

**ANALYSIS OF THE CONSTRAINTS IN HUMAN RESOURCE  
AVAILABILITY (TRAINING, RECRUITMENT, DEPLOYMENT, AND  
RETENTION) ESPECIALLY IN HARD TO REACH AREAS**

**FINAL REPORT**

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## List of abbreviations

AIDS	Acquired Immune Deficiency Syndrome
AMO	Assistant Medical Officer
AMREF	African Medical and Research Foundation
ANC	Antenatal Care
ART	Antiretroviral Therapy
CCHP	Council Comprehensive Health Plan
CEDHA	Center for Educational Development in Health Arusha
CPD	Continuous Professional Development
D by D	Decentralization by Devolution
DFID	Department for International Development
EHP	Emergency Hiring Plan
FBOs	Faith Based Organizations
FTE	Full Time Equivalent
GOK	Government of Kenya
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HRH	Human Resource for Health
HRHSP	Human Resource for Health Strategic Plan
HSSP	Health Sector Strategic Plan
IST	In-Service Training
JAHSR	Joint Annual Health Sector Review
MCHA	Maternal and Child Health Aides
MDGs	Millennium Development Goals
MDs	Medical Doctors
MOEVT	Ministry of Education and Vocation Training
MOFEA	Ministry of Finance and Economic Affairs
MOHSW	Ministry of Health and Social Welfare
MUHAS	Muhimbili University of Health and Allied Sciences
NACTE	National Accreditation Council of Technical Education
NGOs	Non Governmental Organizations
NIMR	National Institute for Medical Research
OPD	Outpatients Department
OPRAS	Open Performance Review and Appraisal System
PER	Public Expenditure Review
PHSDP	Primary Health Service Development Plan
PMOLARG	Prime Minister Office- Regional Administration and Local Government
POPSM	President Office Public Service Management
PPP	Public Private Partnership
REPOA	Research on Poverty Alleviation
RH	Reproductive Health
RHMT	Regional Health Management Team
TCU	Tanzania Commission of Universities
TDHS	Tanzania Demographic and Health Survey
TNHA	Tanzania National Health Account
Tshs	Tanzanian Shillings
USAIDS	United State Agency for International Development
WHO	World Health Organization
ZTCs	Zonal Training Centers

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## 2 INTRODUCTION

*“I was astounded by what I saw at Ilunde health centre. The health facility is critically understaffed. It has only one nursing attendant who prescribes medication to the patients and even performs minor surgical operations. This is not acceptable. The situation puts the lives of patients at a risk”*( Regional Commissioner ,Rukwa. 20<sup>th</sup> December 2009)

*“In the coming years, the health sector will embark on two major programs, the Primary Health Services Development and the Human Resources for Health Strategic Plan. These programs will improve accessibility and quality of health services and contribute to achieving the MDGs. The programs are important in improving the health of the population...”* ( Minister of Health and Social Welfare United Republic of Tanzania, 2008 )

*“... Achievement of the overall objective of the health sector and social welfare which is the provision of quality health and social welfare services to the public depends, to a large extent on availability of skilled personnel; sufficient in numbers and skills mix and appropriately deployed at all levels of care”.*( Chief Medical Officer – MOSHW,2008)

Health Workers, also referred to as Human Resources for Health (HRH) constitute the most critical and valuable asset to national health systems. HRH influences the optimal utilization of other resources and the investments made in the health sector (MoHSW, 2008). They are a vital component in realization of planned interventions. More often than not, however, there is a shortage of health workers especially in both the public and private sectors. This is a world wide problem with the poor countries harder hit. For example currently the global shortfall of health workers needed to assure basic health services for the 1.3 billion people in the world who have no health care stands at 4.2 million. To address this shortage of health personnel, including physicians, it is imperative to recruit the right people, with the right knowledge base and skills, and place them in the right place at the right time to do the right thing . Above and beyond all it is critical that all possible mechanisms are put in place to recruit and retain HRH in the sector with a particular focus of the rural areas.

There is an enormous shortage of human resources for health across all cadres. The shortage is more severe in the rural areas. The health sector in Tanzania is seriously understaffed. The total staffing in the health sector in Tanzania stands at 38% of the actual need according to staffing norms (JAHSR,2008). The available number of professional health workers in the public sector is 35,202 and the deficit is 90,722. Shortages in the private sector especially FBOs are also immense as will be summarized in the tables below.

The capacity of health training institutions is not fully exploited yet. Consequently there is a low output of trained personnel. Training institutions have several setbacks (understaffing, neglected infrastructure, low investment etc) to match the existing demand. Staff currently in the field for example requires reliable and accessible Continuing Professional Development (CPD) to meet training needs, but capacity building of staff is often fragmented, linked to vertical programs, not targeting the right cadres.

Despite the effort done by the MOHSW in staffing the health facilities at all levels, there is still more work to be done. There is a general shortage of qualified staff at all levels, but the shortage is more evident at the lower levels and in the hardship working environment areas. The shortage is mainly caused by, among other factors, low output of qualified staff, maldistribution, poor remuneration, poor infrastructure, lack of attractive retention scheme, migration after training to other countries, and inter-sectoral movement and or retraining in other disciplines. In 2006, there were 5,795 health facilities in the country. These facilities are bound to increase with the implementation of Primary Health Service Development Plan up

to 13,039 by 2017 (MOHSW, 2008). Given the facilities increase, automatically the demand for more human resource will be inevitable and therefore the need to increase the training and absorption of skilled health and social welfare workforce is necessary.

