

# Improving Socio-Ecological Environment to Promote Academic Staff Retention in Tanzanian Universities: Case Study of the University of Dodoma

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## Abstract

Academic staff mobility is a common phenomenon worldwide triggered by socio-cultural and scientific exchange and/or labour market reform. This work reported here is my Project Action Plan (PAP) training assignment under the DIES International Dean's Course Africa held in Germany, Kenya and Ethiopia between 2013 and 2014 with the initial objective of improvement of academic staff retention at the School of Biological Sciences at the University of Dodoma (UDOM). However, during the process, the management of UDOM requested the change in the PAP to include the analysis of socio-ecological factors that trigger the staff emigration among various universities in Tanzania, using the University of Dodoma as an example and not only one school at the university. This study was conducted between July 2013 and February 2014. The data were collected through a questionnaire survey to academic staff using the formulated group email for all academicians. About 236 academic staff took part in the study. Results indicate that the most important factors influencing mobility are income, incentives, marriage and quality of leadership. It was also observed that junior academic staff members of the age ranging between 30 and 40 years, most of them being male, migrate more often. Regarding the training requirement for effective leadership and general management of departments and faculties/schools, the majority (42.8%) of respondents suggested the head of departments to be given high priority while 26.7% suggested the school deans. Department heads and school deans are just appointed without considering their experience in leadership or background training in such discipline. The final logistic regression model of willingness for the academic staff to emigrate or stay – if independent variables such as incentives, social

services, staff development, good leadership, income and environmental conditions are improved at the universities – suggested the following variables: leadership, incentives and staff development as the best predictors. Although improvement of working environment that include incentives to staff may need substantial amount of money, it is important for academic departments in collaboration with the directorate of human resources to develop suitable staff retention scheme such as sponsoring their training and or research projects. It is recommended to run short courses in human resource management for head of departments and school deans for effective leadership as does DIES International Deans' Course Africa. Academic staff should be encouraged to write research proposals, engage in consultancy works and run short courses – to increase staff income. As for top effective leadership, refresher training programmes should be given an upper hand. It is recommended further that more female staff be encouraged to apply for teaching opportunities at universities because they do not migrate often.

## 1 Introduction

Since 1970s, there has been a great expansion in higher education enrolment across the world. In 2009, over 165 million students participated in higher education, which is a five-fold increase since 1970 and a three-fold increase since 1980 (Knight, 2003). A growing trend is also seen in cross-border higher education, which is characterized by the movement of people (students, professors, scholars, researchers, experts and consultants), programmes (courses, academic programs and degrees), and providers (institutions, consortia and companies) across national borders (Knight, 2006). Increasingly, students from one country go to pursue post-secondary education in another country, and academic staff from one country travel to pursue academic activities or the academic profession elsewhere. The implementation of the General Agreement on Trade in Services (GATS) by the World Trade Organization (WTO) in 1995, which included education as one of the 12 service sectors and recognized it as a tradable service (Knight, 2003; Knight, 2004), has given a significant boost to this cross-border higher education movement.

Following the professional importance, the academic staff may move from one university to another searching for appropriate positions based on their qualifications. Thus, academic staff mobility in higher education is not a new phenomenon in universities. Generally, the universities from their original set up have always been international institutions in their composition, although today, despite their international character, universities have turned to be the national

institutions in their main function and the way they are financed (Byram and Dervin 2008). This is due to the fact that what students can afford to pay is far less than the funds contemporary universities need for teaching, administration and, above all, for research. Thus, the universities have had to be partially financed by the state, in the majority of cases and in most countries of the world. This may suggest that for poor states in Sub-Saharan Africa and Latin America, the university functions and services are relatively poor, a situation that forces academic staff to migrate to others countries with relatively better conditions.

The academic staff mobility is triggered by a number of reasons including socio-cultural and scientific exchange and/or labour market reform (Cradden, 2007). From the socio-cultural and scientific perspective, a degree of academic staff mobility is considered useful and is desirable in itself, whether for individual members of staff or for the institutions and systems in which they work. Scholars in Europe, who favour the “Bologna Process” which aims at increasing higher education staff and students mobility, recognize the universal value of the exchange of different types of knowledge, interpretations of society, and pedagogical approaches. Cradden (2007) further states that one must realize what academic profession is rooted in and how it is an important contributor to national cultures. Quoting Nunn (2005), “education is a process of re-learning the collective knowledge of society for each successive generation and learning from social and political mistakes. It is thus a core mechanism in cultural reproduction and historical social learning and development.” The existence within national higher education systems of distinctive cultural perspectives on particular areas of knowledge is precisely what gives mobility its value. The author argues further that there is a point at which the mobility of ideas and personnel reaches such a point that there is a danger of a cultural homogenization that may undermine the goals of mobility (here assumption is made that incoming staff will bring in the new and suitable culture from home institute or country) – although this is clearly rather less of a risk for the natural sciences (that deals with natural phenomenon that use basic and common approach and not cultural perspectives that are more or less specific to certain tribe, nation or continent) than it is for the humanities and social sciences. Nunn (2005) suggests that it should be borne in mind that from the socio-cultural perspective, the desirability of academic staff mobility is not without its limits.

