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MINISTRY OF LABOUR AND SOCIAL PROTECTION

STATE DEPARTMENT FOR LABOUR

NATIONAL HUMAN RESOURCE PLANNING AND DEVELOPMENT DEPT

STLI - STAFFING LEVELS AND SHORTAGES REPORT

JUNE, 2018

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FOREWORD

The Ministry of Labour and Social Protection has the mandate of providing policy guidance on human resource planning and development for the national economy. One of the ways through which this is done is provision of labour market information aimed at highlighting the gaps between the knowledge and skills provided by our local training institutions and demands of the labour market. This particular report on staffing in our training institutions is aimed at shedding light on some identified gaps between current staffing levels and skill profiles of the staff and the desired optimal levels, with a view to triggering a bridge of the same.

Kenya's global competitiveness depends on the country's ability to create a human resource base with the requisite skills that are in tandem with the dynamics of the rapidly changing labour market, both locally and internationally. For this to be realized, the country requires adequate numbers of training staff who have the competencies necessary for effective knowledge and skills transfer.

For the next five years, the government has embarked on the Big Four agenda- which aims at achieving food security, universal health care, decent housing and a more productive manufacturing sector. For each of these agenda to be realized, the importance of adequate and high quality human resource in the training sector cannot be gainsaid.

This report on staffing levels has been extracted from the main Survey of Training in Local Institutions (STLI) report. The main objective of isolating the issue of staffing from that of outturns in the main report is to bring out clearly the issues pertaining to delivery of training with a view to eliciting necessary attention to this very fundamental issue in the country's manpower development chain.

Academic staff in our training institutions need to be available not only in adequate numbers in terms of teacher-student ratios but also in possession of knowledge and skills commensurate with both current and emerging advancements in their respective areas of specialization. It is also expected that the various levels or categories of training institutions within the country are well catered for in terms of staffing according to their needs. A good example is at the Universities where we expect a sufficient number of PhD lecturers taking care of undergraduate and Master's trainees. Similarly, a good number of training staff with technical skills is expected in institutions established to produce outturns with technical/technological qualifications.

Labour market information regarding the status of staffing, the pool of skill profiles and levels as well as shortages found within the training force in the economy is important in informing policy makers, key players and stakeholders

on intervention measures necessary for the effective functioning of the training sector.

Further to this, the findings and recommendations especially in regard to skill shortages in the training programmes related to the Big Four agenda should elicit special attention. The same also goes for findings and corresponding recommendations on addressing the challenges facing technical and vocational training in the country due to its central role in not only realizing the Big Four agenda but also contributing to the long-term goal of improving employability of our youth and poverty alleviation.

It is my strong belief that the information contained in this report will provide useful input into the Kenya Labour Market Information System (KLMIS) for the benefit of all users within the labour market and hopefully spur intervention measures from the recommendations contained therein.

**HON. (AMB.) UKUR YATANI
CABINET SECRETARY
MINISTRY OF LABOUR AND SOCIAL PROTECTION**

PREFACE

One of the key functions under the State Department for Labour is the provision of labour market information. The assessment of staffing levels, skill profiles and gaps among academic staff in local training institutions is one of the regular programmes carried out by the State Department through its Directorate of National Human Resource Planning and Development (NHRPD) to determine the stock of skills possessed by academic staff within the local training institutions, establish the types and levels of skills possessed by the staff, as well as the skill gaps/shortages and reasons for the same.

The training sector has witnessed rapid growth and transformation in the recent past, with some institutions having changed status. For instance, some former national polytechnics and other middle level colleges are now public Universities. Some of the commercial colleges which were formerly offering diploma programmes are now private Universities. Another major transition was that of the transfer of Vocational Training Centres (formerly Village Polytechnics) from national government to the respective county governments upon the roll out of devolution.

The change in status of a training institution calls for commensurate adjustments in terms of infrastructural expansion, staffing levels, curriculum review, equipping of laboratories and workshops, to name but a few. It was with this in mind that the State Department took special interest in staffing levels and skill profiles of the teaching staff.

The survey also sought to obtain sex disaggregated data on the staff in-post, and their levels of qualification. This is in conformity with ILO guidelines. Distribution of part-time staff was also captured as well as incidences of staff shortage and the various reasons attributed to these shortages.

The State Department looks forward to continued cooperation from our stakeholders in both public and private training institutions to enable it maintain a continuous flow of up-to-date labour market information for dissemination through the Kenya Labour Market Information System (KLMIS) maintained by the Department.

**HON. ABDUL BAHARI
CHIEF ADMINISTRATIVE SECRETARY
MINISTRY OF LABOUR AND SOCIAL PROTECTION**

ACKNOWLEDGEMENTS

Sincere acknowledgments go out first and foremost to our Cabinet Secretary, Ministry of Labour and Social Protection, Hon. (AMB.) Ukur Yatani; for financial support and policy direction in this important national undertaking. Secondly, our Chief Administrative Secretary, Hon. Abdul Bahari for technical and moral support.

The Commission for University Education (CUE) is hereby appreciated for provision of data on registered Universities in the country and the courses they are authorized to offer, Chancellors of both public and private Universities and their Heads of Faculties, for providing information specific to their respective Universities, Principals and Heads of Departments in National Polytechnics, Institutes of Technology (ITs), Technical Training Institutes (TTIs), Teacher Training Colleges (TTCs), Medical Training Colleges (MTCs), Kenya School of Government (KSG), Training Institutions under Government Ministries and Agencies, National Youth Service (NYS) training institutions, Agriculture-related Training Institutions, Technical Vocational Colleges (TVCs), Vocational Training Centres (VTCs), Vocational Rehabilitation Centres (VRCs), and Commercial Colleges covered. All concerned are deeply appreciated for interrupting their busy schedules to grant audience to our officers and providing required information.

The Technical Vocational Education and Training Authority (TVETA) was also very helpful in mobilizing Directors of TVET within counties, and so was the Council of Governors in facilitating our smooth access to the county-based training institutions. Everyone else who facilitated the success of this exercise in one way or the other is hereby highly appreciated.

Acknowledgement also goes to the staff of the State Department for Labour, who either directly participated in the survey or contributed in one way or the other to its success.

Finally, I wish to acknowledge the Director NHRPD, Mrs. Catherine Waema and her staff for a job well done.

**DR. IBRAHIM MOHAMED, CBS
PRINCIPAL SECRETARY
STATE DEPARTMENT FOR LABOUR**

EXECUTIVE SUMMARY

The survey covered all types and categories of training institutions in the country as follows: public and private Universities, National Polytechnics, Institutes of Technology, Technical Training Institutes, Medical and Teacher Training Colleges, Kenya School of Government institutions, National Youth Service Training Centres, Training Institutions under Government Ministries, Departments and Agencies; Agriculture and Related Institutions, Technical Vocational Colleges, Vocational Training Centres, Vocational Rehabilitation Centres and Commercial Colleges.

The report is organized into four (4) chapters as follows: Chapter One - Background and Methodology; Chapter Two - Data Analysis; Chapter Three – Summary of Findings and Chapter Four - Conclusions and Recommendations.

The study established that Diploma, Bachelor's and PhD skill levels recorded the highest number of staff shortages respectively. The lowest levels of staff shortages were observed in Post Graduate Diploma, Certificate and Higher Diploma skill levels respectively. Vocational Training Centres, Universities and Institutes of Technology, in that order, also recorded the highest levels of staff shortages.

Business and Administration skill area had the highest numbers of Academic staff followed by Education, and Engineering and Engineering Trades. Training programmes most affected by skill shortages were Engineering and Engineering Trades, Health, Manufacturing and Processing. The least affected were in Fisheries, Hygiene and Occupational Health Services, Veterinary and Transport Services. Incidentally, these least affected areas also recorded the lowest outturns.

The survey established that the leading reason for skill shortages was non-posting of lecturers/tutors by Government and the Teachers Service Commission. This particular reason affected most severely the Vocational Training Centres and Institutes of Technology. The second most prevalent reason across the board was financial constraints, followed by difficulties in getting qualified staff, among others.

For each training programme, data was collected regarding the specific causes of shortage in the particular programme. The same have been plotted in graphs for illustration. Shortages in terms of the various levels of academic qualifications for staff - starting from the highest to the lowest (PhD to Certificate) – have also been captured and illustrated graphically in the report.

Key recommendations contained in the report are as follows: In regard to staff shortages in Vocational Training Centres, it is recommended that given that these centres are very important for imparting vocational skills to the youth at

the grassroots level - such as metal work, plumbing, masonry, tailoring, etc - which are key skills for not only the Big Four agenda but also for poverty eradication for the less privileged youth, there is need for adequate staffing and equipment to be provided.

The second level of training institutions most affected were the Universities followed by Medical Training Colleges and Technical Training Institutes. In regard to staffing shortages in the Universities, it was observed that the rapid expansion of University education was not accompanied by a commensurate rapid growth in lecturer numbers. Control of future expansion of training institutions has therefore been recommended, accompanied by measures to fast track completion of Master's and PhD programmes by trainees.

The government's progressive lifting of freeze on employment in the training sector is lauded as a move in the right direction. Other major reasons cited were financial constraints and difficulties in getting qualified staff, mostly cited by private sector training institutions. Most affected programmes were Engineering & Engineering Trades, Health and Welfare. This may be an indication of skills gap in the labour market. It is recommended that government and the private sector invest more in these key fields.

ACRONYMS/ABBREVIATIONS

ICT	Information Communication and Technology
ISCED	international Standard Classification of Education and Training
KSG	Kenya School of Government
LMI	Labour Market Information
MTP	Medium Term Plan
NHRPD	National Human Resource Planning & Development Dept
NYS	National Youth Service
PGD	Post Graduate Diploma
PhD	Doctor of Philosophy
STLI	Survey of Training in Local Institutions
TSC	Teachers Service Commission
UNESCO	United Nations Education, Science and Cultural Organization

DEFINITION OF TERMS

- Outturns - Number of trainees who have completed respective training programmes.
- Training programme - A set of related courses as per ISCED classification.
- Type of training institution - Ownership-public or private.
- Category of training institution - Training institution category as per official accreditation.

CHAPTER ONE - BACKGROUND

1.0 Introduction

The Global Human Capital Index released by the World Economic Forum in 2017 ranked Kenya at position 78 out of 130, up from position 120 in 2016. The report used four indices to determine the scores of different countries, which were Capacity, Deployment, Development and Know how. The jump to the top hundred was attributed to the country's strong educational sector and the sizeable medium skilled employment sector. The country however still lags behind compared to other comparable countries.

An Executive Briefing to the same Economic Forum on "the Future of Skills in Africa" indicated that 30 per cent of employers in Kenya cited the issue of an inadequately skilled workforce as a major constraint to the productivity of their businesses. Human capital development has been described as key to the workforce of the future.

The Kenya Vision 2030 and the second Medium Term Plan 2013-2017 emphasized on human resource development as key to national transformation. The Vision's three pillars on economic, social and political development will continue to rely greatly on the availability of a highly trained, adaptive and productive human resource base. For effective human resource planning and development to be realized, it is important that accurate and up to date data on the labour market is maintained. The development of a reliable and adequate database on skills within the workforce in our training institutions will be a key factor towards achievement of the Vision.

In Kenya the training sector has expanded rapidly over the years to meet the rising demand for skills. Today there are over seventy (70) public and private Universities with several tertiary training institutions providing courses in various fields.

The Ministry plans to establish a national skills inventory through collection of labour market data in order to track the trends in skills supply to local the labour market. The department routinely undertakes the Survey of Training in Local Institutions (STLI) to not only determine the number of skills entering the labour market and

update the Master File of training institutions but also to assess skill profiles and gaps existing in the training sector. This is intended to contribute to the wider goal of strengthening the management and co-ordination of human resource planning, development and utilization in the country.

1.1 Objectives of the Survey

The main objectives of the STLI were to take stock of skills being released into the labour market and to determine the stock of skills possessed by academic staff within the local training institutions. The specific objectives regarding skills for academic staff were to: establish the quantities and types of skills possessed by academic staff in local training institutions by level and sex; establish the level of skill gaps among academic staff; and establish the reasons for the gaps.

1.2 Justification for the Survey

In the past, efforts have been made to establish the stock of skills possessed by academic staff in all training institutions as part of an effort in establishing a national skills inventory. Currently the data available on the stock of skills in the training institutions is not up-to-date since the last survey was carried out during the 2010/2011 National Manpower Survey. Therefore, there was need to undertake a survey of the local training institutions capturing the skills available and existing skill gaps especially because there has been a rapid growth in the sector in the last 10 years, with some institutions having changed their status. For instance, some former national polytechnics and other middle level colleges have transformed into public Universities; Commercial Colleges which were formerly offering diploma programmes transformed into private Universities. The data collected will therefore inform the development of human resource planning and development policies for the sector.

1.3 Scope and Coverage

The survey covered both public and private training institutions. The following categories of local training institutions were covered : Universities, National Polytechnics, Institutes of Technology, Technical Training Institutes, Teacher Training Colleges, Medical Training Colleges, Kenya School of Government (KSG) training centres, Other training institutions under government Ministries, Departments and Agencies (MDAS, Agriculture and related Training Institutes, National Youth Service, Technical Vocational Training Colleges, Vocational Training Centres, Vocational Rehabilitation Centres, and Commercial Training Colleges.

1.4 Methodology

The survey was carried out as a census in all categories of training institutions mentioned under Scope and Coverage. A self-administered questionnaire was used to collect data on variables relating to stock of skills and skill levels of teaching staff both on full time and part time basis as well as shortfalls. All these were captured by gender and year.

The survey was conducted between September 2016 and April 2017 by officers from the Ministry headquarters and the field offices.

1.5 Limitations and Constraints

There were a number of challenges encountered during the execution of the Survey as follows: -

- i. The Master File on Training Institutions included those that were no longer in existence while excluding newly established ones. During data collection, it necessitated listing of the newly established training institutions and in some

instances, institutions listed in the Master File were found to have either closed down or relocated. Consequently, a lot of time was taken in locating both new and old institutions.

- ii. A number of training institutions were non-responsive despite several call-backs. This may have been occasioned by various factors that included strikes by some Universities at the time of the survey, on-going examinations/graduation preparations and the survey timing at some stage coinciding with December season when most training institutions were closing for holidays.
- iii. Records of various institutions were not uniformly maintained and not necessarily in the format required for the survey. In addition, some of the institutions data was manually maintained. Therefore, conversion of data into the required format occasioned delay in responding.
- iv. During the period of the survey there were security concerns in some counties. Therefore, some counties were not adequately covered while Mandera County was not covered at all.
- v. Some areas in certain counties were inaccessible due to bad weather and terrain therefore limiting access to some training institutions.
- vi. Some private institutions may not have made full disclosures on staff shortages for fear of possible reprisals by government.
- vii. Difficulty in establishing staff shortages where institutions fill gaps through contracting of part-time staff.

CHAPTER TWO – DATA ANALYSIS

2.0 Introduction

This chapter presents an analysis of data on staffing levels and shortages collected from all categories of training institutions in the country that responded during the survey. The information is presented in form of tables and figures.

2.1 Data Coding

The International Standard Classification of Education and Training (ISCED- 2013) fields of education under UNESCO coding system was used to categorize the skill areas.

2.2 Category and Type of Ownership of Training Institutions

Training institutions in Kenya are classified as either public or private. Table 1 illustrates the categories and types of ownership of training institutions covered in both public and private sectors. In this survey, training institutions have also been categorized on the basis of registration status of an institution and not necessarily on the levels of certificates that they award.

Table 1: Training Institutions by Category and Type of Ownership

Category of Institution	No. Responded	
	Public	Private
Universities	22	18
National Polytechnics	8	0
Institutes of Technology	10	2
Technical Training Institutes	23	9
Teacher Training Colleges	29	80
Medical Training Colleges	41	32
Kenya School of Government (KSG)	2	0
Other Training Institutions under Government Ministries and Agencies	9	0
Agriculture and related Training Institutions	5	3
National Youth Service Training Centres	5	0
Technical Vocational Colleges	87	15
Vocational Training Centres	486	40
Vocational Rehabilitation Centres	9	1
Commercial Colleges	0	495
Total	736	695

***The numbers reflect only those Institutions that responded and not the total number of Institutions in the country.**

2.3 STAFFING LEVELS AND SKILL SHORTAGES IN LOCAL TRAINING INSTITUTIONS

2.3.1 Preamble

One of the objectives of the survey was to establish the profile of skills among the academic staff and the prevailing shortages. Due to the increased demand for various skills in Kenya there is need to have up-to-date and relevant information on the available skills in the training institutions and areas of shortages. This section examines staffing and skill shortages by skill areas and levels among the academic staff in local training institutions covered during the period under review.