This report analyses the staffing levels and norms; factors affecting, availability, training and deployment of Human Resources for Health (HRH) in Tanzania's health sector, both public and private, focusing mainly on factors affecting underserved areas.

### **3 BACKGROUND TO THE NECESSITY OF ADDRESSING HUMAN RESOURCE AVAILABILITY IN TANZANIA.**

Major national level guiding policies or roadmap documents require an objective analysis and understanding of the availability of human resource for health because the later determine the populations' health which is critical in implementing and realization of the roadmaps or policy documents. The major policies or road maps include those summarized below:

#### **3.1 National Health Policy 2007**

The National Health Policy aims at implementing national and international commitments. These are summarized through policy vision, mission, objectives and strategies. The Health Policy vision is to have a health community, which will contribute effectively to an individual development and country as a whole. The mission is to facilitate provision of basic health services, which are proportional, equitable, quality, affordable, sustainable and gender sensitive. The Human Resource component in MKUKUTA requires to be fed by the national health policy.

#### **3.2 Tanzania Development Vision 2025**

Tanzania Development Vision 2025 is a wider government official roadmap and a dream towards sustainable human development through achieving high quality livelihood for all. The vision identifies health and social welfare as a priority, therefore Human Resource availability is central to its realization.

#### **3.3 Primary Health Services Development Program (PHSDP), 2007 – 2017**

PHSDP aims at having a dispensary at every village, a Health Centre at every ward and a District Hospital at every District. The program requires the establishment and staffing of an additional 5162 dispensaries, 2074 Health Centers and 8 District hospitals. Understanding human resource availability (training, recruitment, deployment, and retention) will facilitate the realization of this major national mission.

#### **3.4 Human Resource Policy Guidelines - 2005**

Human Resource Policy major goal is to have a well-planned, trained deployed and motivated workforce. This report will by and large facilitate adherence to these guidelines.

#### **3.5 National Strategy for Growth and Reduction of Poverty-2005**

The strategy advocates for improvement in the quality of life and well being of all Tanzanians. This report will identify important aspects of human resource availability to help this strategy move forward. It will help in actualizing effective interventions that will facilitate the implementation of tasks with direct impact on quality of life and well being such

as immunization for children and control of diseases by ensuring availability of skilled workforce to provide quality services

### **3.6 Millennium Development Goals (MDGs)**

The Millennium Development Goals aim at reducing child mortality by two-thirds, Maternal Mortality rate by three-quarters, combat HIV/AIDS Malaria and other diseases by controlling them by 2015. Availability of Human Resource for health will ensure availability of the necessary resources such as adequate health workforce to provide health services

### **3.7 Abuja Declaration**

The declarations advocate the increased share of total government expenditure allocation to health to a minimum of 15%. Deeper understanding of Human resources dynamics provides justification for increased allocation to the human resource given the fact that it is the most important resource worth extensive investment.

## **4 Scope of Work**

Specific areas to be covered by this study are:

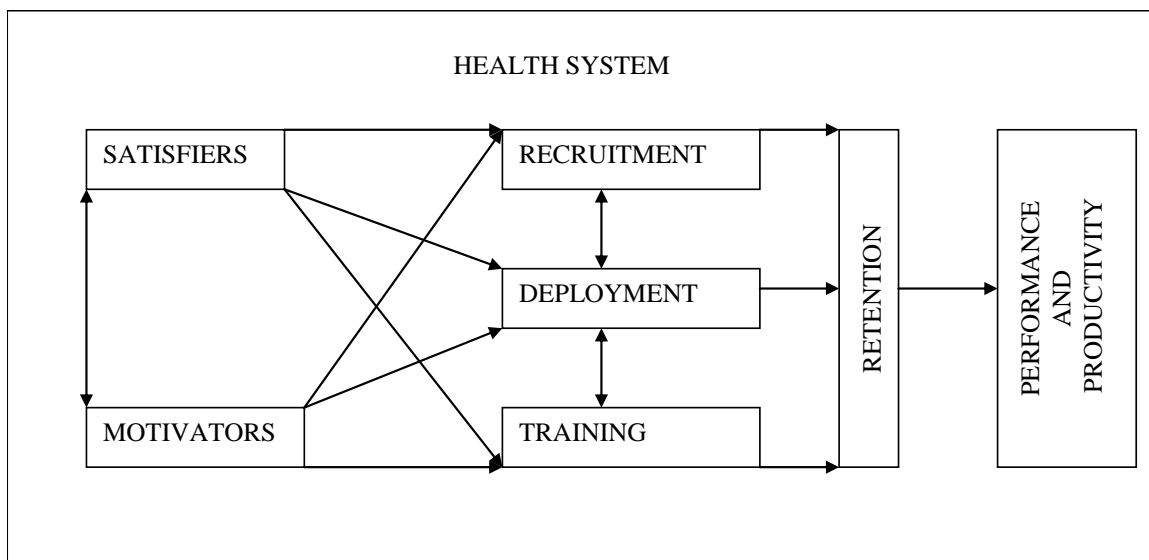
- Status of the human resources in the health sector by various cadres and different levels of the health service delivery system (i.e. dispensaries, health centres, district hospitals, regional hospitals and consultant hospitals.)
- Assessment of the extent of current staffing levels to actual workload at the health facilities and the way to increase productivity and efficiency of health workers in service provision. This will include assessment of appropriateness of staffing norms establishments (1995/1999) for the recommended staff cadres and numbers at different levels of the health care delivery system, comparing with HR models in other African countries.
- Assessment of the bottlenecks and other factors that affect efforts to train more, recruit, deploy and retain health workers, particularly in underserved areas.
- Assessment of recent national reforms, institutional set up, the mandate of different departments/divisions, coordination among these departments/divisions and the decision making process with regard to training, recruitment, deployment, personnel emoluments and retention of staff in the health sector.
- Assessment of the factors behind little progress in some health indicators e.g. maternal and neonatal mortality
- Document the different innovations instituted by different regions/districts (and other countries in Africa ) to attract and retain health workers and assess their potential for national level scale up.
- To provide information on how to manage climate change effects o health sector including diseases and mitigation of new outbreaks
- To provide a set of recommendations and propose a way forward