Another school of thought suggests that policies on higher education reform elsewhere were not driven purely by the wish to realize the intrinsic benefits of staff mobility, but by the wish to proceed rapidly with labour market reform

i.e. a commitment to the principle of investing in and allocating human capital on a competitive basis: The ‘supply’ of higher education should respond to the ‘demand’ for different types of labour and knowledge articulated in the labour market rather than to any social, political, cultural or administrative aims arising outside it (Lambert and Butler, 2006). It is one of the implied premises of the Bologna Process that European higher education institutions have to move towards a market-focused decision-making paradigm. This is entirely consistent with the observation in the higher education management literature that institutional strategy is increasingly driven by the aim of responding to the market demand for particular types of educational provision and research rather than being guided by some socio-cultural definition of the appropriate areas of academic endeavour (Chevaillier 2000; Enders, 2000; Savage, 2004). There is also some empirical evidence supporting this claim. Research carried out in Europe found that the most converging development in working conditions of staff in European higher education is the increasing demand made on academic staff to participate in commercial activities and commissioned research (Gornitzka and Langfeldt, 2005).

This work reported here is my Project Action Plan (PAP) training assignment under DIES International Dean’s Course Africa held in Germany, Kenya and Ethiopia between 2013 and 2014. The initial broad objective of my PAP was to improve the academic staff retention at the School of Biological Sciences at the University of Dodoma (UDOM). However, during the process, the management of UDOM requested the change in PAP to include the analysis of socio-ecological factors that trigger the staff emigration among various universities in Tanzania, using the University of Dodoma as an example and not only one school at the university. Specifically, this work explores the influence of social relations such as leadership, marital status, staff development schemes and the working condition on the decision by academic staff to stay or emigrate. In addition, the ecological parameters that may influence the desire for stay or emigration were also analysed.

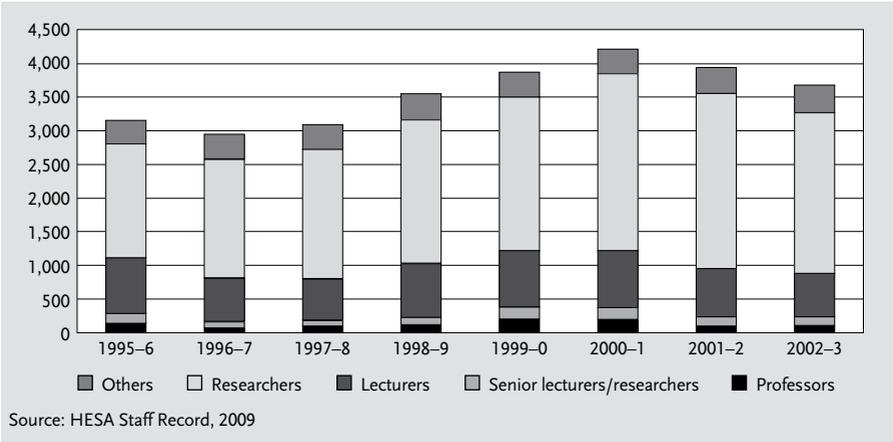
## **2 Migration of academic staff in Europe: A lesson from United Kingdom (UK)**

The classic study on academic staff migration has been conducted in UK where for the past 40 years debate was held among academicians about academic staff mobility. The focus was on emigration from the UK where a strong belief was that the UK had been suffering from a brain drain (Bekhradnia and Sastry, 2005).

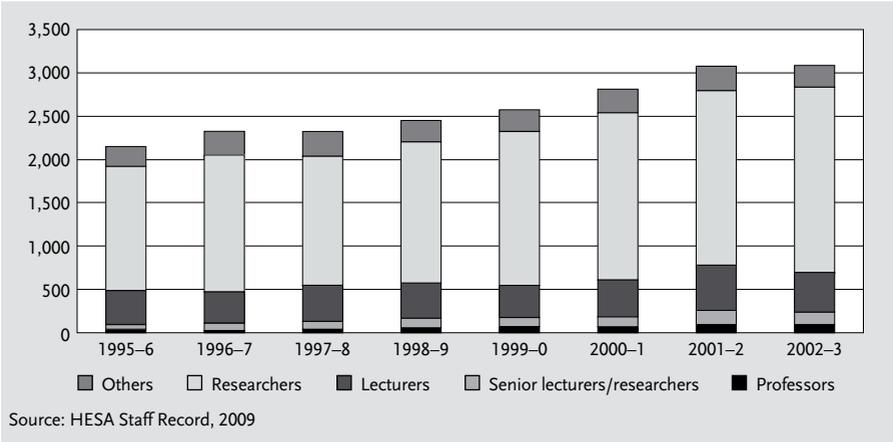
However, in recent years it has been realized that there is gain to the UK from migration as well as a loss (Wächter, 2006). The term ‘brain drain’ originated in the late 1950s and was probably first given prominence by a Royal Society report in 1963. Prompted by concern at the loss of a number of outstanding scientists in the previous five years, including nine of its fellows, the Society surveyed over 500 heads of departments in its disciplines. From the responses it estimated an annual permanent emigration of some 60 university staff per year and that this rate had increased threefold over the previous decade; for recent PhDs, the rate of permanent emigration was estimated at 140 a year (12% of the total output) (Bekhradnia and Sastry, 2005).