2.3.2 Staff In-post by Institution Categories in all Institutions that responded

For effective learning to take place, training institutions require to have sufficient numbers of academic staff to instruct learners. From Table 2 it can be observed that Universities had the lion's share of Academic staff in the period under review accounting for 46.99 (13890/29561*100) percent of all academic staff recorded while Commercial Colleges took position two with 17.04 (5036/29561*100) percent. Vocational Training Centres with 10.61 percent and Teacher Training Colleges 6.48 percent occupied position three and four respectively. Agriculture and related Training Institutions with 0.13 percent, Vocational Rehabilitation Centres 0.18 percent and National Youth Service Training Institutions 0.33 percent occupied the bottom three positions in that order.

Table 2: Staff In-post and Shortages by Institution Category and Skill Level

Institution Category	Level																		Total		Shortage in %
	PHD		Masters		Bachelors		PGD		H. Diploma		Diploma		Certificate		Craft		Artisan				
	In post	Shortages	In post	Shortages	In post	Shortages	In post	Shortages	In post	Shortages	In post	Shortages	In post	Shortages	In post	Shortages	In post	Shortages	In post	Shortages	
Universities	5274	763	5904	141	2290	45	16	0	19	0	153	18	13	1	45	0	176	0	13890	968	* 15.64%
National Polytechnics	6	0	226	77	431	275	30	0	88	16	150	54	6	0	21	13	39	0	997	435	7.03%
Technical Training Institutes	1	0	153	23	452	355	15	0	59	51	225	128	28	4	14	0	21	9	968	570	9.21%
Institutes of Technology	2	0	91	0	160	56	1	3	62	0	68	0	1	0	10	0	13	0	408	59	0.95%
Commercial Colleges	135	3	793	40	1926	174	137	5	422	19	1118	83	257	24	91	3	157	2	5036	353	5.70%
Medical Training Colleges	6	0	193	85	798	389	16	7	266	76	110	27	10	2	9	0	14	0	1422	586	9.47%
Teacher Training Colleges	27	0	375	34	1252	86	35	0	22	4	122	5	10	4	12	0	60	0	1915	133	2.15%
Agriculture and Related Training Institutions	0	2	6	6	6	66	0	0	7	0	14	26	4	8	0	0	0	0	37	108	1.75%
Government Training Institutions	13	0	115	9	120	54	0	5	3	0	11	9	16	0	0	0	0	0	278	77	1.24%
Kenya School of Government	75	0	263	2	143	0	20	0	8	0	19	0	7	0	0	0	0	0	535	2	0.03%
National Youth Service	0	0	6	0	30	20	0	0	10	5	38	0	7	0	0	22	6	0	97	47	0.76%
Technical Vocational Colleges	0	0	12	4	250	19	0	0	103	4	308	101	55	24	50	28	10	10	788	190	3.07%
Vocational Rehabilitation Centers	0	0	0	0	5	0	0	0	1	0	28	57	14	10	2	0	4	8	54	75	1.21%
Vocational Training Centres	13	0	26	4	212	92	3	0	123	62	1342	1484	753	175	237	346	427	422	3136	2585	41.70%
Total	5552	768	8163	425	8075	1631	273	20	1193	237	3706	1992	1181	252	491	412	927	451	29561	6188	
%	18.8	13	27.6	6.9	27.3	26.4	0.9	0.3	4.0	3.8	32.2		4.0	4.1	1.7	6.7	3.1	7.3	100	100	

2.3.3 Staffing Levels by Skill Area, Skill Level and Sex in Training Institutions

Table 2 indicates that Master's level had the highest numbers at 28.3 percent, followed by Bachelor's at 27.2 percent and PhD at 19.3 percent. The lowest was in PGD and Craft at 1 percent and 1.5 percent respectively. Males highest numbers were in Master's, comprising 18.9 percent of the total staff for that level, followed by Bachelor's at 17 percent and PhD at 13.6 percent and the lowest was at PGD at 0.7 percent, Craft at 1.1 percent and Artisan at 2.2 percent. Females highest numbers were in Bachelor's level at 10.2 percent, followed by Master's at 9.4 percent and PhD at 5.7 percent while the lowest was in PGD at 0.3 percent, Craft at 0.4 percent and Artisan at 1.0 percent. Males generally outnumbered females at all skill levels. It was only at Diploma level where outturns for females recorded higher levels in a few programmes- Education, Business & Administration, Manufacturing and Personal Services. In Manufacturing & Processing, females numbers were higher for all levels except PhD, Artisan and Craft.

Table 3 presents skills possessed by Academic Staff by Skill Area, Level and Sex across all training institutions that responded. The total number of academic staff captured was 29561, out of which males accounted for 65 percent and females 35 percent. Business and Administration skill area had the highest numbers out of the 25 skill areas, constituting 18.3 percent followed by Education 13.9 percent and Engineering and Engineering Trades at 8.5 percent. The lowest were in Fisheries, Hygiene and Occupational Health Services, Veterinary and Transport Services which had less than 1 percent each.

Table 3: Distribution of Skills among Academic Staff by Skill Area, Level and Sex in all Training Institutions

Programmes	Level																				Total	
	PHD		Masters		Bachelors		PGD		Higher Diploma		Diploma		Certificate		Artisan		Craft		Sub-Total			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		%
Education	557	326	710	479	885	665	39	8	18	9	98	104	17	4	45	23	14	2	2383	1620	4003	13.9
Arts	145	88	125	58	160	93	0	0	3	1	15	6	4	0	6	3	2	0	460	249	709	2.5
Humanities (except languages)	277	71	187	79	126	74	6	1	31	18	17	10	1	1	16	9	6	1	667	264	931	3.2
Languages	190	98	166	137	132	132	3	1	5	0	22	9	4	3	20	7	3	0	545	387	932	3.2
Social and behavioural sciences	376	148	231	135	145	79	4	1	1	2	4	3	1	2	10	6	4	0	776	376	1152	4
Journalism and information	71	26	126	94	103	84	1	0	11	18	21	38	1	1	12	4	6	3	352	268	620	2.2
Business and administration	465	236	1370	712	870	470	52	30	158	87	231	286	85	55	73	33	48	10	3352	1919	5271	18.3
Law	39	23	110	76	103	65	1	0	0	0	71	45	0	0	3	2	1	1	328	212	540	1.9
Biological and related sciences	233	90	143	60	81	24	0	3	7	1	3	1	2	0	7	4	2	1	478	184	662	2.3
Environment	266	96	144	73	67	40	1	1	10	4	5	5	0	1	4	0	2	0	499	220	719	2.5
Physical sciences	297	80	264	63	143	56	4	1	8	8	14	9	9	1	12	8	5	0	756	226	982	3.4
Mathematics and statistics	101	16	202	58	87	33	1	1	3	0	8	4	1	0	7	8	1	8	411	128	539	1.9

Information and Communication Technologies (ICTs)	96	14	358	111	378	160	22	14	55	27	304	154	44	42	65	25	39	20	1361	567	1928	6.7
Engineering and engineering trades	210	31	338	59	504	97	19	3	126	14	536	53	229	17	94	49	54	28	2110	351	2461	8.5
Manufacturing and processing	16	11	24	26	46	98	6	7	29	31	144	408	146	159	109	44	56	21	576	805	1381	4.8
Architecture and construction	22	2	109	15	115	24	9	1	53	10	188	13	157	7	45	29	30	6	728	107	835	2.9
Agriculture	164	39	132	65	93	37	1	0	1	4	49	15	4	7	13	5	6	8	463	180	643	2.2
Fisheries	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	0
Veterinary	12	0	15	5	33	10	1	0	2	0	2	1	2	0	1	1	0	0	68	17	85	0.3
Health	211	109	471	236	546	434	12	10	137	105	53	56	4	2	19	10	7	5	1460	967	2427	8.4
Welfare	58	45	114	77	167	123	2	3	18	7	28	17	0	0	15	6	6	0	408	278	686	2.4
Personal services	29	32	54	40	79	89	1	0	18	50	72	280	17	99	46	21	23	10	339	621	960	3.3
Hygiene and Occupational health services	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0
Security services	86	46	52	42	34	42	0	0	0	1	1	2	0	0	1	0	2	0	176	133	309	1.1
Transport services	2	0	7	0	4	0	3	0	2	0	1	0	2	0	1	0	0	0	22	0	22	0.1
Total	3924	1628	5452	2700	4901	2929	188	85	696	397	1887	1519	730	401	624	297	317	124	18719	10080	28799	100
%	13.6	5.7	18.9	9.4	17	10.2	0.7	0.3	2.4	1.4	6.6	5.3	2.5	1.4	2.2	1	1.1	0.4	65	35	100	0
Total %	19.3		28.3		27.2		1		3.8		11.9		3.9		3.2		1.5		100			

***Skill Areas categorized as per ISCED 2013 narrow field classification**

Figures 1, 2, 3 and 4 present the distribution of staff in local training institutions by skill area and sex, as tabulated from Table 3. During the period under review, males had higher numbers in Business and Administration skill area at 11.6 percent of the total staff, followed by Education at 8.3 percent and Engineering and Engineering Trades at 7.3 percent while the lowest were in Fisheries and Transport. Females highest numbers were equally in Business and Administration at 6.7 percent followed by Education at 5.6 percent and Health at 3.3 percent and the lowest in Hygiene and Occupational Health Services, Fisheries and Transport. It was observed that males surpassed females in all skill areas except in Personal Services and Manufacturing & Processing.