## 5 CONCEPTUAL FRAMEWORK

Carefully defining and understanding of health workers' motivation, job satisfaction and performance is necessary for designing effective interventions that would attract health employees, train, deploy and retain them. The central questions are: What satisfiers exist to attract employees, train them, deployment them to different parts of the country and finally reduce the attrition rate? What motivators are needed to attract employees, train them, deployment them to different parts of the country and finally reduce the attrition rate? What is the relationship between satisfiers and motivators? How do satisfiers interact with motivators in attracting (employing), accepting training, accepting deployment and eventually retained in the health system?. To answer these questions, understanding satisfiers and motivators is an important aspect of assessing employment, training, deployment and retention of health workers.

**Figure 1 Conceptual framework**



### Employee Satisfiers and Motivators

#### Satisfiers

Organizational/administrative policies: Perceived as fair and applied equally to all, and easily accessible and transparent in policy and procedures manuals

Supervision: Supervisors seen as supportive, possessing good leadership skills and ability to treat all employees fairly

Compensation: Perceived as fair and as reasonable as possible given constrained resources; clear policies related to salaries, raises and—where appropriate—other incentives for difficult assignments

Teamwork: A reasonable amount of time to interact with coworkers, and there is camaraderie and effective teamwork

Working conditions: Perceived as sufficient to do the work professionally (supplies, equipment, facility conditions); work environment brings professional pride

#### Motivators

The work itself: The work feels important and meaningful

Achievement: Goals and standards seen as clear and achievable

Recognition: Achievements on the job get recognized

Responsibility: Employees feel ownership of their work

Advancement: Clear career path; good performance and commitment are rewarded with advancement

## **6 METHODOLOGY**

The methodology which was been recommended for this study is desk review. In this desk review relevant existing documents will be reviewed. These documents will include evaluation reports, sector annual review, available strategies and programs, the Ministry of Health Human resource strategic plan 2008-2013, comprehensive council plans and consolutions. A number of sector reviews, National Health accounts 2008 and Health sector public expenditure review (PER) will be used. The documents mentioned above will mainly be obtained from MoHSW. In addition, previous studies/research reports will be reviewed.

## **7 Assessment of Human Resource Staffing Levels and Factors Affecting Their Availability-Training, Recruitment, Deployment, And Retention**

### **7.1 Human Resource Status in the Health Sector by Various Cadres and Levels.**

#### **7.1.1 Workforce Profile and Distribution**

The Health Sector in Tanzania is facing a serious Human Resource crisis that is negatively affecting the ability of the sector to deliver quality health services. There is a severe shortage of human resource at all levels. The shortage is more severe in rural districts. Disparities in the distribution of human resource exist at various places including urban – urban, rural – rural and facilities level. The shortage is exacerbated by the expanded population, HIV/AIDS pandemic, malaria, Tuberculosis and others.

Furthermore, Tanzania’s health workforce has declined even as its population soared. In 1994, as the public sector hiring freeze took effect, Tanzania had 67,600 health workers for 28.8 million people. By 2001 this ration had fallen to 48,500 health workers for a population of 34.5million, and today, the country has roughly 25,000 health workers for more than 40 million people.

In less than fifteen years, the proportion of health workers to total population has fallen by 75 percent. In 2004 the Joint Learning Initiative reported that Tanzania had the world’s lowest coverage of physicians, with only 0.2 Medical Officers or specialists per ten thousand people.

Table 1 indicates that by 2006 the overall there is a shortage of 65% of human resources in the Tanzanian health sector, public and private. Training institutions, which are the cornerstone of skills development for human resources are the most affected with the shortage of workers (74%).The referral hospitals, which are all located in urban areas (big cities of Tanzania) are relatively better off having only a shortage of 48% of their staffing norms. Dispensaries, which are also predominantly rural, especially those owned by the public, are the next victims, having a shortage of 69%.