In the following years, the issue was addressed in a number of further inquiries and reports. All were focused on outward migration, and mobility was seen in terms of the risk of intellectual seepage – particularly from Europe to the USA; that was termed a ‘brain drain’. Only with the Royal Society’s 1987 report ‘The migration of scientists to and from the UK’ (Bekhradnia and Sastry, 2005) tried to address the issue of inward migration as well. This survey of universities, research institutes and industry sought evidence for the previous 10 years. In the university sector of UK, the report suggests that 740 emigrants were identified, averaging 74 annually compared with 60 annually in the 1963 report. Five hundred fifty six (556) academic immigrants were identified, including 140 who were British nationals. The report concluded that the brain drain was – in net terms – small scale, though still a cause for concern. A subsequent Royal Society paper “Migration of scientists and engineers 1984–1992” (Ringe, 1993 as cited by Bekhradnia and Sastry, 2005) largely confirmed these findings. Thus, ‘Brain drain’ was the sole concern in the 1960s and – as the pejorative nature of the term suggests – it was regarded as a threat to UK science (Bekhradnia and Sastry, 2005; Wächter, 2006).

Analysis of the Higher Education Statistical Agency (HESA) data suggests that over the entire 1995–6 to 2002–03 periods there was substantial net immigration – on average about 1.4 academic staff arrived for everyone who left. However, over the past two years there has been a decline in the level of net immigration, although it remains strongly positive. Over the period 2.6% of academics immigrated and 1.9% emigrated. Both immigration and emigration rates have tended to increase throughout the period even as the total staffing complement of the sector has increased (HESA, 2009).



**Figure 1a:** Immigrants by grade from 1995-2003 (Source: HESA Staff Record, 2009)



**Figure 1b:** Emigrants by grade from 1995-2003 (Source: HESA Staff Record, 2009)

According to HESA report (2009) that is illustrated in Figure 1a and 1b below, migration is overwhelmingly a phenomenon affecting junior staff. Staff on researcher grades account for roughly two thirds of migration in both directions (and indeed about half of all migrations in both directions are accounted for by non-UK nationals on researcher grades). This strongly suggests that the overall figures for migration

are heavily influenced by a large group of postdoctoral researchers who spend (and possibly intend to spend) only a limited time in the UK. Migration of this type would be unlikely to have disruptive effects upon UK academic departments. The absolute numbers of emigrants and immigrants at senior levels are not high and migration rates are low (emigration of lecturers, senior lecturers and professors is under 1% throughout the period, immigration rates are slightly higher and fluctuate a little more, probably because of the impact of the Royal Academy of Engineering (RAE) cycle on recruitment behaviour).

### **3 Academic staff mobility in Africa**

Generally sub-Saharan Africa is the region that faces the greatest challenges in the provision of higher education, despite very substantial increases in enrolment, with an average annual growth rate of 8.4% over the past four decades, compared to 4.3% for the world as a whole (UNESCO-UIS, 2010). Currently, over 4.8 million students are enrolled in higher education institutions in Sub-Saharan Africa (UNESCO-UIS, 2010). This number represents a twenty-fold increase since 1970, when total enrolment was less than 0.2 million students for the entire sub-Saharan region (UNESCO-UIS, 2010). At the current rate of expansion, it is projected that by 2015 Africa will have twice as many tertiary students as in 2006 (i.e. about 18.6 million enrolments in 2015) (World Bank, 2010).

Expansion of enrolment of students in the region would need to go hand in hand with expansion of higher education institutions as well as academicians. However, expansion of academic institutions as well as building capacity of academicians require substantial amount of money that most poor sub-Saharan Africa countries lack. Thus, discussions about mobility, especially outside Africa continent often considers the broader context that characterizes the continent, particularly with respect to access to and the quality of higher education, as they relate to the formation of the human capital needed to accelerate economic growth and sustainable development (World Bank, 2010). However, it is important to note that debates on mobility of African students and academic staff often result in mixed views. Academic mobility can, in fact, be a double-edged sword (UNESCO-UIS, 2010). The report suggests that large numbers of African students and scholars pursue opportunities out of Africa; which in a way is viewed as a positive trend, given the expectation that countries and the continent will benefit from foreign experiences and expertise. Unfortunately, a significant number of individuals who pursue these opportunities out of Africa do not return, thus depriving the continent

of the critical human resource capacity needed for its development. Indeed, many view this 'brain drain' as the biggest challenge to development in Africa. Not only does brain drain lead to very substantial outflows of African graduates and scholars, but it also comes at a considerable financial cost (UNESCO-UIS 2010). It has been estimated that each year \$4 billion is spent on salaries for approximately 100,000 western expatriates who "help make up the loss of professionals in sub-Saharan Africa" (Teichler and Yağcı, 2009).

#### **4 Academic staff mobility in East Africa**

At dawn of independence in East Africa (early 1960s), Tanzania, Kenya and Uganda shared one public university at Makerere in Uganda with two sister colleges in Nairobi and Dar es Salaam (Owuor 2010). Soon after independence, the two colleges transformed into national universities though the academicians from the three universities engaged in numerous joint initiatives in all areas of teaching, research curriculum development and examinations. These joint initiatives provided students with considerable transfer credits opportunities from any one of the three universities in any degree programs. All went well as long as the regional political union, the then East African Community existed. Unfortunately, when the Community disintegrated in 1977, each country established different education policies. Despite the fact that the Inter-University Council for East Africa (IUCEA) seemed to be existing, its technical role in fostering uniformity diminished over time since each of the initial three universities in the region pursued a different academic calendar prohibiting mobility of especially students.