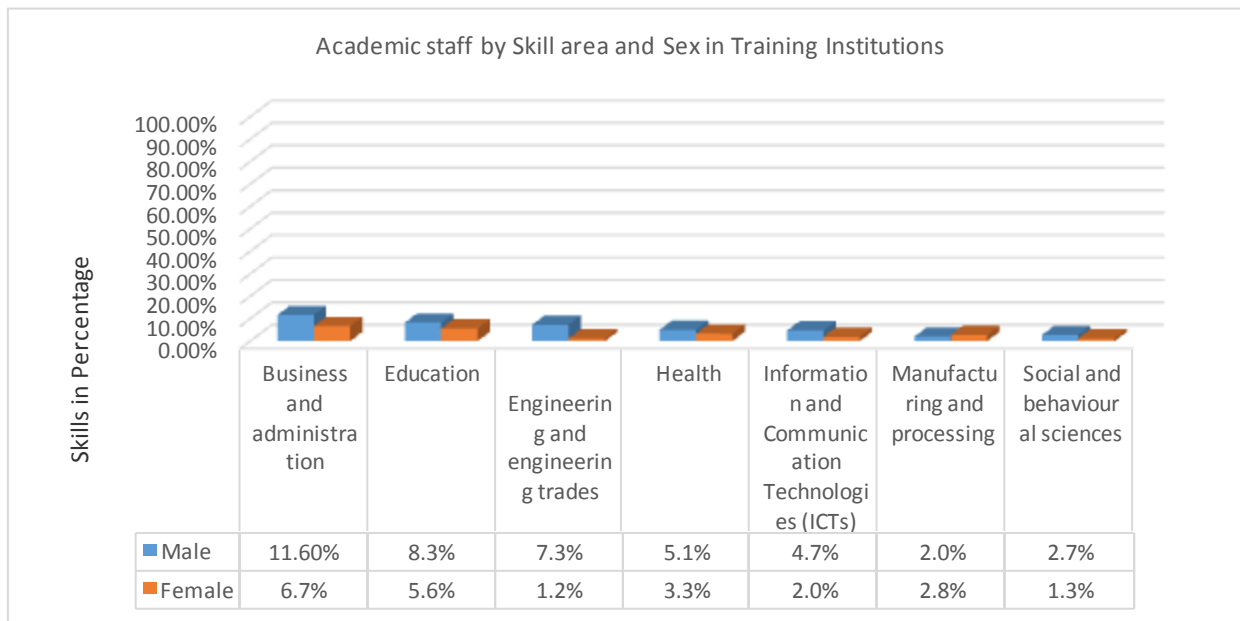


Figure 1: Academic staff by skill area and sex in Training Institutions

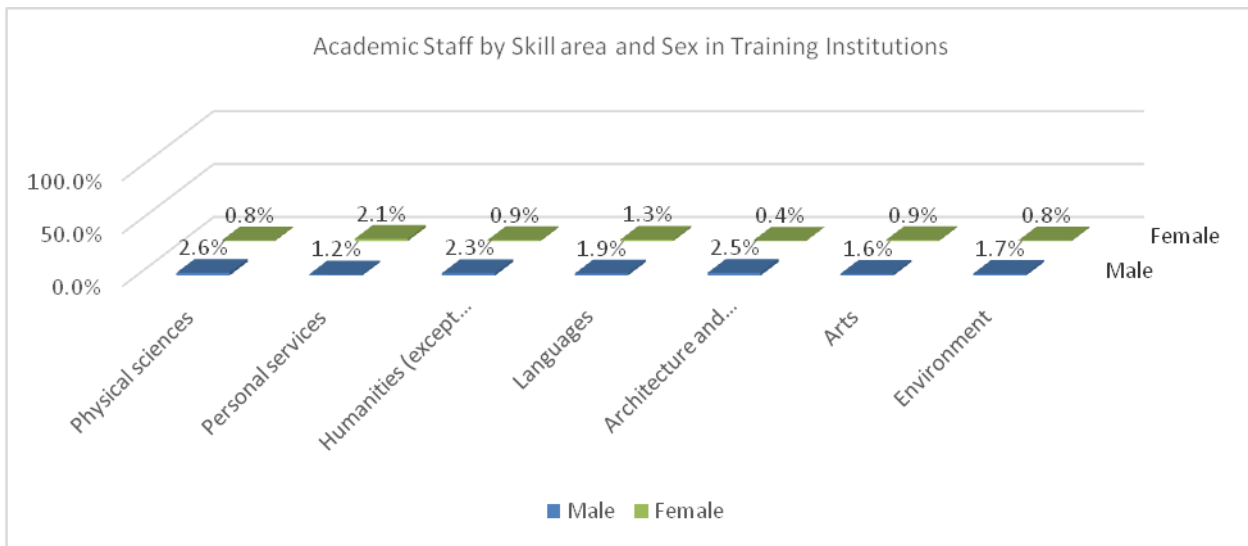


Figure 2: Academic staff by skill area and sex in Training Institutions

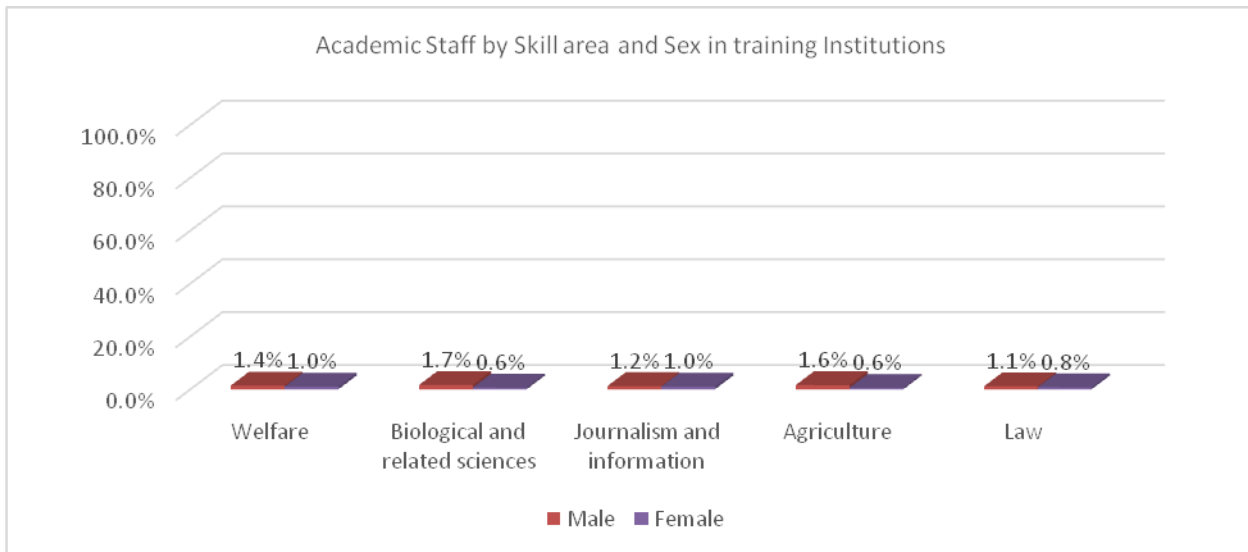


Figure 3: Academic staff by skill area and sex in Training Institutions

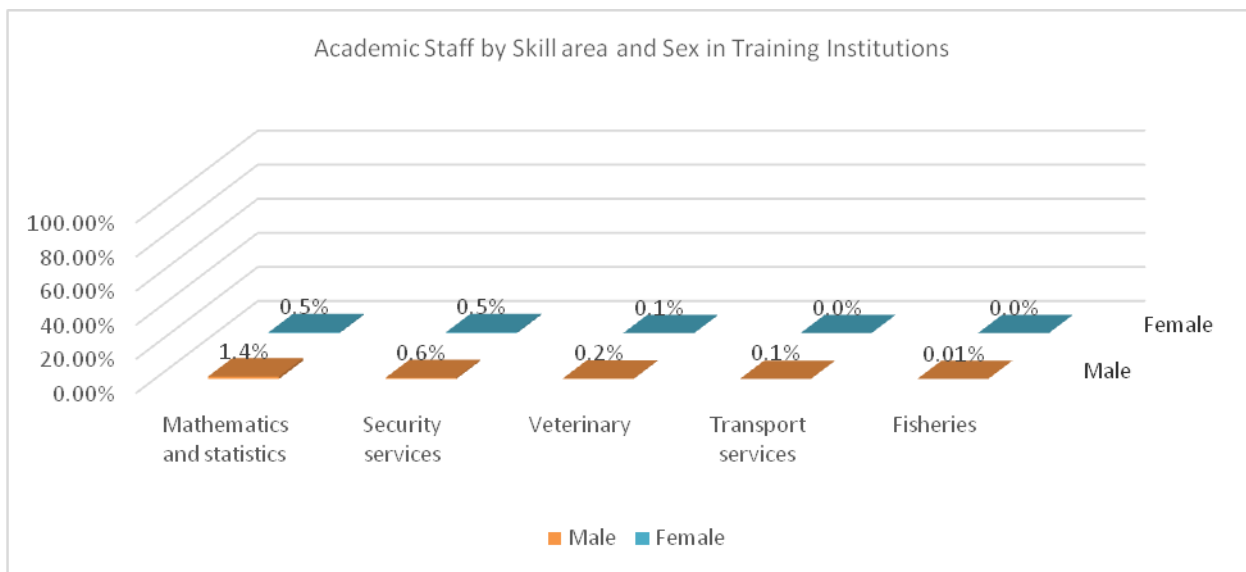


Figure 4: Academic staff by skill area and sex in Training Institutions

2.3.4 Skill Shortages by Institution Category

Figure 5 shows that Vocational Training Centres had the severest shortage accounting for 41.7 percent followed by Universities at 15.6 percent and Medical Training Colleges with 9.5 percent while Kenya School of Government and National Youth Service had the least number of shortages recording less than 1 percent. These have been tabulated from Table 2.

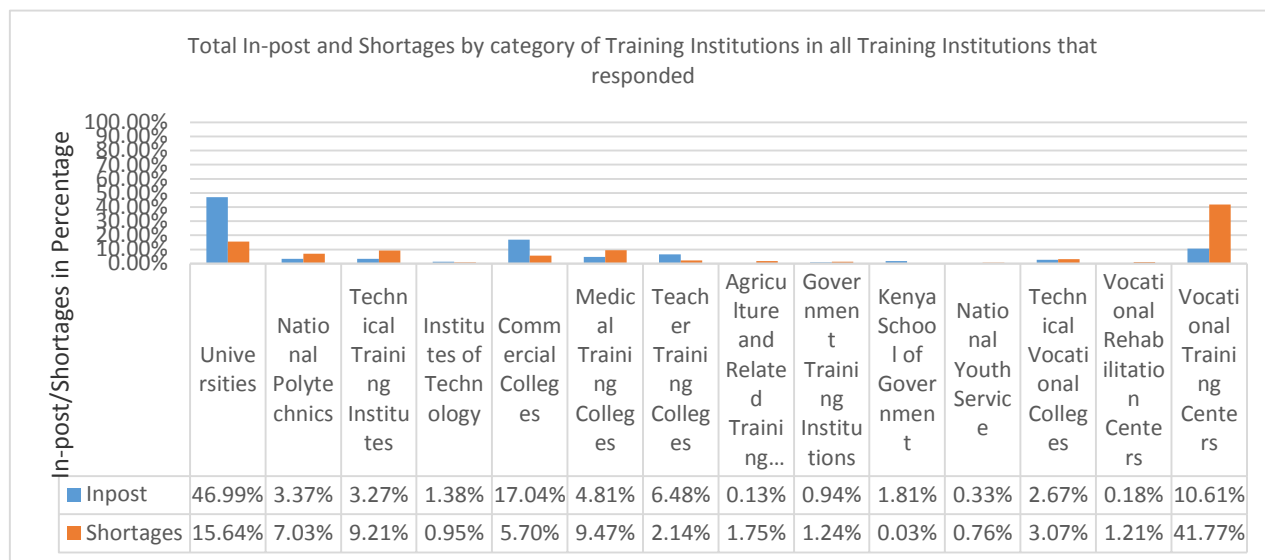


Figure 5: Total Number of Staff In -post and Staff Shortages by Institution Categories in all Institutions that responded.

2.3.5 Staffing Shortages by Skill level and Institution Category

Figure 6 presents staffing and skill shortages by skill levels and institution categories as tabulated from Table 2. Universities had the highest shortage of staff for the PhD level skills accounting for 99.3 percent of total shortage. The rest were below 1 percent.

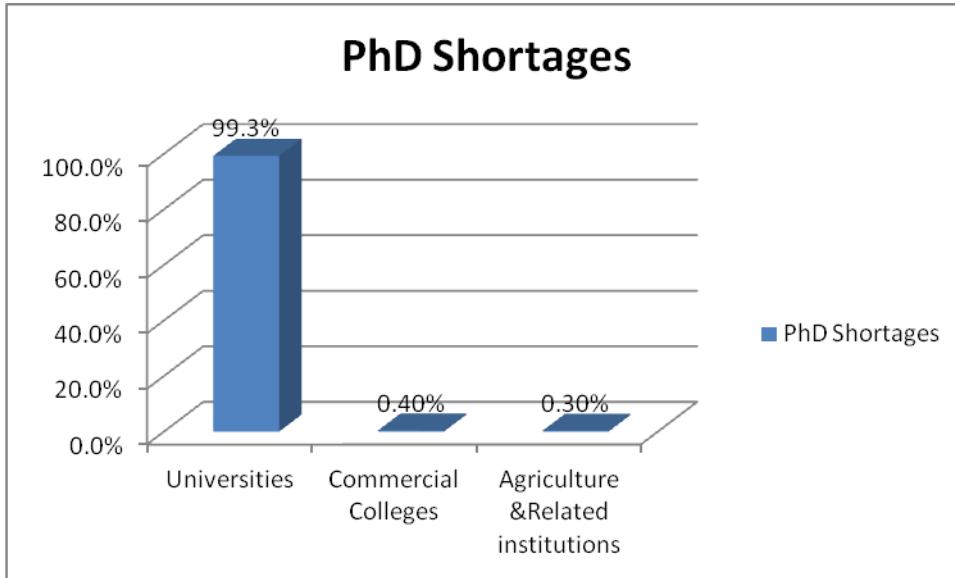


Figure 6: PhD skills level shortages by institution category

Figure 7 indicates that Universities had the highest shortage of Master's level skills with 33.2 percent of all reported shortages, followed by Medical Training Colleges with 20 percent whereas National Polytechnics had a shortage of 18 percent.

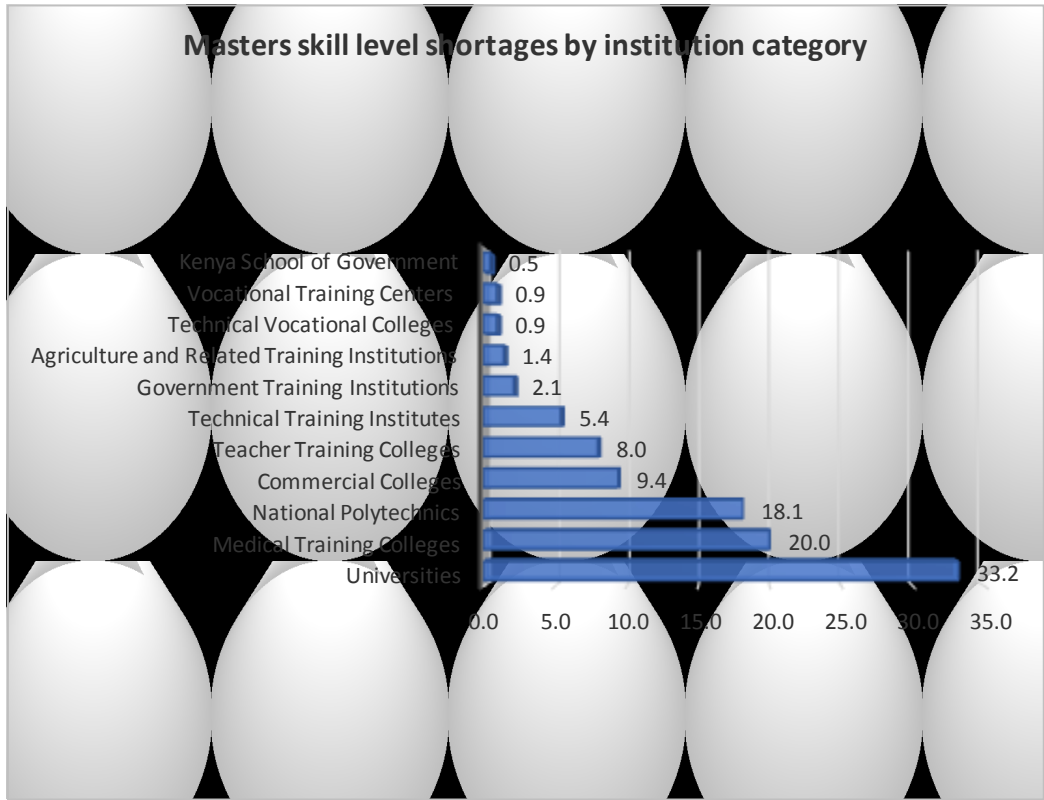


Figure 7: Master’s skills level shortages by institution category

During the period under review, Medical Training Colleges had the highest shortage of Bachelor’s level skills with 23.9 percent followed by Technical Training Institutes and National Polytechnics with 21.8 and 16.9 percent respectively as shown in Figure 8.

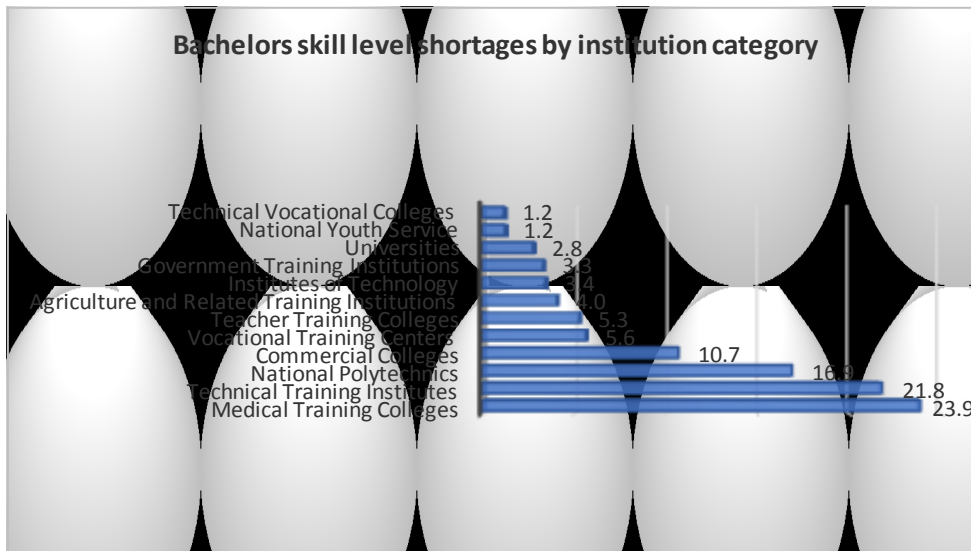


Figure 8: Bachelor's skills level shortages by institution category

Figure 9 indicates that Vocational Training Centres had the highest shortage of 74.5 percent for Diploma level skills. Institutions that came second and third had below 10 percent shortage.

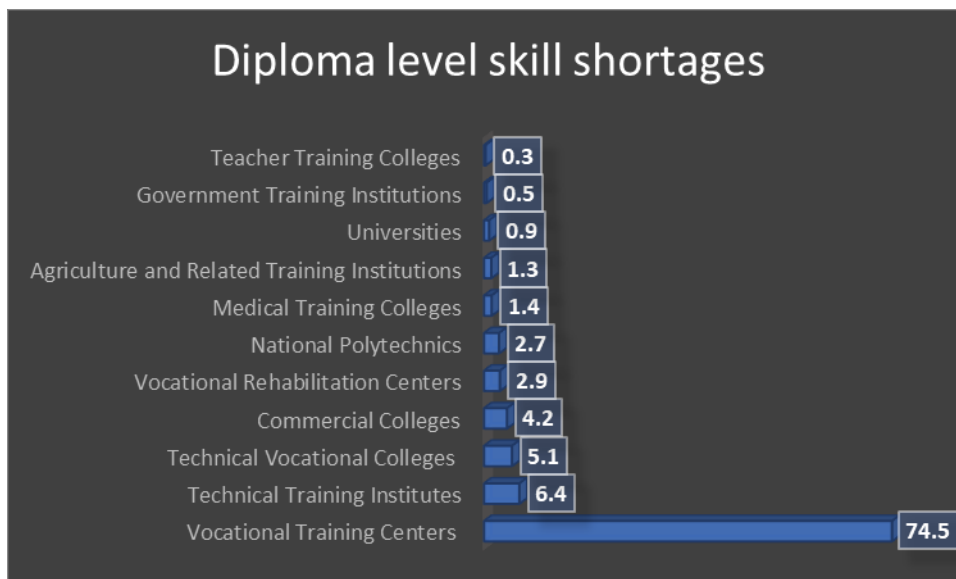


Figure 9: Diploma level skills shortages by institution category

Figure 10 indicates that institutions most affected by shortages of Certificate level skills were the Vocational Training Centres, Technical Vocational Colleges and Commercial Colleges. Vocational training Centres still had the lion’s share of shortage for Certificate, Craft and Artisan staff.