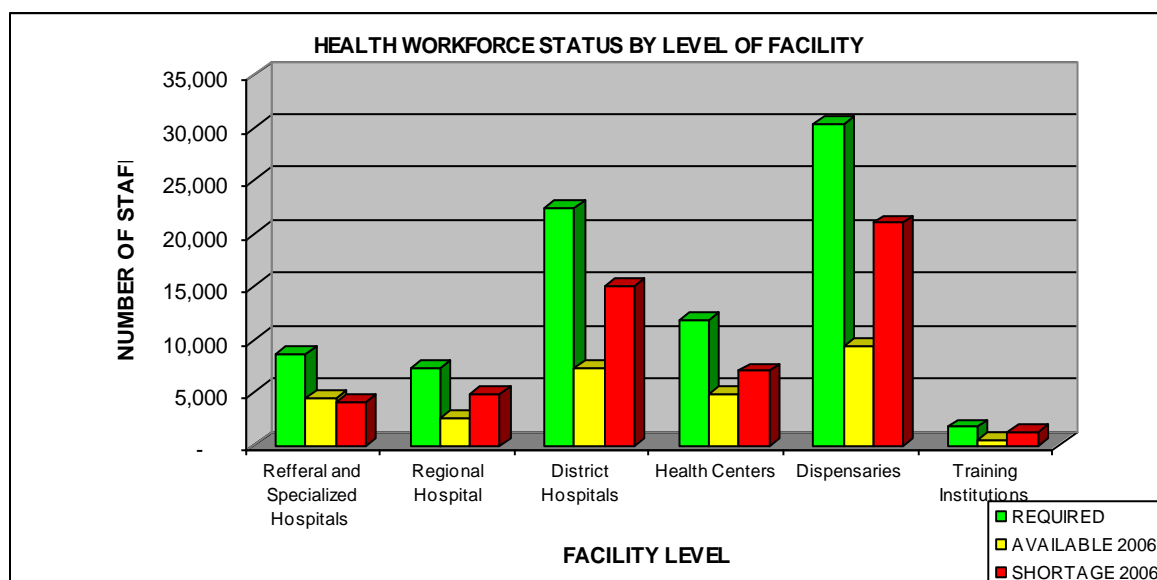
**Table 1: Human Resource Status by Facility Levels in Public Health Facilities**

Facility Level	No.	Health Professionals			Shortage %
		Required 2006	Available 2006	Shortage 2006	
Referrals/Specialized Hospitals	8	8,546	4,477	4,069	48%
Regional Hospital	21	7,266	2,481	4,785	66%
District Hospitals	95	22,458	7,364	15,094	67%
Health Centers	331	11,916	4,908	7,008	59%
Dispensaries	3,038	30,380	9,384	20,996	69%
Training Institutions	72	1,711	449	1,262	74%
<b>TOTAL</b>	<b>3,565</b>	<b>82,277</b>	<b>29,063</b>	<b>53,214</b>	<b>65%</b>

Source: MOHSW (2006)

The HR Status in the Public Health facilities can easily be observed in Figure 1. In terms of numbers more workforces is needed in the dispensaries (about 20,000) and district hospitals (about, 19,000).

Figure 2: Health workforce status by level of facility in the public health sector



The HR Status in the private health facilities is shown in Table 2. . Private health facilities are seriously understaffed compared to public health facilities. Overall, private health facilities have a shortage of about 86% of the required workforce Private training institutions suffer the least (69), while the hospitals suffer most (87.5%). Private health centres and dispensaries have less than 16% of the required human resources (Table 2), despite the fact that most private dispensaries are located in urban areas. The shortage of health workers in private dispensaries may not necessarily due to their location.

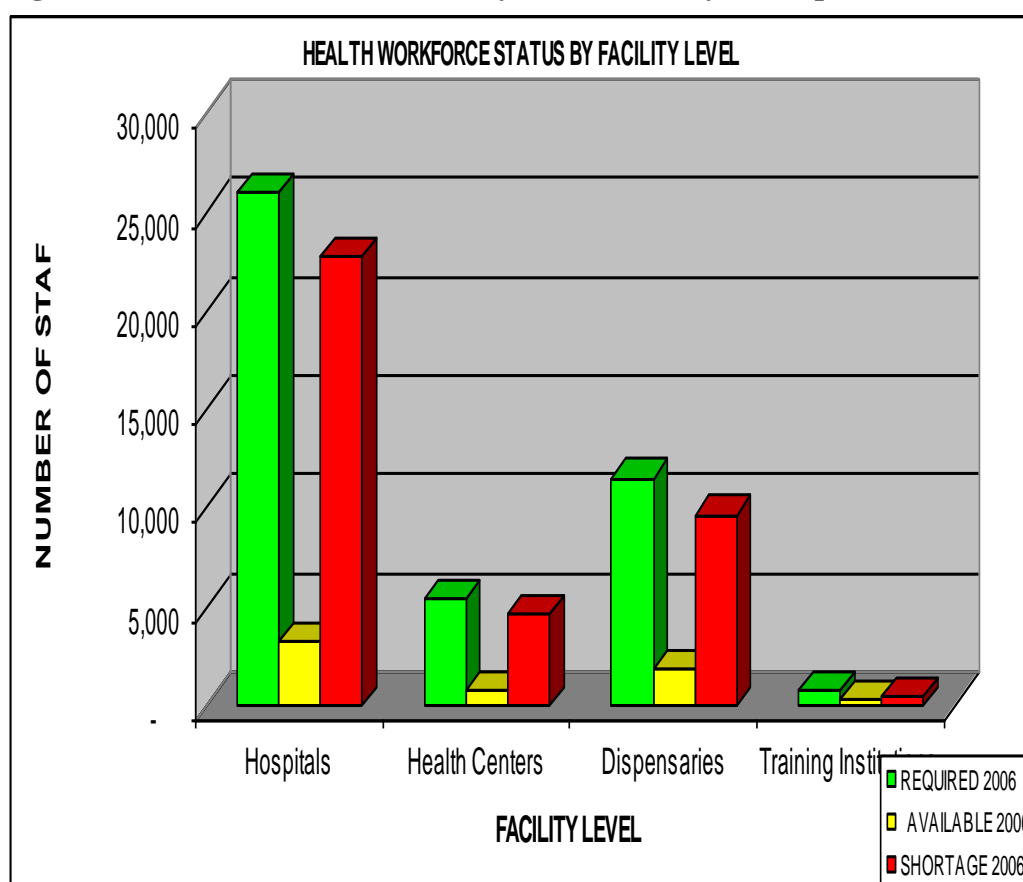
**Table 2: Human Resource Status by Facility Levels in Private Health Facilities**