Following the separation of the universities, demand for academicians as well as graduates increased in the three countries. Thus, each country was forced to expand higher education institutions and focused on building capacity for both academicians and other civil servants. This encouraged development of a number of public universities and colleges in the region. The expansion of higher education institutions did not respond arithmetically with the number of candidates seeking admission into those public universities; many qualified form six (for Tanzania and Uganda) or form four (for Kenya) students were denied admission to join the universities. To solve the problem, it was wise to encourage the private sectors to establish universities as well. To date in Tanzania, for instance, there are 28 universities, 19 recognized university colleges and 14 centers/institutes (TCU, 2013). Of these, 11 are public universities, four are public colleges and three are recognized centers/institutes owned by public. According to CUE (2013), there are

22 public universities and nine public university constituent colleges in Kenya. Of the 22 public universities, only seven are chartered while only one constituent college is chartered out of nine operating colleges. Moreover, the report suggests that 17 chartered private universities and five university constituent colleges are operating in Kenya. Twelve more private universities in Kenya are operating with only Letter of Interim Authority (LIA) while two private universities have been operating before the existence of CUE in 2012. In Uganda, there are five and 30 public and private universities, respectively. However, out of the 30 private universities, only three are chartered (Moses Kibrai, personal communication, 2014). The challenge that currently exists among universities in East Africa is to have an adequate number of qualified academic staff. This inadequate number of staff is partly caused by expansion of higher education institutions in the region and/or partly due to brain drain to developed countries with better salaries and better working environment. As for other people in the society, academicians in the region have also being hit hardly by HIV/AIDS. As Owuor (2010) put it “Kenya is at the core in number of skilled Africans leaving African for better jobs and other opportunities abroad. A country with relatively high educated levels dying of HIV/AIDS in the continent, Kenya is experiencing high impact of both emigration and terminal brain drain-death”. The author continues further that of one million Kenyans’ in the developed world, 40% were drawn from universities and research centers. In his conclusion, Owuor (2010) point a finger at a lack of adequate salaries, poor policies, political instability and working condition as the reasons for such emigration outside Africa.

Coping with the existing problem of inadequate academic staff in the region, staff mobility within and among the East African countries is inevitable. However, due to a lack of clear national and/or institutional policies regarding academic staff mobility in the region, there is limited mobility within and among the three countries in the region. According to Owuor (2010) the limited existing avenues that allow academic staff mobility either internally in the respective country or within the region include: external examinations, postgraduate degree programs, collaborative research, sabbaticals and appointment to various departments.

## **5 Description of the Study Area**

This study was conducted between July 2013 and February 2014 at UDOM, that is located 8 km East of Dodoma town centre, the capital city of Tanzania.

## 5.1 UDOM

UDOM was established on 28<sup>th</sup> March 2007 by the Government of Tanzania under the Universities Act of 2005 and its Charter (UDOM 2008). The first academic programmes commenced in the same year. UDOM Charter 2007 gives the university a broad mandate to initiate and conduct basic and applied research in the fields of natural sciences, information and communication technology, business, education, health, social sciences, humanities, earth sciences, and any other area of learning and knowledge generation so as to bring changes in the social and economic development in Tanzania. UDOM is designed to be a comprehensive university that will train and produce competent human capital in professions necessary for economic and social development. This is a part of the overall national efforts to enhance economic growth, reduce poverty and improve social wellbeing (UDOM, 2008).

The University has been designed on a campus college mode with each of the colleges being semi-autonomous. In its structure, six colleges are currently fully established since the 2012/13 academic year. These colleges include: College of Education, College of Humanities and Social Sciences, College of Informatics and Virtual Education, College of Natural Sciences and Mathematics, College of Health Sciences, and College of Earth Sciences.

Academically, the University of Dodoma has made good progress in terms of student enrolment and the number and quality of academic programmes. In the first academic year of 2007/2008, the university enrolled only 1,200 students in different degree programmes. In the academic year 2008/2009, 7,000 students were enrolled in different undergraduate as well as 12 postgraduate degree programmes offered in the then three colleges and one school. The following years the university enjoyed an expansion of various degree and non-degree programmes that attracted more enrolment of students into those programs. In the academic year 2013/2014, the total enrolment of students stands at 13,950. When fully operational, the university will enrol 40,000 students. The number of academic staff in different ranks has increased from 97 in 2007/08 to 840 this academic year (2013/2014). The majority (approximately 90%) of the academic staff are young graduates and hence a potential to the university.

## 5.2 Data collection

The target population for this study were all academic staff at UDOM. The UDOM Academic Staff Association (UDOMASA) created a google groups email

address for all academic staff for easy communication among the staff. Using this email address (udomasa2011@googlegroups.com), it was possible to send the questionnaire template at once to all members including those who emigrated elsewhere whose addresses are still retained. For those academic staff who emigrated and whose addresses were not included in the google group mail, the questionnaires were sent to their new addresses (n = 12). The assumption was made that academicians would support this kind of survey and that at least 20% of all 840 academic staff members would respond positively by filling in the questionnaires correctly and completely. Sending questionnaires to respondents has some limitations. According to Milne (1999) disadvantages of questionnaire surveys are:

- Questionnaires, like many evaluation methods, occur after the events, so participants may forget very important issues.
- Questionnaires are standardized so it is not possible to explain any points in the questions that participants might misinterpret.
- Open-ended questions can generate large amounts of data that can take a long time to process and analyse.
- Respondents may answer superficially especially if the questionnaire takes a long time to complete.
- Respondents may not be willing to answer the questions. They might not wish to reveal the information or they might think that they will not benefit from responding perhaps even be penalised by giving their real opinion.