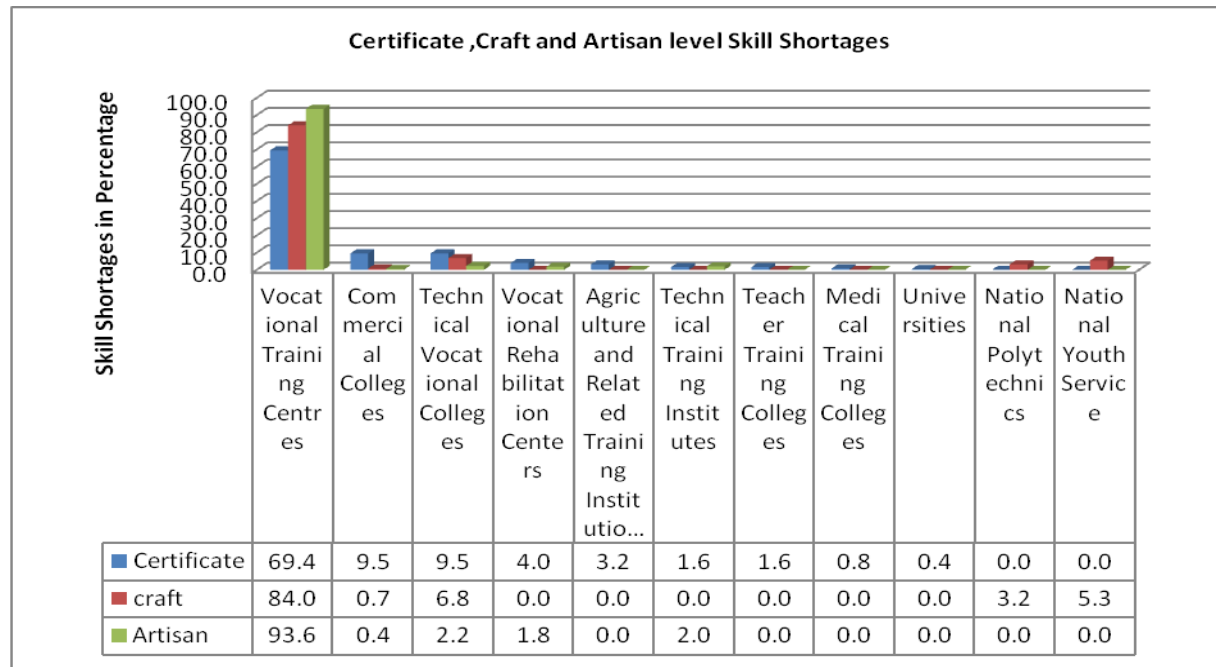


Figure 10: Certificate, Craft and Artisan level skills shortages by institution category

Reported shortage for Artisan level skills was most severely felt in Vocational Training Centres. A little of this shortage was reported in Technical Vocational Colleges, Commercial Colleges and Vocational Rehabilitation Centres. Shortage for Craft level skills followed almost the same pattern, save for the third most affected category of institutions changing from Vocational Rehabilitation Centres to National Youth Service.

2.3.6 Overall Skill Shortages in all Categories of Training Institutions by Level

Figure 11 shows that the skill level with the highest reported shortage was Diploma at 32 percent followed by Bachelor’s degree at 26 percent while the lowest was at PGD level at only 0.3 percent.

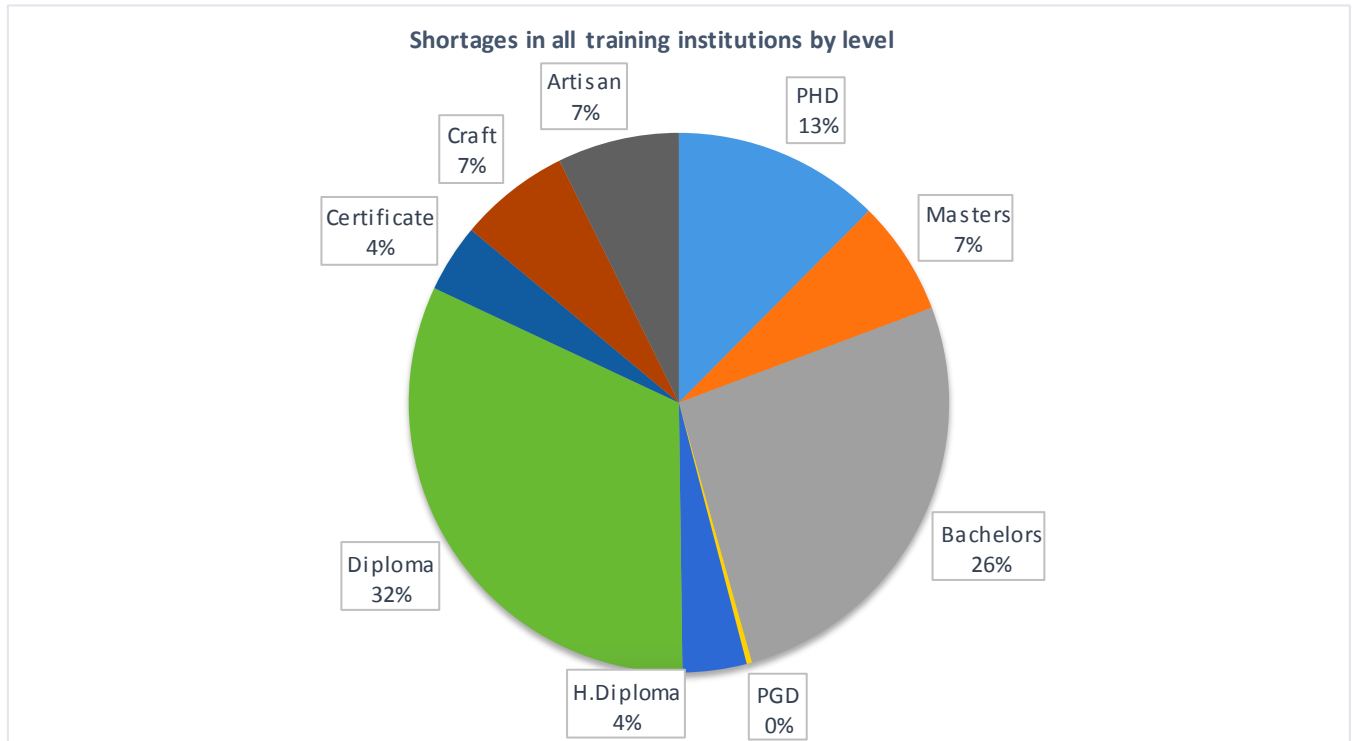


Figure 11: Overall Skills Shortages in all Categories of Training Institutions by Level

2.3.7 Skill Shortages by Skill Area and Level

Table 4 presents the distribution of skill shortages by skill area and level. Twenty-six (26) Skill Areas were reported to have varying degrees of shortage. The highest shortage was recorded in Engineering and Engineering Trades at 23.06 percent followed by Health 13.2 percent. These were followed by Manufacturing and Processing 12.2 percent, Architecture and Construction 9.1 percent, Personal Services 8.9 percent and Information and Communication Technology 7.4 percent. Majority of the other skill areas recorded a shortage of skills of less than 5 per cent.

The level with the highest combined skill shortage for all the 25 skill areas was Diploma recording 32.19 percent followed by Bachelor’s and PhD levels recording 26.4 and 12.4 percent respectively. The skill level with the least shortage reported was Post-graduate Diploma at 0.3 percent.

Table 4: Distribution of Skill Shortages by Skill area and Level

SKILL AREA	SKILL LEVEL									Sub-Total	%Total per skill area
	PhD	Masters	PGD	Bachelors	Higher Diploma	Diploma	Certificate	Craft	Artisan		
Education	17	33	0	77	2	9	1	1	6	146	2.36
Arts	17	6	0	23	2	3	1		3	55	0.89
Humanities	26	2	0	1	3	1	0	0	0	33	0.53
Languages	17	2		21		2	4			46	0.74
Social and Behavioural sciences	38	1		5	5					49	0.79
Journalism and Information	13			12		3	1			29	0.47
Business and Administration	77	44		300	21	85	24	4	4	559	9.03
Law	10	5		3		2				20	0.32
Biological and Related Sciences	45	3		20		3				71	1.15
Environment	31	3				4	2		1	41	0.66
Physical Sciences	44	10		14		6				74	1.2
Mathematics and Statistics	28	12		28	3	6				77	1.24
Information and Communication Technology	70	20		136	26	163	34	6	5	460	7.43
Engineering and Engineering trades	61	43	8	181	44	695	53	164	178	1427	23.06
Manufacturing and Processing	4	15	2	45	12	362	63	124	126	753	12.17
Architecture and Construction	23	50		110	20	234	20	54	54	565	9.13
Agriculture	8	5		37	11	62	3	5	2	133	2.15
Forestry	4			13		6				23	0.37
Fisheries	5			4						9	0.15
Veterinary	8	4		52			8			72	1.16
Health	161	128	7	412	72	38	1			819	13.24
Welfare	21	1		58	1	17		7		105	1.7
Personal Services	16	18	3	64	14	287	35	47	72	556	8.99
Hygiene and Occupational Health Services	4	10		7		4				25	0.4
Security Services	16			4	1		2			23	0.37
Transport Services	4	10		4						18	0.29
Grand Total	768	425	20	1631	237	1992	252	412	451	6188	100
% Total	12.41	6.87	0.32	26.36	3.83	32.19	4.07	6.66	7.29	100	

**Skill Areas categorized as per ISCED 2013 narrow field classification*

Figure 12 shows shortages by skill areas in all training institutions. Engineering & Engineering Trades, Health, and Manufacturing & Processing were identified as the top three in terms of skill shortages. The other skill areas that also registered shortages included Architecture & Construction, Business & Administration, Personal Services, and Information & Communication Technology.

All the other skill areas which included: Mathematics & Statistics, Physical Sciences, Veterinary, Biological & Related Sciences, Environment, Hygiene & Occupational Health Services, Security Services, Law and Transport Services combined together registered 11.37 percent.

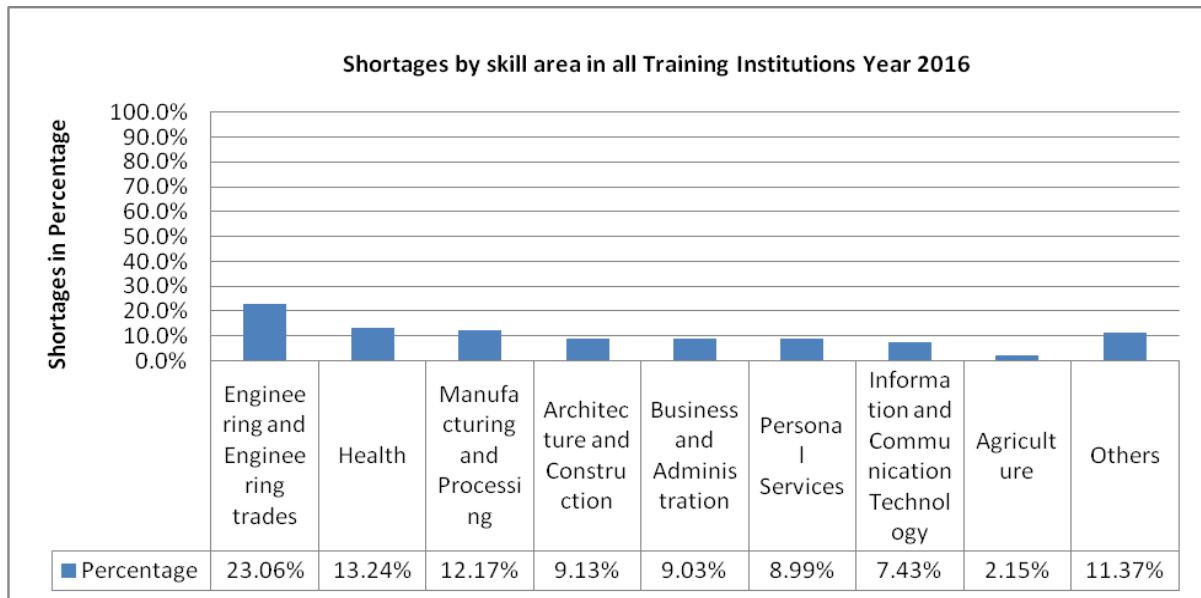


Figure 12: Shortages by skill area in all Training Institutions, 2016

2.3.8: Distribution of Shortages in Various Skill Areas by Level

Figures 13 to 14 illustrate how skill shortages were distributed by level; for example, what percentage of training institutions that reported staff shortage in Engineering & Engineering Trades skill area had the shortages for PhD teaching staff, Master's level staff, etc. Given the large number of the skill areas, each figure contains an analysis of a set of 9 skill areas.

Figure 13 below shows that in health skill area, Bachelor's degree level had the highest shortage at 50.31 percent followed by PhDs at 19.66 percent, Master's at 15.63 percent, and Higher Diploma at 8.79 percent.

In Engineering and Engineering Trades, skills shortage at Diploma level was highest at 48.70 percent, followed by Bachelor's level 12.68 percent, Artisan level 12.47 percent and Craft level 11.49 percent.

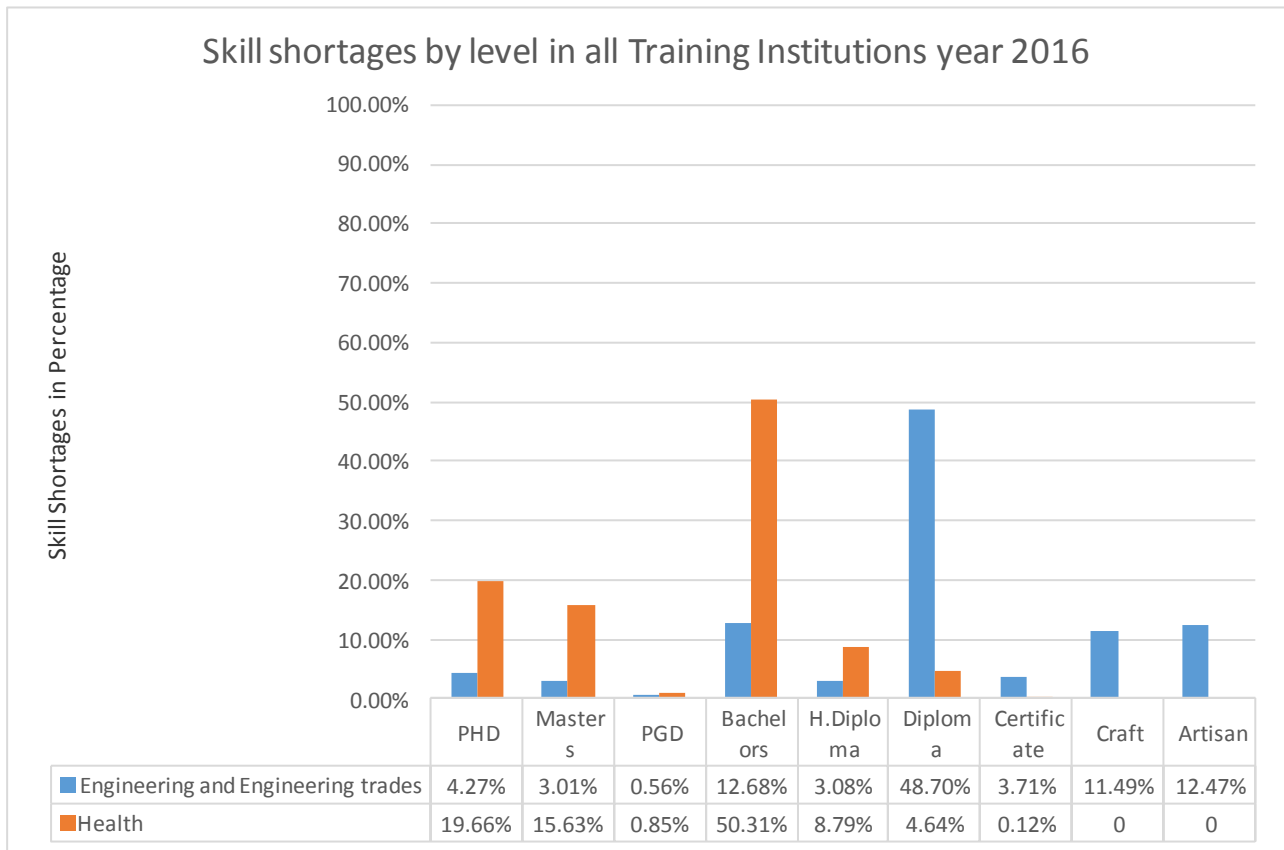


Figure 13: Shortages in Engineering & Engineering Trades and in Health by level in all training Institutions.

Manufacturing & Processing and Architecture & Construction were also identified in Figure 14, as among those with shortage of academic staff. Further, it was observed that in Manufacturing & Processing, the level with the highest shortage was Diploma at 48.07 percent followed by Artisan 16.73 percent, Craft 16.47 percent and Certificate at 8.73 percent. Similarly, in Architecture & Construction, the level with the highest shortage was again Diploma level at 41.42 percent, followed by Bachelor's degree level at 19.47, Craft and Artisan at 9.56 percent and Master's degree level at 8.85 percent.