Facility Level	No.	Health Professionals			Shortage %
		Required For Existing Facilities	Available 2006	Shortage 2006	
Hospitals	132	26,004	3,251	22,753	87.5%
Health Centers	150	5,400	758	4,642	86.0%
Dispensaries	1,641	11,487	1,842	9,645	84.0%
Training Institutions	36	756	288	468	61.9%
<b>TOTAL</b>	<b>1,959</b>	<b>43,647</b>	<b>6,139</b>	<b>37,508</b>	<b>85.9%</b>

Source: MOHSW (2006)

The HR Situation in the private sector is presented in Figure 2. Private hospitals require about 22,000, while health centers and dispensaries need about 4,00 and 8,00, respectively. Since the private training institutions are not as many as se of government institutions, have a shortage of less than 800 trainers (Figure 2).

**Figure 2: Health workforce status by level of facility in the private health sector**



The social welfare are equally inadequate. Table 3 shows that overall, the health sector has a shortage of 95% of the required social welfare workforce .The wards have literary no

one deployed there. The districts have only about 7% of the required workforce. In general by 2006 there were more than 3,500 social welfare workers required in all levels (Table 3).

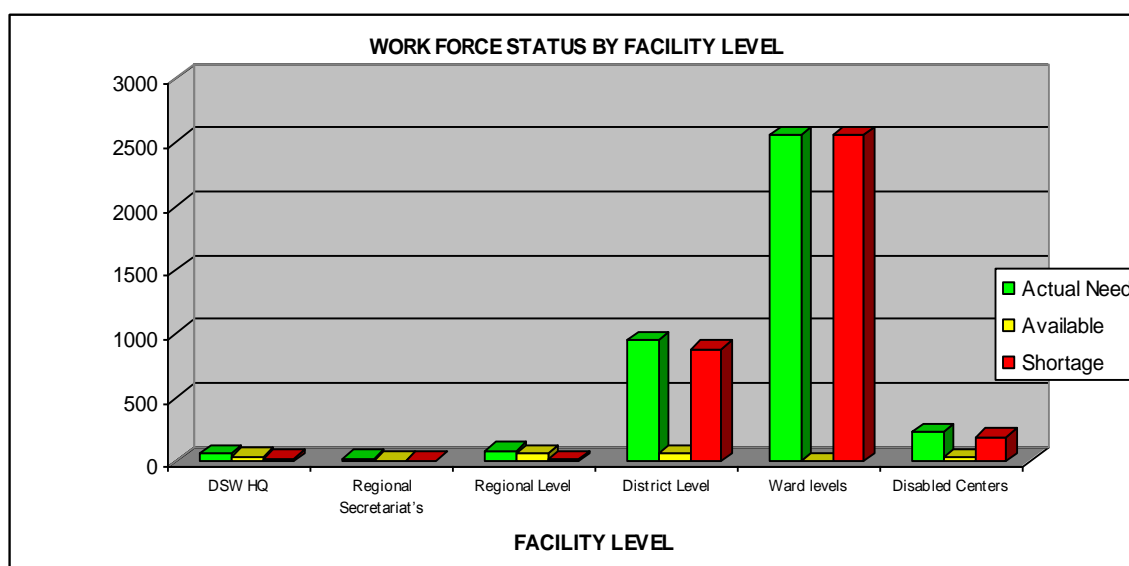
**Table 3: Social Welfare Staffing Status by Level of Care for Social Welfare Cadre**

Location	Actual Need	Available 2006	Shortage 2006	Shortage %
DSW HQ	60	37	23	38%
Regional Secretariat's	21	10	11	52%
Regional Level	84	66	18	21%
District Level	945	62	883	93%
Ward levels	2,555	0	2,555	100%
Centers for people with disabilities and other institutions	227	35	192	85%
<b>Total</b>	<b>3,892</b>	<b>210</b>	<b>3,682</b>	<b>95%</b>

Source: Social Welfare Commission 2006

Figure 3 depicts that Wards require more people (more than 2500) followed by the districts that have a shortage of about 880. The regional offices, by their staffing structure have a low shortage comparatively.

**Figure 3: Social Welfare Staffing status by level of facility in the social welfare commission**



Currently, there are estimated 5,513 health facilities operational in the country. According to proposed staffing level (2005), these facilities require 125,924 health workers while the actual professional staffs available are 35,202 indicating a deficit of 90,722 for both public and private health and social welfare services. However, the deficit becomes significantly larger when we factor in PHSDP (Primary Health Services Development Plan) requirements. PHSDP aims at having a dispensary in every village, a health centre in every ward and a district hospital in every district. PHSDP requires the establishment and staffing of an additional 3,108 dispensaries, 2074 health centers and 19 district hospitals which will require additional 88,829 professional staff.

In the financial years 2005/2006, 2006/2007 and 2007/08, there was an accelerated recruitment of health workers. The POPSM has given approval for recruitment of additional health staff as shown in the Table 4.