This study considered the raised weaknesses of questionnaire surveys and therefore conducted a pilot study with academic staff at the School of Biological Sciences and then did the adjustment for the final template which was used for the questionnaire administration. All staff members (840) from the list were included with the assumption that some may not answer the questions completely or can answer them partially but yet the sample size remain large enough to warrant for meaningful interpretation. Any questionnaire that was not completely answered was rejected. The names of the respondents were not included; hence the reply though came from known addresses but were only downloaded and printed by an assistant. More information was gathered through consultation and literature review. Only 12 questions were set that took about 15–20 minutes to complete, thus the common mistake of asking too many questions was avoided. Furthermore, in the email sent, the respondents were told why the information is being collected and how the results will be beneficial and were asked to reply honestly and that if their responses were negative this was just as useful as more positive opinions.

Secondary data were obtained from the office of human resources at UDOM. In this office, the information of all academic staff that resigned or were terminated between 2009 and 2013 were obtained.

### **5.3 Statistical analyses**

All analyses were performed using SPSS 18 statistical package for window (Kinner and Colin 2007). Descriptive statistics were calculated as percentages. A multinomial logistic regression analysis was applied to predict the independent variables (covariates) that could explain the degree of variation in the willingness of academic staff to resign or emigrate to other university (dependent variable). The covariates included income, incentives, social issues, staff development (training), environmental condition and effective leadership. For all tests,  $p < 0.05$  was considered statistically significant.

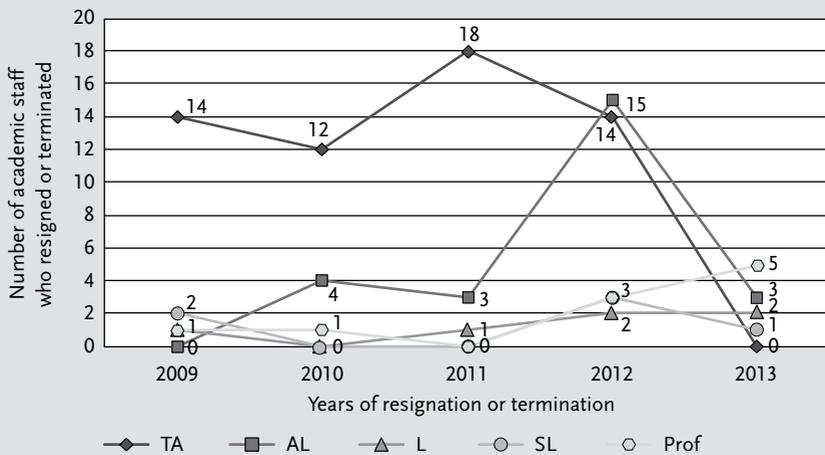
### **5.4 Results**

#### ***5.4.1 Demographic characteristics of the respondents***

Of all 840 academic staff whose email addresses were used to submit the questionnaires, only 236 (28.1%) members responded. Among the respondents that answered the questionnaire completely, 10.6% were foreign staff from different nations like Russia, USA, Kenya and India who are currently working at UDOM while 89.4% were natives ( $n = 236$ ). Majority were male (69.5%,  $n = 236$ ) of age ranging from 31–40 (61%,  $n = 236$ ) years. The second group that responded highly was a group with age ranging between 51–60 (23.7%) years while the least group that scored only 15.3% represented the age group 41–50 years. Of all academic staff interviewed junior staff (tutorial assistant and assistant lecturers) and senior lecturers scored similar frequencies (45.8% each) while only 8.4% were professors (both associate and full professors). When requested to produce the period one stayed in the current rank he or she serves, 15.3% claimed to stay in the current rank for one year, 45.8% stayed for two years, 30.5% stayed for four years while only 8.5% stayed for three years. None stayed for less than a year.

#### ***5.4.2 Academic staff migration at UDOM***

UDOM as a newly established university is experiencing immigration as well as emigration of academic staff in the form of recruitments and resignations or terminations due to failure of fulfilling the requirements stipulated in the employment contracts signed by staff. Figure 2 show numbers of staff that resigned and/or terminated from the university from 2009 to 2013.



Source: Analyzed from UDOM-Human Resource Record (2014)

**Figure 2:** Number of academic staff who resigned and/or terminated from duties from 2009 to 2013

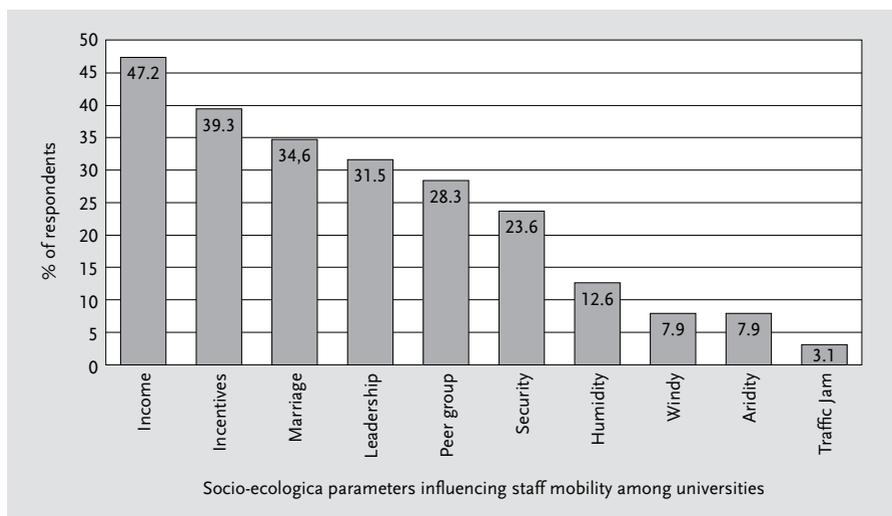
### 5.4.3 Reported reasons for academic staff emigration from UDOM