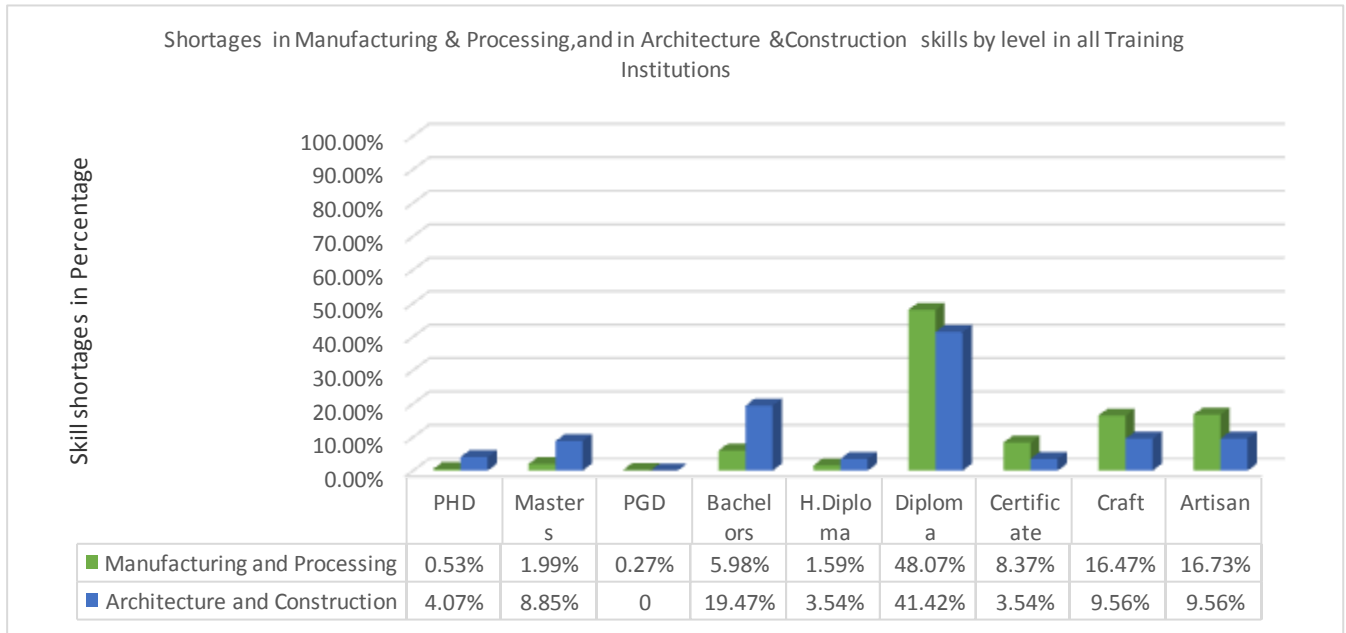


Figure 14: Shortages in Manufacturing & Processing and in Architecture & construction skill areas by level in all Training Institutions

Business & Administration and Personal Services completed the top six skill areas that were identified as having shortages. Figure 15 shows that in Business & Administration skill area, bachelor's degree level had a shortage of 53.67 percent, followed by Diploma at 15.21 percent and PhD at 13.77 percent. Similarly, in Personal Services, the highest shortage was at Diploma accounting for 51.62 percent, followed by Artisan at 12.95 percent and Bachelor's at 11.5 percent.

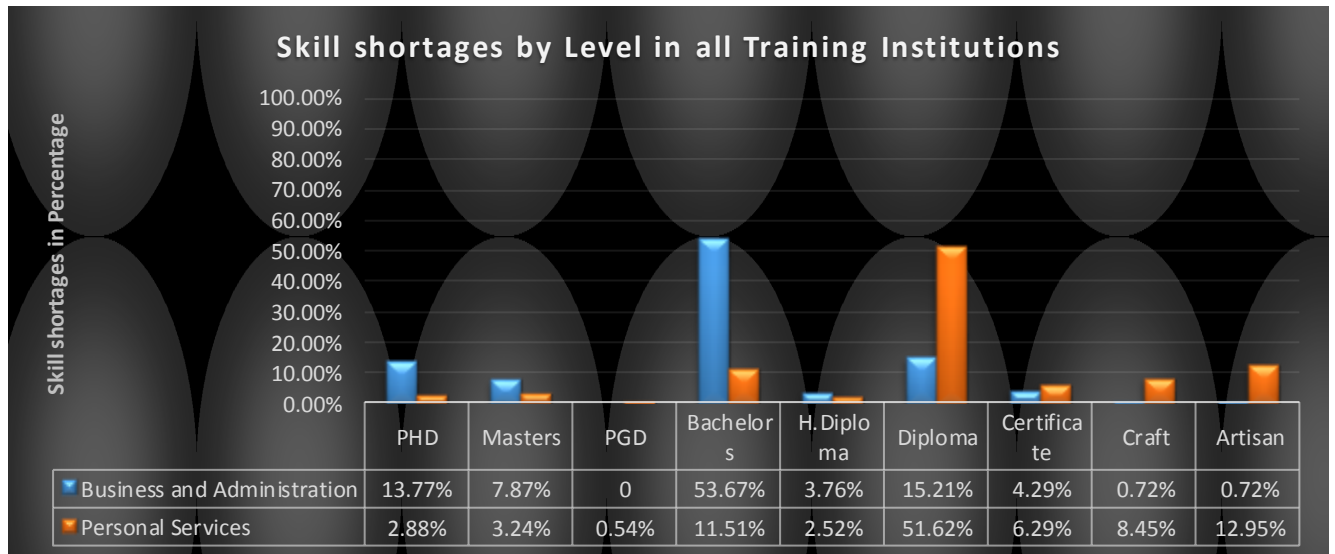


Figure 15: Shortages in Business & Administration and in Personal Services skill areas by level in all Training Institutions

2.4 Skill Shortages by Reason and Skill Area Category

Table 5 indicates that thirteen (13) reasons were recorded as to why training institutions were experiencing shortages as follows: - cultural beliefs, difficulty in getting qualified staff, financial constraints, unplanned increased student enrolment, insecurity, inadequate capacity building for the staff, inadequate tools/equipment, low student enrolment, low remuneration, lack of succession management schemes, newly established institutions, new programmes and non-posting of lecturers/tutors by Government and Teachers Service Commission.

The most cited reason for skill shortages in training institutions was non-posting of lecturers/tutors by either the Government or Teachers Service Commission at an average of 35.4 percent. The skill areas that were most affected by this reason were Engineering, Manufacturing, Building (construction); followed by Health & Welfare; Services; Business,

Administration and Law; Agriculture, Forestry, Fishery & Veterinary Services; and Information Communication Technology.

Financial constraints recorded 26.99 percent at position two. The hardest hit skill areas were Engineering, Manufacturing and Construction (Building); followed by Services; Information & Communication Technology; Health & Welfare.

Difficulties in getting qualified staff was third at 20.3 percent. Most affected skill areas were Engineering, Manufacturing and Construction; followed by Health & Welfare; Business, Administration & Law; Services and ICT.

Table 5: Skill Shortages by Reason and Skill Area Category

REASON	SKILL AREA										Total	% Total
	Education	Arts and Humanities	Social Sciences, Journalism and Information	Business, Administration and Law	Natural Sciences, Mathematics and Statistics	Information and Communication Technology	Engineering, Manufacturing and Construction	Agriculture, Forestry, Fisheries and Veterinary	Health and Welfare	Services		
Cultural beliefs	0	0	0	0	0	0	1	0	0	0	1	0.02
Difficulties in getting qualified staff	25	46	26	128	82	100	430	44	258	115	1254	20.27
Financial Constraints	38	8	5	67	33	141	1001	24	117	236	1670	26.99
Unplanned Increased Students enrolment	0	5	3	71	3	20	99	4	35	16	256	4.14
Insecurity	2	0	0	10	0	6	10	0	0	0	28	0.45

REASON	SKILL AREA										Total	% Total
	Education	Arts and Humanities	Social Sciences, Journalism and Information	Business, Administration and Law	Natural Sciences, Mathematics and Statistics	Information and Communication Technology	Engineering, Manufacturing and Construction	Agriculture, Forestry, Fisheries and Veterinary	Health and Welfare	Services		
Inadequate capacity Building for the staff	0	0	0	2	6	0	9	0	48	4	69	1.12
Inadequate Tools/Equipment	0	1	0	1	2	0	8	0	0	8	20	0.32
Low enrolment	5	2	2	13	2	9	52	19	8	7	119	1.92
Low remuneration	0	28	15	6	2	5	40	0	28	7	131	2.12
Lack of Succession management schemes	9	7	1	46	15	5	54	1	77	8	223	3.6
New Institution(s)	0	5	0	6	3	4	11	0	1	0	30	0.48
New Programme	0	0	4	38	36	30	59	0	1	27	195	3.15
Non- posting by County Govt and TSC	67	27	27	180	79	140	981	149	346	195	2192	35.43
Total	146	129	83	568	263	460	2755	241	920	623	6188	100
% Total	2.36	2.08	1.34	9.18	4.25	7.43	44.52	3.89	14.87	10.07	100	

**Skill Areas categorized as per ISCED 2013 narrow field classification*

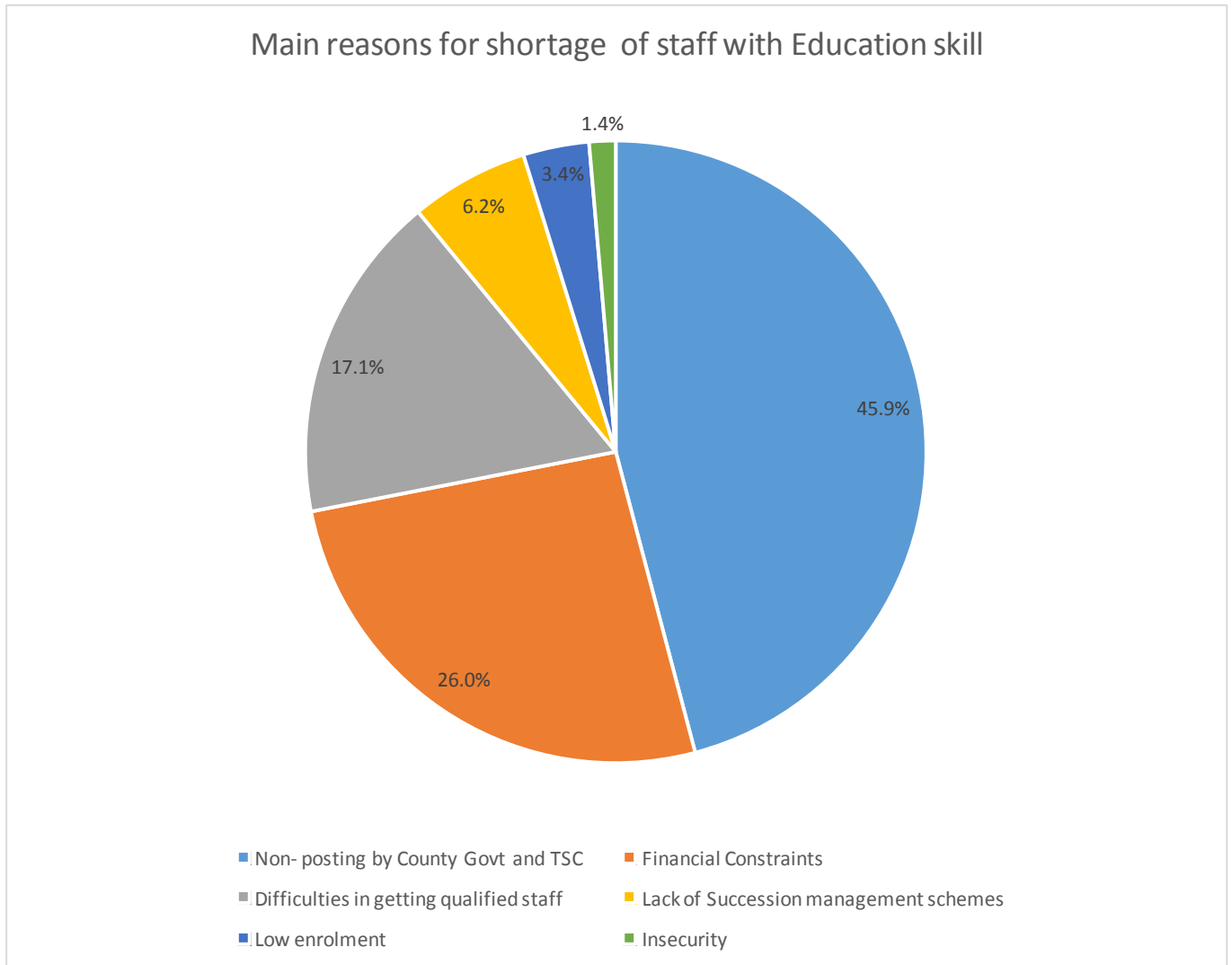


Figure 16: Main reasons for Shortage of staff with Education Skill in Local Training Institutions

Out of the reasons cited by training institutions as affecting staffing in the Education skill area, non-posting by county government and TSC had the largest share of shortages at 45.9 percent. The second major reason was Financial Constraints with a share of 26 percent followed by Difficulties in getting Qualified Staff with 17 percent as shown in Figure 16.

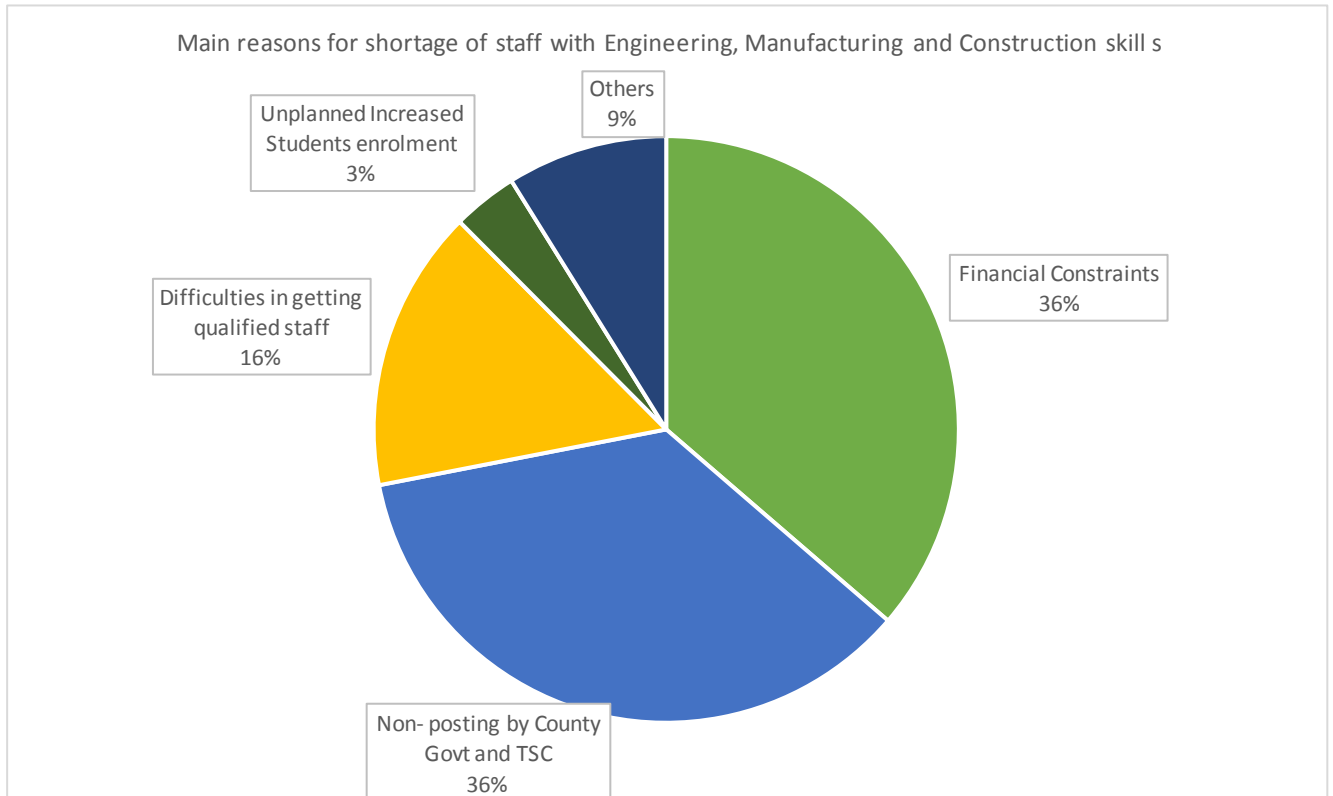


Figure 17: Main reasons for Shortage of staff with Engineering, Manufacturing and Construction skill in Local Training Institutions

Out of the reasons cited by training institutions as affecting staffing in the Engineering, Manufacturing and Construction skill area category, financial constraints and non-posting by county government and TSC had the highest shortage at 36.3 and 35.6 percent respectively. The other major reason was difficulties in getting qualified staff at 16 percent as shown in 17.