**Table 4: Recruitment trend 2005/06 – 2007/08**

<b>Financial Year</b>	<b>Number of Positions approved</b>
2005/06	1,677
2006/07	3,890
2007/08	6,437
<b>Total</b>	<b>12,004</b>

There is inadequate data in terms of the number of staff who actually reported to their stations for the financial years 2005/06 and 2006/07. These recruitments represent the first time the government has employed a substantial number of health workers in more than a decade and if the trend is maintained, there should be a significant reduction in the current health workforce shortages in the public health sector. However, going forward, the government may run into difficulties of getting enough applicants for these positions as the pool of unemployed health workers is mopped up. There is evidence that the scaled-up recruitment of health workers by the government is causing inter-sectoral distortions as health workers leave the private and NGO/FBO sectors to take up government jobs. The government is aware of such situation and therefore it has developed a plan that will speed up the rate of output of health workers through expanding enrolment, reduction of training duration and re-introduce Primary Health care cadres.

There is a need to review and improve current staffing norms to match increase burden of diseases, workload and expanding populations for example, a Recent Service Availability Mapping Survey 2006 shows that the country has 1,339 doctors including 455 in the private sector. This is equivalent to one doctor per 25,000 populations. In addition, the workforce continued to experience the loss of skilled health workers through attrition. While the government is undertaking effort to hire staff to replace the lost workforce, the net effect of this move is marginal compared to existing shortage caused by freezing of employment between 1993 up to 2005 across the regions in the country due to low absorption rate. Within ten years between 1995 up to 2005, out of 23,474 graduates produced, the Government hired only 3,836 (16%).

The freeze led not only to reduced hiring but also to decreased enrollment in medical training. A 2006 labor market survey conducted by the MOHSW indicated that in the decade affected by the freeze (from 1996 to 2005), only 721 physicians graduated from Tanzanian medical schools, severely limiting supply. Health crises such as HIV/AIDS have not only increased the need for health workers in developing countries but have also eroded the existing health worker population and further compromised already poor working conditions. Other factors contributing to the crisis include wealthy countries demand for health workers facilitated by much better payments and attractive working conditions. Furthermore insufficient investment in health worker education has left countries like Tanzania unable to meet health worker demands.

### **7.1.2 Human Resource Coordination**

The MOHSW has mandate for coordinating policy formulation, guidelines, standards and the identification of priorities in the health sector. Management of human resource in the public health sector is a joint responsibility among multiple institutions including MOHSW, PMORALG, POPSM, MOF and MOEVT

The MOHSW also regulates the activities of private health sector through setting and monitoring standards for quality of care and training. However, HRH coordination is still faced with a number of important challenges emerging from the ongoing decentralization and privatization. While a committee exists to coordinate the public and private sector, there is a need to strengthen its effectiveness in information sharing and service delivery.

#### Challenges of HRH coordination

- Lack of professional HRH management, both at the central and district level
- Challenges emanating from D by D policy eg redundancy of the RHMT
- Lack of proper coordination between the coordinating institutions eg MOHSW, POPSM, PMOLARG, MOEVT eg lack of proper link on who is on the payroll
- Poor HRH information system
- Non-involvement of the private sector in HRH training and deployment
- Lack of human resources indicator
- Lack of link between training and requirement and placement. Which skills required were and at what quantity
- Low involvement of the private sector in developing HRH
- Lack of proper monitoring indicators e.g. health facilities staffing norms vs. population
- Staffing of dispensaries, both public and private, with unskilled people
- Lack of required manpower in Training institutions
- Task shifting less practiced in dispensaries
- Construction of rural health facilities not corresponding with production of skilled workers from training institutions
- Matching of the quality of workers currently trained in primary health care institutions and the ongoing increase of health facilities (matching politics and reality)
- Central vs. district level commitment to deploying HRH (coordinating, monitoring and accountability)

#### **7.1.3 Recruitment and Retention**

Under the current decentralized system, regions and districts have the mandate to identify and fill existing staff vacancies. However, low human resource management capacity has contributed to slow recruitment process, delay in staff placement and slow promotion process. In addition, human resource planning, forecasting, career development and succession planning capacity are still poorly developed. Another major challenge is the poor economic condition that necessitates setting of budget ceiling on personnel emoluments which limit recruitment of required staff and the replacement of existing vacant posts. Also in the private sector under current arrangement there is no clear mechanism to put issues of staff recruitment, promotion, retention and pension arrangements, and these factors demotivates staff to the great deal.

Health and social welfare service delivery in some districts in Tanzania are operating under hardship conditions lacking basic requirement such as roads, communication network, electricity, recreation, water, and schools for children. There is also limited ability of the health and social welfare sector to meet the basic personal needs including, extra work pay, health insurance, workplace hazard allowance and opportunities for self development.

The situation leaves human resource significantly under-motivated to function effectively. There is need therefore to explore available opportunities such as complementary financing options and involvement of stakeholders as partners to improve human resource situation.