Various reasons were pointed out by respondents to be the cause of academic staff emigrating from UDOM to other institutions. These reasons were grouped into six categories namely working environment, social issues, staff development, environmental conditions, income and leadership (Table 1). When the similar question on the cause of staff mobility was asked later in different format and approach, where the respondents were requested to choose the most important socio-ecological parameters that might trigger the staff decision to emigrate from UDOM or stay listed in a table format, the income scored the highest, followed by incentives, marital status and leadership (Figure 3).

	Frequency	Percent*
Working environment (promotion criteria, recruitment procedures, provision of accommodation, housing allowances, transport, suitable lecture rooms, provision of furnished offices, class size, provision of teaching aids, communication facilities i.e. internet services)	182	77.1
Social issues (marriage and/or family unity, friendship, maternity leave, health service, loans)	154	65.3
Staff development (i.e. training)	77	32.6
Environmental conditions (earth-quakes, thunderstorms, food and water availability, traffic jam, humidity, aridity, windy, dusty)	69	29.2
Income (Salaries)	63	26.7
Effective leadership (ethical relationship between superiors and subordinates)	45	19.1
<b>Total</b>	<b>236</b>	

\* The percentage total exceeds 100% due to multiple responses.

**Table 1:** Reported causes of academic staff emigration from UDOM



**Figure 3:** Socio-ecological parameters claimed to cause staff mobility among universities arranged in order of importance

#### ***5.4.5 Age group and sex of academic staff who emigrate often from UDOM***

One of the questions that were included in the questionnaire required respondents to suggest –based on their experience – the age group and sex of the academic staff who emigrate more often from UDOM to other institutions. Of all age groups listed in the questionnaire, 84.7% (n = 236) of the respondents claimed that the academic staff of the age ranging between 31–40 years are the ones who migrates more often. The age group 20–30 scored only 15.3%. When requested to suggest the sex of academic staff who emigrate more often, 80.1% (n = 236) claimed that males are emigrating more often than females (19.9%, n = 236).

#### ***5.4.6 Effectiveness of leadership at various levels of the university administration***

Assumption is made that good and effective leadership that adhered to ethical procedures when dealing with employees' issues would promote job satisfaction and therefore the employees would like to serve the institute for longer period of time. When a leader embraces ill-practices like nepotism, tribalism and corruption in selecting staff for promotion or dictating them when discharging his or her duties, some staff members who feel oppressed become unhappy and might seek for an exit. Included in the questionnaire, a question was set to assess the effectiveness of leaders at various levels of the university. Specifically, the respondents were requested to report if they had ever experienced any problem with their leaders at any level when performing the assigned duties. Of all respondents, 55.5% (n = 236) admitted that they had some kind of problems with their leaders regarding misconduct of assigned job or just misunderstandings. When requested to suggest if the decisions made towards them were correct and that the leaders followed the stipulated "Standing Orders" for civil servants when correcting the mistakes the staff conducted, of all respondents that admitted to had had some problems with their leaders (n = 130), 50.7% had an opinion that the leaders did not make correct decision based on what is stipulated in the work policy while 49.3% approved that the decisions made towards them were correct. To explore more on the leadership quality and effectiveness at different levels of the university organs, the respondents were requested to list down, based on their experience, the levels that need more leadership training for effectiveness and efficiency. Table 2 summarizes the opinions of the respondents.

Category	Percentage (%), N = 236	Rank
Head of Departments	42.8	1
Dean of Schools	26.7	2
Principal of Colleges	13.1	3
Directorate of Human resource	7.2	4
Office of Deputy Vice Chancellor-Personnel, Finance and Administration	3.4	6
Office of Deputy Vice Chancellor-Academic, Research Consultancy	4.7	5
Office of Vice Chancellor	2.1	7
<b>Total</b>	<b>100.0</b>	

Table 2: The opinions of the respondents regarding the training requirement for effective leadership at different levels of the university organs

#### 5.4.7 Multinomial logistic regression

A multinomial logistic regression analysis was applied to predict parameters that could explain the willingness of the academic staff resignation or emigration from UDOM. The question requested the respondents to give their opinions whether they would like to resign or move to other universities or not, if UDOM improves the variables like income, incentives, working conditions, social environment, leadership quality, provision of scholarship, and if environment is conducive, all of which have been reported to influence emigration decision (Table 1). Of all 236 respondents interviewed, 62.3% claimed that they would remain at the University if the variables are improved while 20.3% willing to resign despite the improvement made while 17.4% were indifferent. The model fit to our prediction significantly (-2 Log likelihood = 34.480, df = 6,  $p < 0.0001$ ). The variables that explained the fit of the model included the incentives (-2 Log Likelihood of Reduced Model = 73.022, df = 1,  $p = 0.020$ ), staff development (-2 Log Likelihood of Reduced Model = 80.221, df = 1,  $p = 0$ ) and good leadership (-2 Log Likelihood of Reduced Model = 92.252, df = 1,  $p = 0$ ). If these variables were removed from the model, the result was significantly poorer fit. The remaining variables (i.e. income, social issues and environmental conditions) were not good predictor of staff willingness to stay or leave the university ( $p < 0.05$  for all, Table 3).

