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Authors' contributions. Due to the experience I have in the Ministry of Water about labour shortage, it forced and contributed me to come up with this manuscript after I have seen the poor performance caused by poor working condition, lack of employee's motivation and poor policy in the ministry. I have read and approved the final manuscript.

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