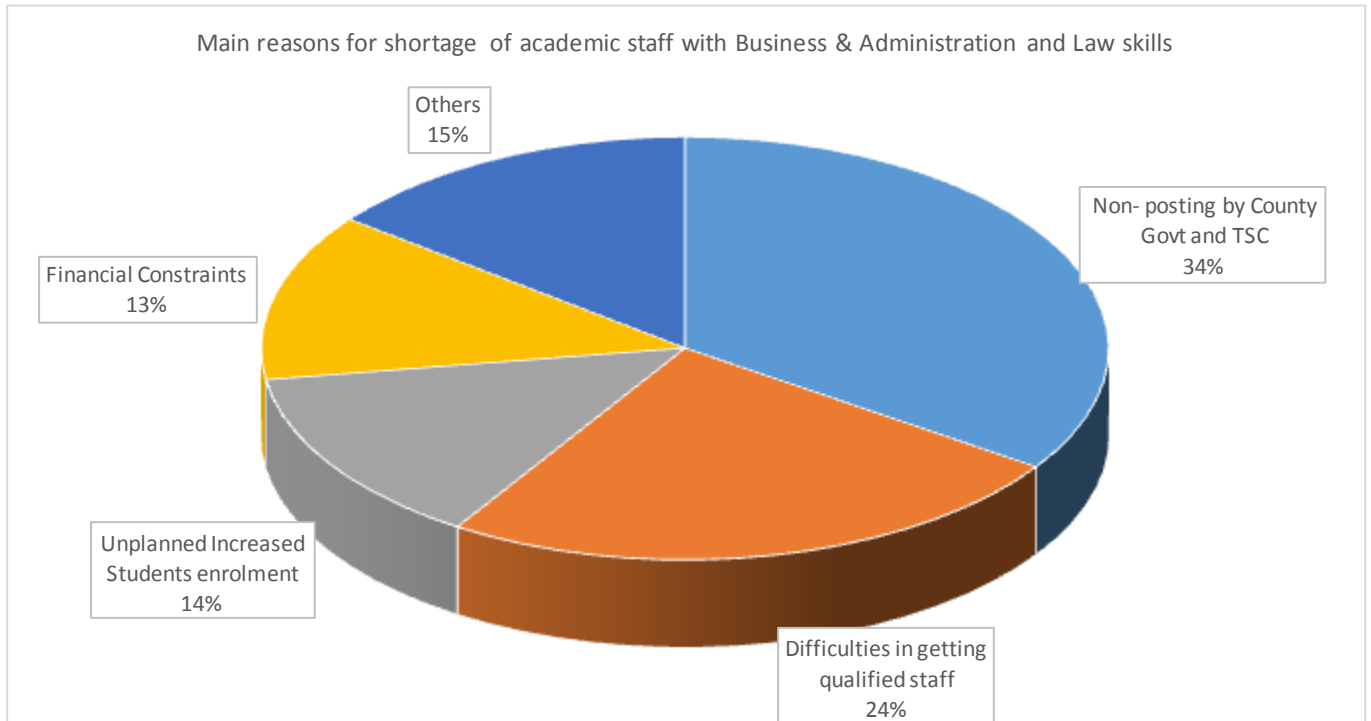


Figure 18: Main reasons for Shortage of staff with Business & Administration and Law skills in Local Training Institutions

Out of the reasons cited by the training institutions as affecting staffing in the Business, Administration and Law skill area categories, non-posting by county government and TSC had the largest share of 34 percent. The second major reason was difficulties in getting qualified staff with 24 percent followed by unplanned increase in student enrolment at 14 percent and financial constraints at 13 percent as shown in Figure 18.

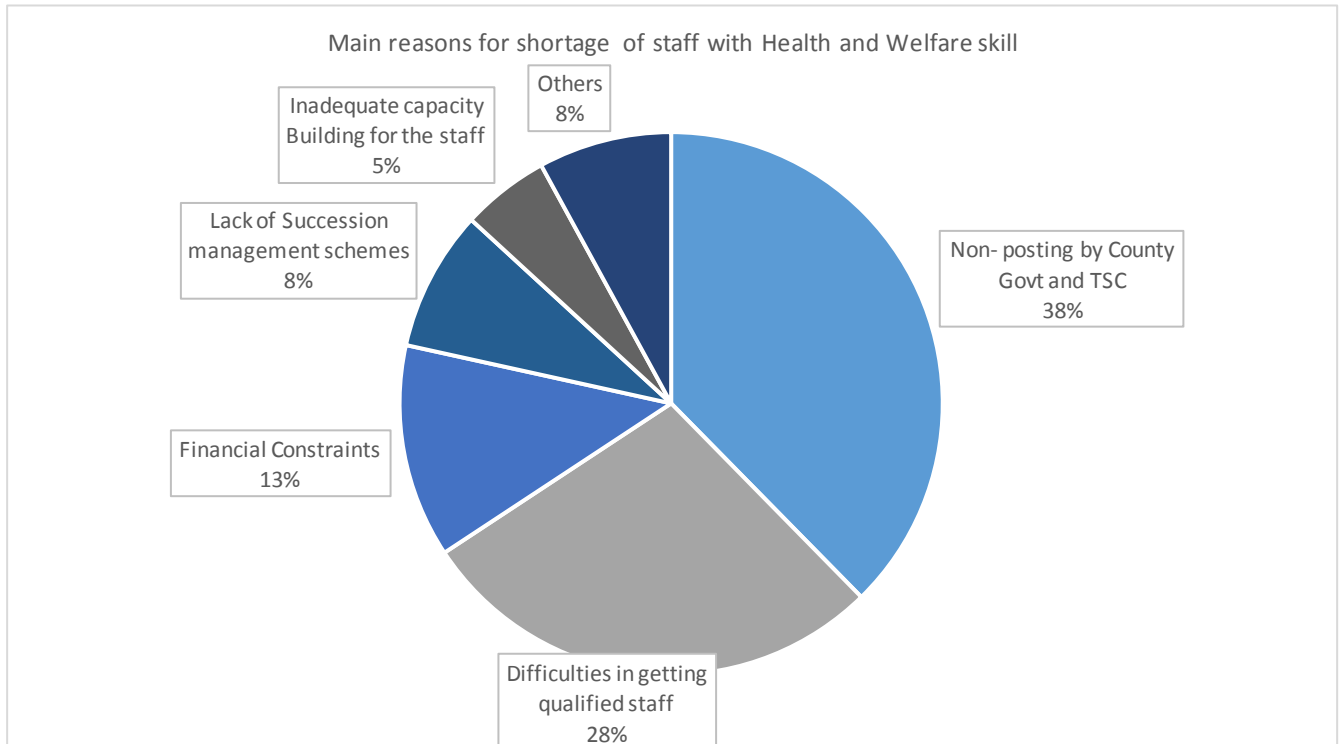


Figure 19: Main reasons for Shortage of Academic staff with Health and Welfare skill in Local Training Institutions

Out of all the reasons cited by the training institutions as affecting staffing in the Health and Welfare skill area, non-posting by county government and TSC had the largest share at 38 percent. The second major reason was difficulties in getting qualified staff with a share of 28 percent followed by financial constraints with 13 percent. Other reasons were: Lack of succession management at 8 percent, inadequate capacity building for staff at 5 percent as shown in 19.

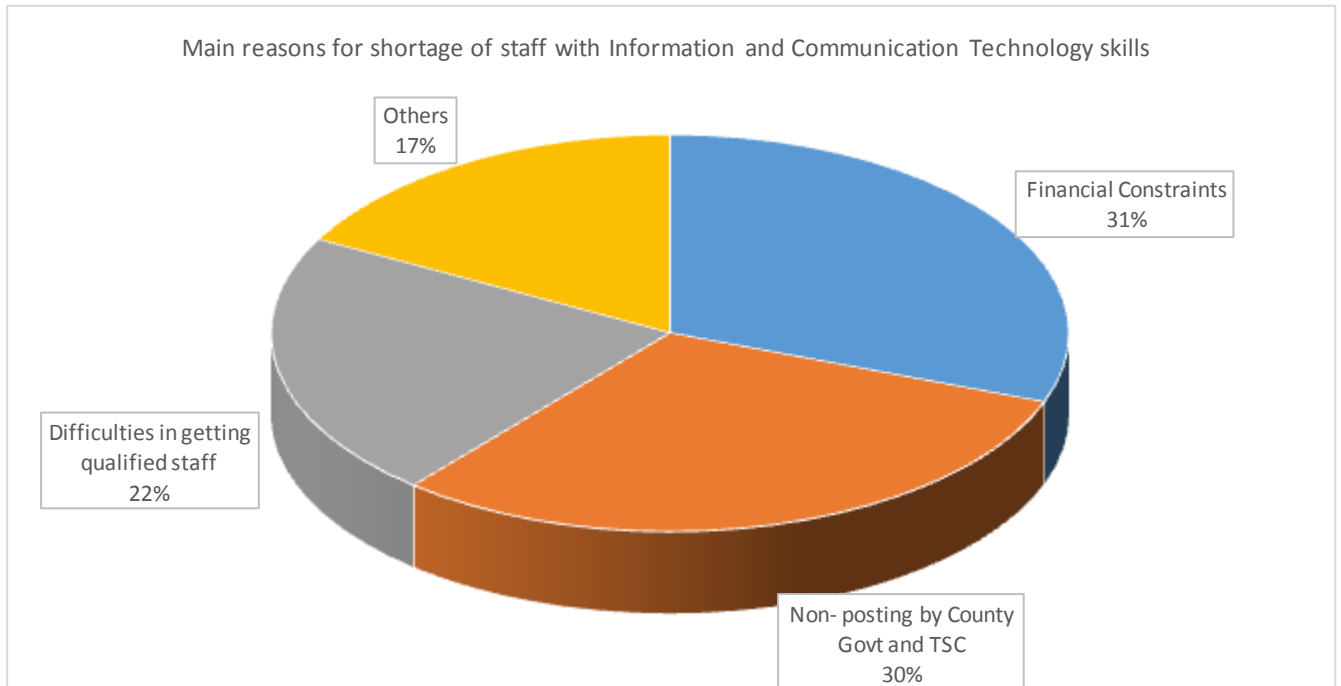


Figure 20: Main reasons for Shortage of Academic staff with Information &Technology skills in Local Training Institutions

Out of the reasons cited by the training institutions as affecting staffing in the Information &Technology skill area category, financial constraints was leading at 31 percent followed closely by non-posting by county government and TSC with 30 percent and difficulties in getting qualified staff at 22 percent as shown in 20.

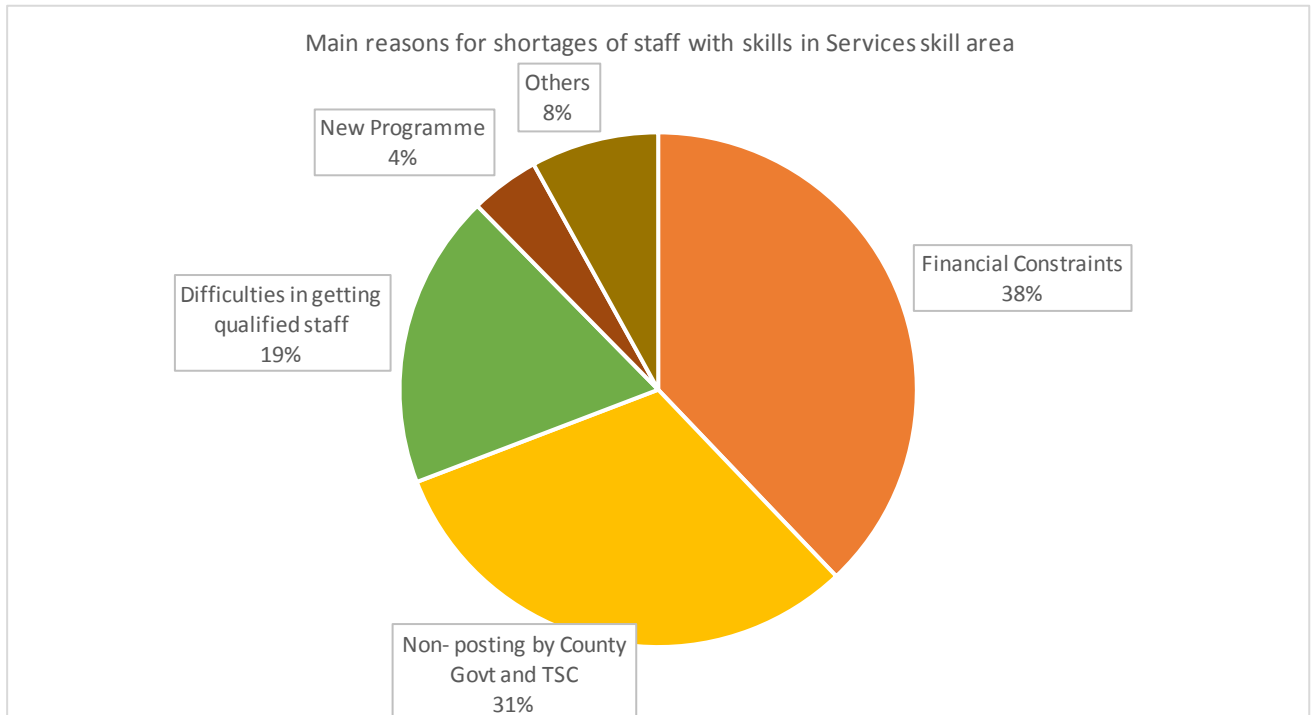


Figure 21: Main reasons for Shortage of Academic staff with skills in Services skill area in Local Training Institutions

Out of the reasons cited by training institutions as affecting staffing in the Services skill area category, financial constraints was leading at 38 percent, followed closely by non-posting by county government and TSC with 31 percent and difficulties in getting qualified staff 19 percent as shown in 21.

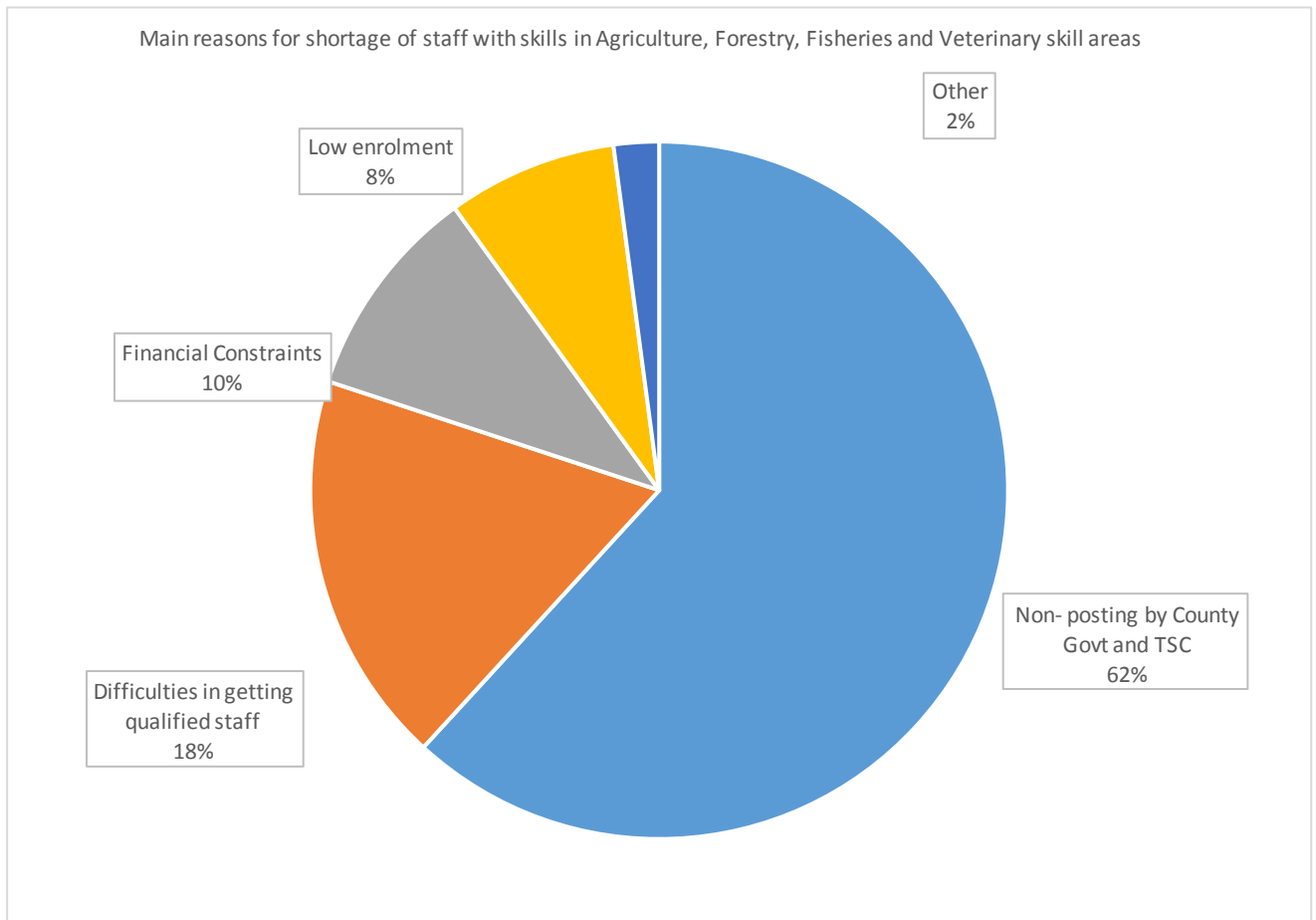


Figure 22: Main reasons for Shortage of Academic staff with skills in Agriculture, Forestry, Fisheries and Veterinary skill areas in Local Training Institutions

Out of the reasons cited by training institutions as affecting staffing in the Agriculture, Forestry, Fisheries and Veterinary skill area categories, non-posting by county government and TSC had the largest share of 62 percent followed by difficulties in getting qualified staff and financial constraints came second and third at 18 and 10 percent respectively as shown in 22.