Parameters in the model	Estimate ( $\beta$ )	SE	Wald $\chi^2$	Probability	Odds-ratio
Intercept	8.699	9.076	.919	.338	
Incentives	-2.994	1.405	4.540	.033	.050
Social services	.628	1.125	.312	.577	1.874
Staff development	-2.491	.742	11.261	.001	.083
Good leadership	-.758	.171	19.607	.000	.469
Income	-1.459	2.244	.423	.516	.232
Environmental conditions	-.179	.736	.059	.808	.836

**Table 3:** Final logistic regression model of willingness of academic staff to resign/emigrate or stay at UDOM if the independent variables like income, incentives, working environment and social interactions, leadership quality, provision of fund for training and the environmental condition is improved.

Only scores of parameters included in the final model are presented. Parameter estimates ( $\beta$ ), are presented with their standard errors (SE). Wald statistic =  $(\beta/SE)^2$ . Odds-ratio =  $\exp(\beta)$ , represents the ratio-change in the odds of the events of the interest for a one-unit change in the predictor.

## 6 Discussion

The findings reported in this study were the opinions of different academic staff members from different disciplines, rank, age and sex who also came from different geographical location, hence results need to be taken with caution.

The findings from this study are providing very important suggestions for management of staff mobility. Results suggest that the majority of employees who are emigrating from UDOM are young males of age between 31 and 40 years, most of them being tutorial assistants and assistant lecturers (Figure 2). The education system in Tanzania requires a child to start primary school at the age of 7 years. Tanzanians, thus complete the first degree at the age of 23 or 25 years depending on the programme one is pursuing (plus one year in the national service). Following this arrangement, it is not surprising for staff with age ranging from 31 to 40 being the largest group emigrating compared to the group of 20 to 30 years who might be still pursuing their bachelor and/or master degrees. Senior academic staff are engaged in many core university activities like supervising research projects, managing the academic departments, schools/faculties, directorates and/

or colleges and consider themselves as part and parcel of the university systems, thus, attracting most of them to stay at the university for longer period than other junior staff, even if some of them are not happy with the working environment. Some of these senior staff might have stayed in the town or university for many years and thus got an opportunity of establishing their own permanent premises and farms to tend as extra curricula activities for more income generation. In addition, many pension schemes in Tanzania require employees to contribute for at least 15 years in order to receive terminal benefits, thus any academic staff at the age of 45 years or above would not like to move after contributing for many years if the working environment remains constant. Doing that might cause loss of their terminal benefits the employer contributed.

Data from human resource office (Figure 2) confirm the respondents' claim, that the majority who migrate are junior staff. However, from 2011 to 2013 the number of professors who emigrated and/or terminated increased from 0 to 5, respectively. This might be due to the fact that most professors and senior lecturers that were recruited in 2008 from various universities were either retired professors and/or were close to their retirement age, and thus in 2011 would have served for or close to five years from 2007. Any retired professor or senior lecturer was recruited under contract basis for two years renewable for two terms and one year for one term, a maximum of five years (J. Kusaja, personal communication, 2014). In case of tutorial assistants and assistant lecturers a high drop out between 2010 and 2012 might be due to the failure to meet the required minimum academic qualification (i.e. GPA of 4.0) in their master degrees or got new job elsewhere. A tutorial assistant who was recruited in 2008 was supposed to have finished his or her master degree in 2011. Data suggest that males are migrating more than females. This might be due to the fact that big numbers of females at the age between 20 and 50 years are already married and might have children and the husbands to care. In addition, the number of male staff is in the order of three-fold that of female staff, thus chances is high for males staff to be migrating, especially when the factors causing emigration affecting both sex equally.

Reasons for academic staff emigration have been reported by informants. These were mainly socio-ecological issues. When a question on a cause of academic staff emigration was posed in the first place, the majority claimed that the working environment (77.1%, n = 236, Table 1) is the most important issue responsible for such emigration, followed by social interactions (65.3%, n = 236). The remaining variables i.e. staff development, environmental conditions, income and effective

leadership received less than 33% each. When a similar question was posed later using different approach that allowed the respondents to rank from the pre-prepared list of variables, the most important variables that triggered the desire for emigration was income (47.2%, n = 236, Figure 3) followed by incentives (39.3%) and social issue (i.e. marriage, 34.6%). Environmental parameters were less considered when treated individually but were relatively of high concern when lumped together i.e. in total scored 31.5% which does not differ much from 29.2% scored in the first place, suggesting that the respondents were consistent. The ability of respondents to rank the socio-ecological parameters in the similar question posed later probably was due to the fact that they were not using much effort and time thinking of the variables as requested by an 'open ended question' in the first place but rather picked from the list. This tends to suggest that the parameters the respondents listed in the first open ended questions might have been the real reasons that were affecting them at the time when the questionnaire was filled. These concerns might have come purely from their minds. Income, for instance, is similar to most public universities but is the most important issue that needs not to be overemphasised. Incentives might differ from one university to another but working environment and social interactions including effective leadership might be – as reported in the first question – the most important parameters that the management of the universities can easily influence. The findings reported here, support what Cradden (2007) and Owuor (2010) narrated (see Section I and Section IV).