Another major contributor to the recruitment and retention crisis is the brain drain within and outside the country. However, the magnitude of the problem is not well understood and there

is therefore an urgent need to put in place a mechanism to monitor health professionals' movement within and outside the country and across professions facilitated by retraining. Current data show that Sub-Saharan Africa, Tanzania included has the highest emigration factor of highly trained human resources for health. The table below summarizes the situation for eight regions of the world

**Table 5: Regional Emigration Factors in 8 regions of the World**

<b>Regional Emigration Factors in 8 Regions of the World</b>			
Global Regions	TOTAL MDs WHO HAVE LEFT BY REGION	TOTAL MDs IN SENDING REGIONS	Emigration Factor
Sub-Saharan Africa	13,272	82,100	13.9
Indian Sub-Continent	78,680	656,876	10.7
Caribbean	8,010	87,443	8.4
Middle East and North Africa	27,010	489,464	5.2
Central and South America	12,103	707,416	1.7
Europe and Central Asia	44,988	2,741,717	1.6
East Asia and Pacific	39,910	2,808,400	1.4
North America	14,519	1,076,398	1.3

Source: Mullan, F. (2005). The Metrics of the Physician Brain Drain. *NEJM*: 353:1810-1818.

#### **7.1.4 Performance Management and Reward system**

Open Performance Review and Appraisal System (OPRAS) for the Public Service were introduced in 2004; with plans for roll out to cover all health workers. Meanwhile promotion and career advancement is awarded by considering staff working experience and not performance. This situation does not provide incentives for performance as staff obtain promotion arbitrarily.

For the Private Sector there is currently no concise mechanism for appraisal and promotion for its workforce. There is a need therefore to roll out mechanisms such as OPRAS to promote workforce performance. In addition, reward system should be identified, budgeted and implemented by both Public and Private sectors. If the private sector does not respond to improve salaries and incentives to HRH, they are likely to lose more of their workforce to the free market.

## **7.2 Training and development**

### **7.2.1 Pre-Service Training**

Tanzania has a total of 116 Health Training Institutions. Overall the scope of the existing training institutions is aligned to meet the needs of the Health Sector. However, there exist concerns about the quality of the training provided in relation to National Accreditation Council of Technical Education (NACTE) and Tanzania Commission for Universities (TCU) standards.



Between 1995 to 2005, the health training institutions were able to produce 23,474 staff out of which only 16% were employed in the Public Sector. The sector has been losing an average of 300 staff per year, it is therefore necessary to put in place an aggressive effort for replacement and to increase pace of absorption of trained workforce to meet the outstanding gaps and attrition losses.

Considering the government plan to establish a health facility in each village in the country, there will be a need to further increase the production of human resources to meet the needs. The enrolment for pre – service trend for the past years up to 2005 has been between 800 and 1,000 students per year. In recent years the trend has shown an increase particularly in 2007/08 whereby the enrolment has increased from 899 to 3,500 by December 2007. The number is expected to rise up to 6,450 by March 2008. The table below illustrates the mentioned increase as follows

**Table 6: Pre- Service Students Enrolment 2004 – 2007**

<b>ACADEMIC YEAR</b>	<b>PRE – SERVICE STUDENTS ENROLLED</b>
2004/05	899
2005/06	956
2006/07	1,013
2007/08	6,450

**Source:** MOHSW

In order to achieve the stated target a number of strategies need to be applied such as to review the duration of the training as well as levels of various cadres. It is therefore important to increase investment to facilitate increased production.

### **7.2.2 In-service Training and Continuous Professional Development (CPD)**

In-service training as currently designed is to achieve upgrading of human resource skills and knowledge to improve performance. Through the acquisition of new skills and knowledge, staffs are expected to undertake their responsibilities seriously and achieve high productivity. On the other hand, staff expects better recognition, remunerations and working conditions. However, these expectations are not always met leading to loss of morale.

The existences of different health carders with multiple qualifications which are not recognized into traditional health workers classification or Scheme of Services impose challenges on upgrading endeavors.

Continuing Professional Development (CPD) is designed to update and improve health worker skills and knowledge to ensure quality service provision. However, CPD is facing major challenges including absence of individual efforts and an enforcing mechanism to encourage workers to undertake training based on self identified needs.

Another challenge is the lack of a National Training Plan that focuses on structured post graduate training to meet emerging needs for specialists. Within this context efforts should be taken to ensure complementary improvement in the continuous development of other health cadres.

Most of the training is held outside the health facilities and it creates a serious problem of absenteeism at work places. The MOHSW has established eight Zonal Training Centers (ZTCs) to facilitate the updating of health workforce skills and structured monitoring of the various training institutions under their respective catchments' areas. Strengthening of the

capacity of ZTCs is being pursued by the MOHSW. However, ZTCs face a problem of limited capacity in terms of skilled staff, financing, and inadequate development of the infrastructure.

### **7.3 Human Resource Planning and Policy Development Capacity**

#### **7.3.1 Human Resource Information System**

Existing Human Resource for Health and Social Welfare information system is not well established. There is lack of comprehensive and reliable system for tracking information in the country. Available information on health cadres in all sources such as Health Management Information System (HMIS), Registrars of Professional Bodies and other sources is very limited for the purposes of proper planning and decision making. Currently information is collected from multiple sources which are associated with difficulties in coordination and reliability of human resource data. Another challenge is the limited collection and sharing of human resource information from the private sector. Furthermore, there is limited technical capacity for analyzing human resource demands and supply projections and forecast.

#### **7.3.2 Decentralization Policy and Human Resource Management**

Under the Local Government Reform process, the government has devolved responsibilities for delivery of health and social welfare services to local authorities. In addition, the recruitment and placement for human resource is now the responsibility of local authorities. However, the capacity to implement and coordinate this crucial responsibility is limited as most council lack required professionals to effectively undertake this function.

Another important challenge emerging is the multiple institutional responsibilities for management of human resource function. The current arrangement imposes constraints in the effective coordination of important human resource functions including recruitment, placement and retention.