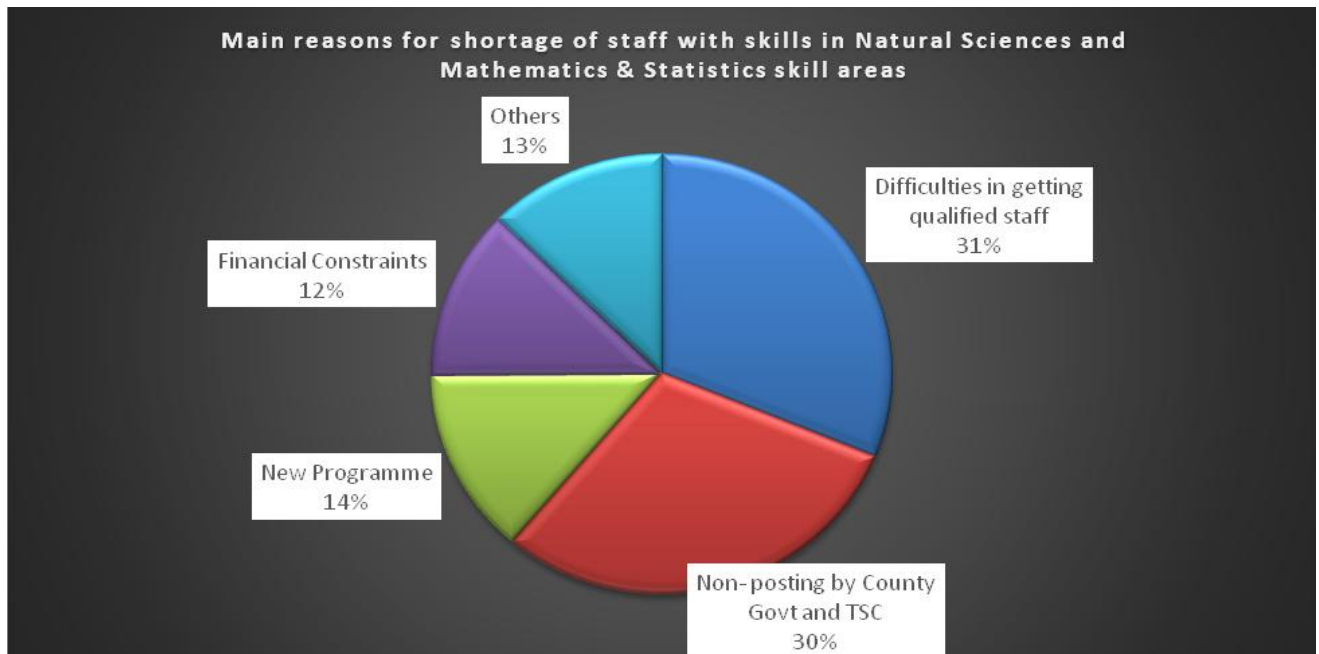


Figure 23: Main reasons for Shortages of staff with skills in the Natural Sciences and Mathematics & Statistics skill areas in Local Training Institutions

Out of the reasons cited by the training institutions as affecting staffing in the Natural Sciences, Mathematics & Statistics skill area categories, difficulties in getting qualified staff was leading at 31 percent, followed closely by non-posting by county government and TSC at 30 percent. The other major reason was newly launched programmes at 14 percent and financial constraints at 12 percent as shown in Figure 23.

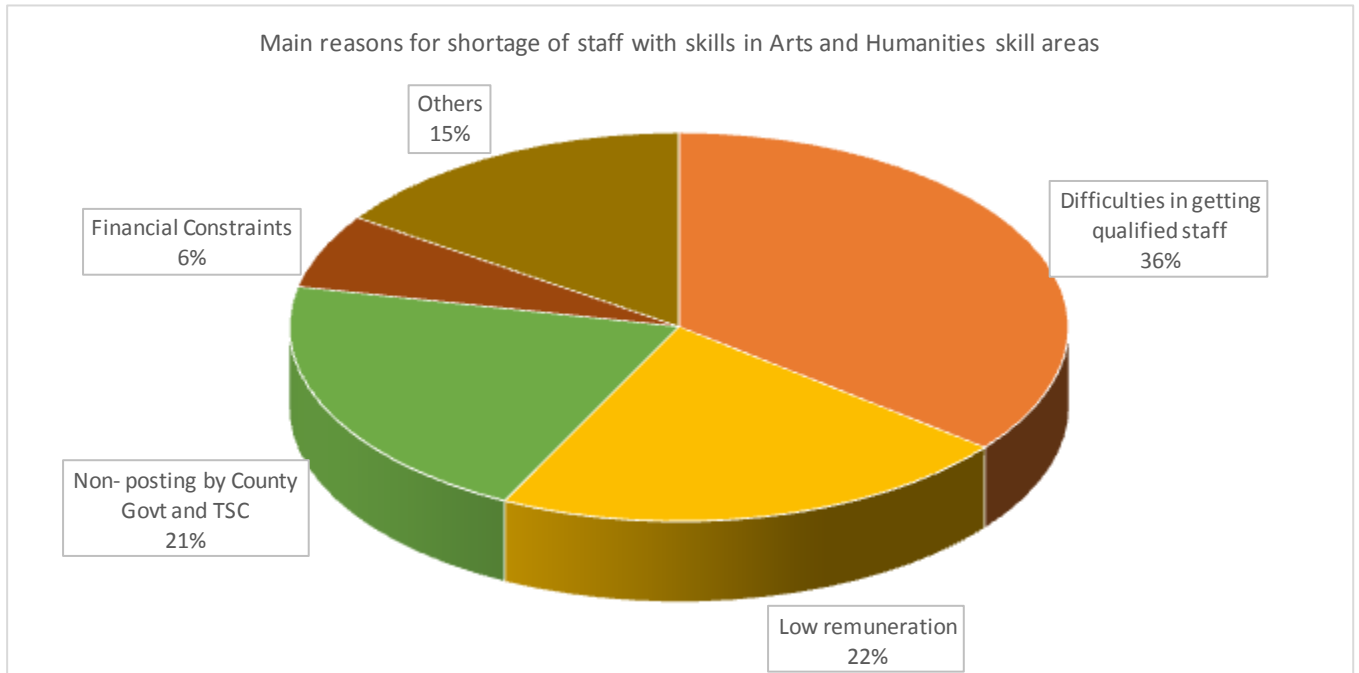


Figure 24: Main reasons for Shortage of Academic staff with skills in the Arts & Humanities skill areas categories in Local Training Institutions

Out of the reasons cited by the training institutions as affecting staffing in the Arts and Humanities skill area categories, difficulties in getting qualified staff led with 36 percent shortage, followed by low remuneration at 22 percent and non-posting by county government or TSC at 21 percent as shown in Figure 24.

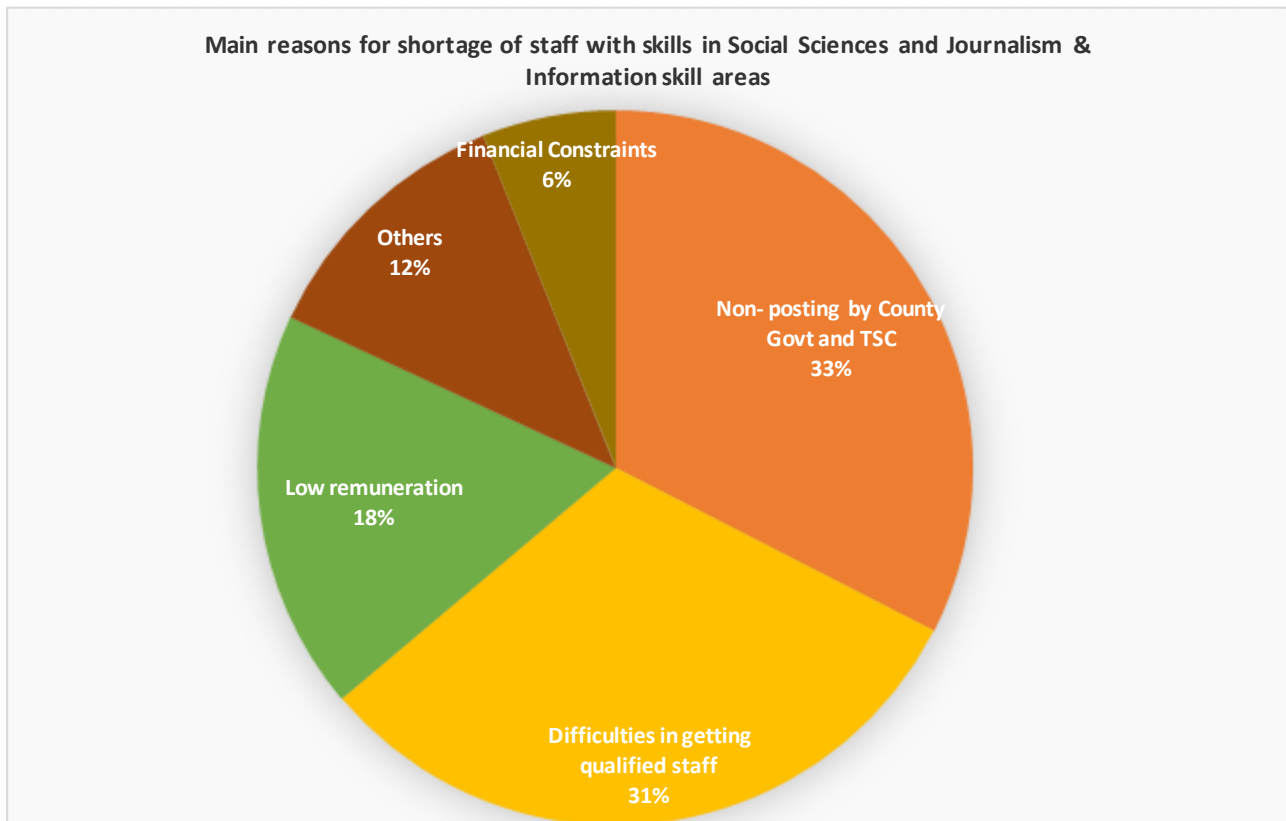


Figure 25: Main reasons for Shortage of Academic staff with skills in the Social Sciences and Journalism & Information skill area categories in Local Training Institutions

Out of all the reasons cited by the training institutions as affecting staffing in the Social Science, Journalism & Information skill area categories, non-posting by county government and TSC led with 33 percent, followed closely by difficulties in getting qualified staff at 31 percent. Low remuneration was third position at 18 percent as shown in 25.

Figure 26 presents a summary of all the reasons that were cited as contributing to shortage of academic staff in local training Institutions during the reference period. While non-posting of Teachers by the Employer namely TSC and County Governments was cited as the most significant cause of shortage accounting for 35.43 percent, cultural belief was cited as the least significant reason for shortage accounting for 0.02 percent. This aspect of cultural belief was only cited in one skill area-Engineering and engineering Trades.

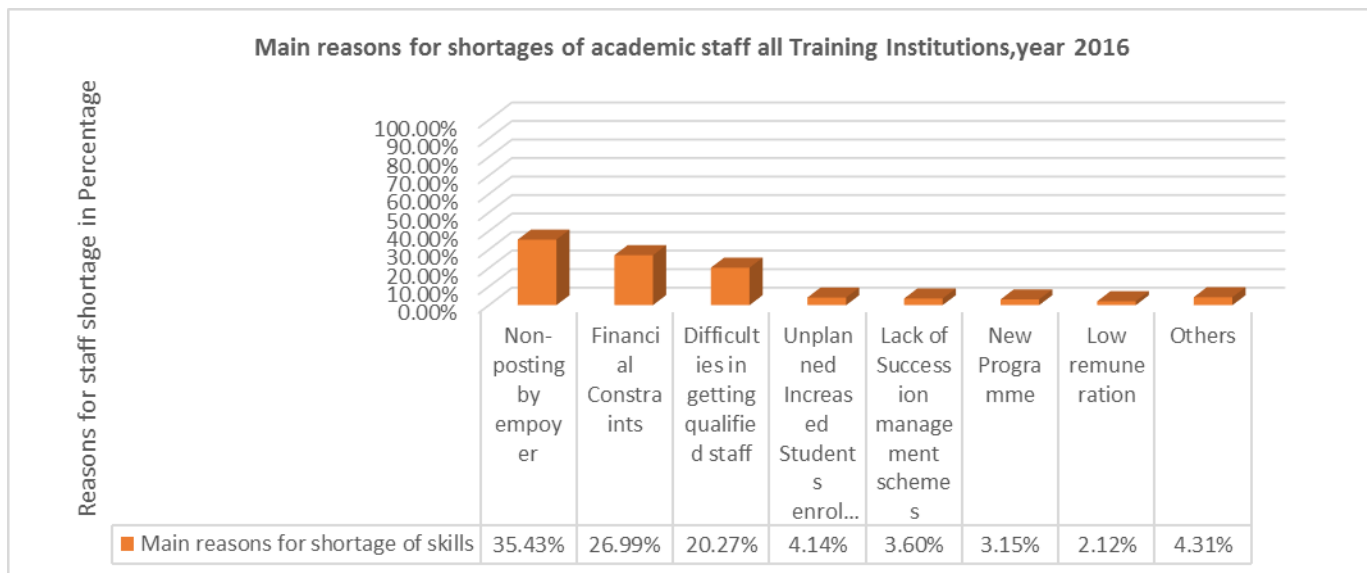


Figure 26: Summary of Main reasons for Shortage Skills of academic staff in Local Training Institutions

Figure 26 looks at the main reasons why there were shortages in all training institutions. The main reason accounting for 35.43 percent was non-posting of academic staff by the employer, with special mention of TSC and County Government- the latter being the current employer in Vocational Training Centres. This was followed by Financial Constraints at 26.99 percent and difficulty in getting qualified staff at 20.27 percent. Other reasons accounting for 4.31 percent were grouped together. These included: Low enrolment, inadequate capacity building for the staff, institution newly established, insecurity, inadequate working tool & equipment and cultural beliefs.

Most local training institutions that were lacking academic staff in specific skill areas had resulted to employment of staff on part time basis. The survey findings as indicated in Table 6 below shows that, most part time academic staff were in the field of Business & Administration accounting for 28.09 percent, followed by Education at 9.85 percent, Information Communication & Technology at 8.31 percent, Health at 7.81 percent and Engineering & Engineering trades at 6.90 percent.

In terms of skill levels, most part time academic staff in the local training institutions had master's degree level of training accounting for 44.81 percent, followed by Bachelor's degree at 21.61 percent and PhDs at 12.81 percent.