Leadership has been described as a process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task (Chemers, 1997). When requested to explain if respondents had had any conflicts with their leaders at any levels, 55.5% (n = 236) of respondents admitted to have such kind of conflicts. This is not surprising for people who have been working together in one institute for more than five years. Universities activities always involve lots of pressures; one needs to plan for a lesson to teach, marking scripts, supervising graduate students who write dissertation/theses, writing research proposals to attract funds, conducting research, offering consultancy services and at the same time is supposed to submit examination results within a fixed time frame. The head of department pressurises the academic staff; the school dean then pressurises the head of department and the college principal pressurises the school dean to ensure that results are ready for discussion at the next scheduled College Board as per almanac, before being tabled to Senate. These pressures might not be pleasant to some academic staff or head of departments or school

deans, especially those who fail to plan their activities 'around the clock'; and thus might have find themselves in some kind of troubles with their immediate supervisors or other leaders at various level of the university. Similar observation is reported elsewhere (Psychometric Canada, 2009). The respondents were further requested to suggest the level of leadership within the university that require more leadership training in order to acquire necessary skills for effective leadership; the majority (42.8%, n = 236, Table 2) suggested the head of departments, 26.7% (n =236) school deans and 13.1% suggested the college principals. In total, demand for effective leadership training is most important at college levels (82.6%, n = 236) as opposed to other levels (Table 2). Within the university administration, it is the department that deals directly with academic staff; as such it is not surprising to see more demand for such training being suggested at that level. In addition, department heads and school deans are just appointed without considering their experience in leadership or background training in such discipline, which might be one of reasons for conflicts with faculty members due to inexperience. The suggestions by respondents on training needs for head of departments might also be influenced by the level of administrative conflicts between the head and the academic staff themselves; those who might have been warned or penalised due to some misconduct might challenge the charges of being inappropriate based on perceived low leadership skills at the departments or at the school levels. However, such kind of administrative conflicts at the workplace may also have some benefits if not generated through personal interest. As reported elsewhere, human resources professionals have seen conflict lead to better solutions to problems and challenges, major innovations, increased motivation, a better understanding of others, and higher work team performance (Psychometric Canada, 2009). Disagreements during the examiners boards on marks that seem to be inflated by any one staff may bring a desired change. Sometime unethical school dean or head of department may favour some few staff members and oppress others deliberately. When this is challenged, that disagreement may also bring the desired change. Freedom of expressing one's opinion without breaking rules are expected and would be encouraged at all level at the university. However, in some cases, especially when academic staff hold their general meetings through academic staff association, few members of staff in these meetings may fail to abide to the established rules and guidelines and often utter words that in final analysis lead to insubordination to the university leaders or their immediate supervisors; something not acceptable by all moral standards. From my experience, this has become the centre of conflicts between the leaders and the subordinates particularly at UDOM.

As a newly established university, the majority of head of departments are junior staff with low experience and skills of managing higher education institutions. In most cases, they are entrusted to head the department without any leadership training or orientation. Although this study did not differentiate the effective leadership among departments whose heads are senior staff versus those headed by junior staff or the departments whose heads are lawyer or human resource experts versus those whose heads are engineers, ecologists, veterinarians, botanists, or physicists, it is tempting to speculate that those departments led by professional human resource managers, would perform better in terms of quality human resource management than those led by non-human resource professionals, if an assumption that leaders are ‘trained and not born’ is true. However, as the ‘experience is always the best teacher and always practice makes things perfect’, it is therefore not surprising to have non-professional human resource experts managing their departments or school well.

The opinions of respondents were also modelled. It was important to run multinomial logistic regression analysis in order to explain which variables listed by respondents were most important in explaining the amount of variation in factors responsible for academic staff emigration. After independent variables as listed in Table 3 have been improved, the final logistic regression models suggest leadership, incentive and staff development as the best predictor of the willingness for academic staff to stay or emigrate. If these variables were removed from the analysis, the model would fit poorer (Table 3). As discussed earlier, leadership, future expectations towards academic development and incentives are equally important to all workers. Job satisfaction involves these variables of the final regression model and these are the variables that can distinguish one university from others. Using the results generated from multinomial regression analysis, the university would retain more academic staff if effective leadership (that can be acquired through training), better staff development schemes and provision of incentives are given higher priority. This idea supports what Psychometric Canada (2009) concluded.

## **7 Conclusion and recommendation**

This study revealed that working environment, incentive, good leadership and clear staff development scheme are the major reasons that are important for academic staff retention at UDOM based on modelling. Although the improvement of working environment that includes incentives to staff may need substantial amount of money,

it is important for the university, especially academic departments in collaboration with directorates of human resource to develop a staff retention scheme. Since the majority of academic staff are junior at UDOM who have limited skills in managing higher education institutes, it is important to run short courses in human resource management for head of departments and school deans for effective leadership. It is important for faculty/school deans and department heads to attend short courses like that organized by DIES International Dean Course for African university leaders. This will increase their leadership effectiveness. Academic staff should be encouraged to write research proposals, engage in consultancy works and running short courses to increase staff experience and partly income. It is recommended further to encourage more females to apply for teaching opportunities at the university because they do not migrate often. The senior staff should engage junior staff in their research activities for both capacity building and for further training opportunities. Incentives for well performing professors or senior lecturers should be established that can be included in staff promotion criteria; instead of focusing only on the number of published papers and teaching; one of the indicators should be the number of academic staff he or she trained or sent for further training through the project he or she manage and/or engaged in his or her project. Detailed study on the cause of emigration for both administrative and academic staff among departments, schools and colleges needs to be carried out for further human resource management.

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