Table 6: Distribution of Part Time academic staff in all Local Training Institutions by Skill area, level and sex, 2016

Skill Area	Level																		Total	%
	PhD		Master's		Bachelor's		PGD		H. Diploma		Diploma		Certificate		Artisan		Craft			
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F		
Agriculture	25	7	40	22	15	8	0	0	0	4	5	1	0	0	0	2	2	0	131	2.33%
Engineering and engineering trades	23	1	84	20	92	16	2	0	10	1	59	11	32	1	5	2	17	12	388	6.90%
Physical sciences	42	9	134	30	14	3	2	0	1	0	0	0	2	0	1	0	6	3	247	4.39%
Architecture and construction	2	1	10	3	16	1	1	0	4	0	33	4	8	0	7	1	9	2	102	1.81%
Arts	1	1	4	3	7	4	0	0	0	0	0	0	1	0	0	0	0	0	21	0.37%
Biological and related sciences	23	12	39	16	3	1	0	0	1	0	0	0	0	0	1	1	1	1	99	1.76%
Business and administration	118	67	560	312	208	76	9	3	31	14	66	41	11	10	11	5	26	11	1579	28.09%
Education	35	13	162	79	108	72	5	2	1	0	26	22	4	1	8	1	8	7	554	9.85%
Environment	37	17	41	21	12	8	0	0	0	0	0	0	0	0	0	0	0	0	136	2.42%
Health	20	6	79	28	119	82	2	3	47	19	16	9	2	0	0	0	4	3	439	7.81%
Humanities (except languages)	50	8	74	27	54	13	0	1	21	14	14	2	0	1	3	0	3	2	287	5.10%
Information and Communication Technologies (ICTs)	28	6	165	44	64	28	4	7	10	3	36	28	8	7	5	3	17	4	467	8.31%
Journalism and information	10	3	31	26	18	9	0	0	0	2	6	2	0	0	1	0	1	1	110	1.96%
Languages	16	5	41	18	22	14	1	0	2	0	8	3	2	3	0	0	5	4	144	2.56%
Law	8	5	25	13	11	2	0	0	0	0	4	1	0	0	0	1	0	0	70	1.25%
Manufacturing and processing	1	2	7	7	8	6	0	0	4	0	14	34	17	10	7	2	9	10	138	2.45%
Mathematics and statistics	32	5	69	31	17	3	1	1	0	0	1	0	1	0	0	2	3	3	169	3.01%
Personal services	5	1	5	13	6	7	0	0	2	4	7	34	2	22	1	0	7	1	117	2.08%
Security services	0	0	15	5	3	2	0	0	0	0	0	0	0	0	1	0	0	0	26	0.46%
Social and behavioural sciences	36	22	71	55	18	11	3	0	0	0	1	0	1	2	1	0	5	2	228	4.06%
Transport services	0	0	1	0	1	0	3	0	0	0	0	0	0	0	0	0	0	0	5	0.09%

Veterinary	4	0	1	0	0	0	0	0	0	0	1	0	2	0	0	0	1	0	9	0.16%
Welfare	15	2	58	30	22	11	0	0	5	1	5	0	0	0	2	0	3	2	156	2.77%
	53	19	171	80	83	37	33	17	13	62	30	19	93	57	54	20	12	68	5622	100
Sub Total	724		2519		1215		50		201		494		150		74		195		5622	
Percentage	12.82%		44.81%		21.61%		0.89%		3.58%		8.79%		2.67%		1.32%		3.47%			

**Skill Areas categorized as per ISCED 2013 narrow field classification*

CHAPTER THREE - FINDINGS

This chapter presents findings from the survey as indicated below.

Staffing and Skill Shortages in terms of Skill Areas and Levels

- i. Business and Administration skill area had the highest numbers of Academic staff followed by Education, and Engineering and Engineering Trades. The lowest were in Fisheries, Hygiene and Occupational Health Services, Veterinary and Transport Services.
- ii. Males had higher numbers of academic staff in Engineering and Engineering Trades skill area while the lowest was in Hygiene and Occupational Health Services, Fisheries and Veterinary Services. Females had higher numbers of academic staff in Business and Administration followed by Education and Health while the lowest was in Hygiene and Occupational Health Services, Mathematics and Security.
- iii. During the period under review, Master's Level had the highest numbers of academic staff in various skill areas followed by Bachelor's and PhD. The lowest was in Post-graduate Diploma and Craft. Males and females had high numbers of academic staff in Master's, Bachelor's and PhD levels compared to PGD, Craft and Artisan. Males outnumbered females in all skill levels.
- iv. Diploma, Bachelor's and PhD recorded the highest number of staff shortages at 32.2percent, 26.4 and 12.4 percent respectively. The least number of staff shortages were observed in PGD, Certificate and Higher Diploma at 0.3, 4.1 and 3.8 percent respectively.
- v. Vocational Training Centres, Universities and Institutes of Technology recorded the highest number of staff shortages at 44.6 percent, 15.6 and 9.5 percent respectively.
- vi. Agriculture and related institutions, Kenya School of Government, National Youth Service institutions and Vocational Rehabilitation

Centres contributed for less than 1 percent of the total staff short shortage in all the training institutions.

- vii. The highest skills shortages were recorded in Engineering and Engineering Trades at 23.06 per cent followed by Health at 13.24, Manufacturing and Processing 12.17, Architecture and Construction 9.13, Business and Administration 9.03, Personal Services 8.99 and Information and Communication at 7.43 percent.
- viii. The least shortages were observed in Arts, Humanities, Languages, Social and Behavioural Sciences, Journalism and Information, Law and Environment skill areas with less than 1 percent.
- ix. In terms of shortages per Skill Levels, the highest skill shortages were observed at Diploma, Bachelor's and at PhD levels at 32.5 percent, 26.4 and 12.4 percent respectively while the levels with the least skill shortages recorded in Post-Graduate Diploma, Higher Diploma and Certificate levels at 0.3 percent, 3.8 and 4.1 percent respectively.
- x. The survey established that the top reason for skill shortages was non-posting of lecturers/tutors by Government and Teachers Service Commission. This was followed by financial constraints and difficulties in getting qualified staff among others.
- xi. The survey established that most institutions experiencing shortages resulted to employing part time academic staff.
- xii. During the period under review, Master's level had the highest number of staff on part time basis at 44.81 percent, followed by bachelor's at 21.61 percent and PhD at 12.81 percent.
- xiii. The survey established that Business & Administration skill area had the highest number of academic staff on part time basis.

CHAPTER FOUR - CONCLUSION AND RECOMMENDATIONS

This chapter presents conclusions and recommendations of the survey as follows: -

- i. Non-posting of lecturers/tutors by Government and Teachers Service Commission was the reason attributed to the highest staff shortage. This reason was mainly cited by Vocational Training Centres, which also happened to have the severest shortage.

In some cases, the shortage was so severe that workshops would be non-operational despite being equipped, for lack of instructors.

Recommendation: It is recommended that given that these centres are very important for imparting technical skills to the youth at the grassroots level-such as metal work, plumbing, masonry, tailoring, among others, which are key skills for not only the Big Four agenda but also for poverty eradication for the less privileged youth, there is need for remedial measures to be taken.

The second level of training institutions most affected were the Universities followed by Medical Training Colleges and Technical Training Institutes.

Recommendation: It is recommended that deliberate measures be taken by the government to ensure provision of enough lecturer numbers commensurate with the doubled number of Universities in the country. Fast tracking of completion rates in post-graduate courses as well as expanded financial sponsorship would go a long way.

It is also recommended that government progressively reviews the freeze on employment to improve staffing levels in MTCs and TTIs.

ii. It was observed that there were difficulties in getting qualified staff especially in Engineering and Engineering Trades and Health&Welfare Services. The former touches substantially on Housing and Construction while the latter touches on the realization of Universal Health Care, both of which are in the Big 4 agenda. This is an indication of skills gap in the labour market.

Recommendation: Expanded enrolment levels targeting these two key areas is hereby recommended. It is also recommended that government and the private sector invest more in these key fields.

iii. Other major reasons cited were financial constraints and difficulties in getting qualified staff. These were mostly cited by private sector training institutions.

Recommendation: Financial investment and other strategies aimed at development of skills at the required levels and quantities in the respective areas as illustrated in the report are recommended. One such strategy as proposed during the stakeholder validation workshop is to introduce a teaching/training module in highly specialized training programmes such as Medicine and Engineering to enable graduates transfer these skills as part time trainers.

APPENDICES

Appendix 1: Questionnaire

MEACLSP/NHRPD/1

(For Official Use)

STLI/2016

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S/NO



REPUBLIC OF KENYA

MINISTRY OF EAST AFRICAN COMMUNITY (EAC), LABOUR AND SOCIAL PROTECTION

NATIONAL HUMAN RESOURCE PLANNING AND DEVELOPMENT DEPARTMENT

**SKILLS INVENTORY
STUDY OF TRAINING IN LOCAL INSTITUTIONS 2016**

INSTRUCTIONS FOR COMPLETING THIS QUESTIONNAIRE

1. Please complete this questionnaire and return to the officer conducting this exercise or to **The Director, National Human Resource Planning & Development Department, P.O. Box 40326 00100, Nairobi.** Tel. 2729800 Ext. 4403/4363, Mobile Number - 0727840841 or visit our offices at NSSF Building Block “B”, 14th Floor.
2. Where the space provided in the questionnaire is not adequate, extra information may be attached in a separate sheet using the same format.
3. The information may also be provided in soft copy using the same format.
4. The information supplied will be treated with strict confidentiality and used for planning purposes only.

GENERAL PARTICULARS

Name of the Institution -----

Type of Institution (e.g University, National Polytechnic, Medical Training College) --

Postal Address ----- Telephone -----

County ----- Sub-County-----

Physical Location: Town-----, Road-----, Building-----

Type of ownership (Public or Private) -----

PART I: OUTTURNS IN 2014, 2015 and 2016 BY PROGRAMME/COURSE, EXAMINING BODY, DURATION, COST AND SEX

S / No	NAME OF PROGRAMME/COURSE *	CODE (FOR OFFICE USE)	EXAMINING BODY	DURATION IN MONTHS	COST**	NUMBER OF OUTTURNS BY SEX					
						2014		2015		2016	
						M	F	M	F	M	F

* Indicate for example, Degree in Pharmacy, Diploma in Automotive Engineering, Cert in C.P.A 1, etc,
 **Cost covers Tuition fees payable for the full duration of the course

PART II (A): ENTER THE CURRENT NUMBER OF ACADEMIC STAFF ON FULL TIME BASIS BY SKILL AREA, LEVEL AND SEX

N/B: This part to be filled by the Head of Department

S/ No	Skill Area	Skill Level																	
		Phd		Mas ters		Bach elors		PGD		High er Dipl oma		Dipl oma		Certif icate		Cra ft		Arti san	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F

PART II (B): ENTER THE CURRENT NUMBER OF ACADEMIC STAFF ON PART TIME BASIS BY SKILL AREA, LEVEL AND SEX

S / N o	Skill Area	Skill Level																	
		Phd		Mas ters		Bach elors		PGD		High er Diplo ma		Dipl oma		Certi ficate		Craf t		Arti san	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F

PART III: INDICATE ANY SKILL SHORTAGES IN TERMS OF SKILL AREAS AND LEVELS AS PER ESTABLISHMENT

S/N o.	Skill Area	Skill Level*	Optimal	In post		Short fall	Main Reason for Shortfall
				M	F		

***Skill level i.e Phd, Master's, Bachelor's, PGD, Higher Diploma, Diploma, Certificate, Artisan, Craft**

Name of person completing the questionnaire.....

Designation

Signature

Official Rubber stamp----- Date-----

Thank you for participating in this exercise!

Name of Officer administering the questionnaire.....

Signature Date

Appendix II -UNESCO classification of education

ISCED- 2013

Broad field	Narrow field	Detailed field
Generic programmes and qualifications	Generic programmes and qualifications not further defined	Generic programmes and qualifications not further defined
	Basic programmes and qualifications	Basic programmes and qualifications
	Literacy and numeracy	Literacy and numeracy
	Personal skills and development	Personal skills and development
	Generic programmes and qualifications not elsewhere classified	Generic programmes and qualifications not elsewhere classified
Education	Education	Education not further defined Education science Training for pre-school teachers Teacher training without subject specialization Teacher training with subject specialization Education not elsewhere classified
Arts and humanities	Arts and humanities not further defined	Arts and humanities not further defined
	Arts	Arts not further defined Audio-visual techniques and media production Fashion, interior and industrial design Fine arts Handicrafts Music and performing arts Arts not elsewhere classified
	Humanities (except languages)	Humanities (except languages) not further defined Religion and theology History and archaeology Philosophy and ethics Humanities (except languages) not elsewhere classified
	Languages	Languages not further defined Language acquisition Literature and linguistics Languages not elsewhere classified
Social sciences, journalism and information	Social sciences, journalism and information not further defined	Social sciences, journalism and information not further defined
	Social and behavioural sciences	Social and behavioural sciences not further defined Economics

		Political sciences and civics Psychology Sociology and cultural studies Social and behavioural sciences not elsewhere classified
	Journalism and information	Journalism and information not further defined Journalism and reporting Library, information and archival studies Journalism and information not elsewhere classified
Business, administration and law	Business, administration and law not further defined	Business, administration and law not further defined
	Business and administration	Business and administration not further defined Accounting and taxation Finance, banking and insurance Management and administration Marketing and advertising Secretarial and office work Wholesale and retail sales Work skills Business and administration not elsewhere classified
	Law	Law
Natural sciences, mathematics and statistics	Natural sciences, mathematics and statistics not further defined	Natural sciences, mathematics and statistics not further defined
	Biological and related sciences	Biological and related sciences not further defined Biology Biochemistry Biological and related sciences not elsewhere classified
	Environment	Environment not further defined Environmental sciences Natural environments and wildlife Environment not elsewhere classified
	Physical sciences	Physical sciences not further defined Chemistry Earth sciences Physics Physical sciences not elsewhere classified
	Mathematics and statistics	Mathematics and statistics not further defined Mathematics Statistics
Information and Communication	Information and Communication Technologies (ICTs)	Information and Communication Technologies (ICTs) not further

Technologies (ICTs)		defined Computer use Database and network design and administration Software and applications development and analysis Information and Communication Technologies (ICTs) not elsewhere classified
	Inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs)	Inter-disciplinary programmes and qualifications involving Information and Communication Technologies (ICTs)
Engineering, manufacturing and construction	Engineering, manufacturing and construction not further defined	Engineering, manufacturing and construction not further defined
	Engineering and engineering trades	Engineering and engineering trades not further defined Chemical engineering and processes Environmental protection technology Electricity and energy Electronics and automation Mechanics and metal trades Motor vehicles, ships and aircraft Engineering and engineering trades not elsewhere classified
	Manufacturing and processing	Manufacturing and processing not further defined Food processing Materials (glass, paper, plastic and wood) Textiles (clothes, footwear and leather) Mining and extraction Manufacturing and processing not elsewhere classified
	Architecture and construction	Architecture and construction not further defined Architecture and town planning Building and civil engineering
Agriculture, forestry, fisheries and veterinary	Agriculture, forestry, fisheries and veterinary not further defined	Agriculture, forestry, fisheries and veterinary not further defined
	Agriculture	Agriculture not further defined Crop and livestock production Horticulture Agriculture not elsewhere classified
	Forestry	Forestry
	Fisheries	Fisheries
	Veterinary	Veterinary
Health and welfare	Health and welfare not further defined	Health and welfare not further defined

	Health	Health not further defined Dental studies Medicine Nursing and midwifery Medical diagnostic and treatment technology Therapy and rehabilitation Pharmacy Traditional and complementary medicine and therapy Health not elsewhere classified
	Welfare	Welfare not further defined Care of the elderly and of disabled adults Child care and youth services Social work and counseling Welfare not elsewhere classified
Services	Services not further defined	Services not further defined
	Personal services	Personal services not further defined Domestic services Hair and beauty services Hotel, restaurants and catering Sports Travel, tourism and leisure Personal services not elsewhere classified
	Hygiene and occupational health services	Hygiene and occupational health services not further defined Community sanitation Occupational health and safety Hygiene and occupational health services not elsewhere classified
	Security services	Security services not further defined Military and defence Protection of persons and property Security services not elsewhere classified
	Transport services	Transport services
	Services not further defined	Services not further defined
Field unknown	Field unknown	Field unknown