#### **7.3.3 HIV/AIDS Workplace Policy**

The health workforce operates in unsafe environment with occupational hazards, accidents and other diseases posing a constant threat on a workforce with the HIV/AIDS pandemic causing the most danger<sup>1</sup>. A survey carried out in two hospitals in 2004 found HIV prevalence of 13% among health workers<sup>2</sup>. The Health Sector continues to suffer through workforce attrition and low productivity arising from AIDS related illness and death.

The Ministry of Health and Social Welfare developed HIV/AIDS Workplace Policy and Strategic Plan in 2006 targeting Health Workers. Also the government has initiated various activities to develop HIV/AIDS workplace programs in various sectors to support workers affected or infected by HIV/AIDS. There is however a need to strengthen implementation of universal safety precautions and post exposure prophylaxis.

#### **7.3.4 Leadership and Stewardship in Human Resource**

The Government of Tanzania has introduced various sectoral reforms including Health Sector Reforms and Local Government Reforms which strive to decentralize responsibilities on service delivery. Within the context of ongoing reforms, the MOHSW is expected to play a lead role. Among its leadership and stewardship roles, the MOHSW is expected to address the twin challenges associated with provision of effective and quality health services and to

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<sup>1</sup> Fimbo et al, HIV impact on Health Workforce, 2006

<sup>2</sup> Strategic Plan for the Control of HIV & AIDS for Health Workers at the workplace (2006 – 2011)

address critical challenges arising from the decentralization process that affects human resource performance. To effectively perform this role, the MOHSW is expected to work in partnership with other service providers and line ministries having responsibilities for human resource management in the country. The implementation of previous human resource for health strategic plans did not proceed as intended. Two major reasons are cited namely uncoordinated effort and low funding support. The situation has not improved and future attempts must address these issues to avoid the past experience. There is need for development of strong human resource management, leadership skills and stewardship at central, regional and district authorities.

Current budget allocation for human resource is inadequate to address specific problems such as workforce retention, capacity building, improvement of operational environment and infrastructural development. Hence, deliberate efforts are required to enable human resource to contribute to the achievement of the target of Vision 2025<sup>3</sup>. Therefore there is a need to advocate for significant allocation for the human resource by the fact that it is a fundamental area for investment if quality and accessible health and social welfare services is to be achieved.

### **7.3.5 Partnership in Human Resource**

The Government of Tanzania is promoting the concept of Public Private Partnership (PPP). In the Health and Social Welfare Sector, necessary actions to foster PPP have been initiated. For example, in the MOHSW under the directorate of Hospital Services, there is a unit dealing with the coordination of private health facilities to ensure quality health services provision. The Private Sector Training Services are coordinated under the Directorate of Human Resource Development. Outsourcing of noncore function to the private sector is coordinated by the Directorate of Administration and Personnel while Private Social Welfare Services are coordinated by Social Welfare Commission.

The Government through the MOHSW provides grants in aid to the Faith Based Organizations according to the contract service agreements depending on the number of hospital beds. Similarly, the government provides grants in aid to the training institutions according to the school capacity of the students as per training agreements. Likewise the MOHSW supports Faith Based Organizations by providing them with qualified staff through secondment arrangements.

The Private Sector is an important player in the Health and Social Welfare functions. It is involved in a broad range of functions which include training, service delivery, research and Human Resource Management. Meanwhile, the existing relationship is neither systematic nor comprehensive. To maximize the contribution of the Private Sector to the Health and Social Welfare Sector development, there is an urgent need for the MOHSW to lead and explore practical mechanisms to harness the full potential of the private sector.

To achieve the above, there will be a need for strengthening partnership and advocacy. Advocacy activities to enable the development of partnerships and linkages with Private Sector will be promoted. Special efforts will be made to improve supervision and quality base of workforce. An important emerging trend worth attention is a growing migration of skilled workforce from the Private to Public Sector. This movement pattern needs to be closely monitored and properly managed in order to avoid negative effects on quality of services.

### **7.3.6 Human Resource Research and Development**

In the year 2006, the MOHSW in collaboration with NIMR, other research institutions, universities and development partners developed health research priority areas of which human resource was among the highest. The coordination mechanism of research in the

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<sup>3</sup> See The Tanzania Development Vision 2025 pg 4

country has also been strengthened whereby all research permits and validation are issued by the MOHSW.

Human resource research synthesis undertaken in October 2005, various studies were collected and synthesized. Research/study reports and consultancies were reviewed and majority of them were from Tanzania institutions including NIMR, MUHAS, CEDHA, MOHSW, Ifakara Health Research and Health Development Center (HRDC). Other reports were from international institutions and organizations including WHO, World Bank, DFID, Harvard University, London School of Hygiene and Tropical Medicine, and McKinsey.

One major limitation relating to the reviewed papers and reports were few original reports that could assist to a general understanding of human resource situation in the country since most of the reports found to be duplicates. As a result, the number of research questions in human resource still remains unanswered thus posing difficulties in understanding and addressing the situation. These information gaps need to be researched and prioritized according to the national requirements.

In the light of the above, the concerted effort should be made to undertake problem solving research by all stakeholders in order to solve pertinent human resource issues in health and social welfare service delivery.

#### **7.4 Human Resource Financing**

Government of Tanzania allocated 11.6% of total government budget for Health Sector in 2005/06, amounting to only US\$ 9.5 per capita expenditure. The internal allocation Within MOHSW was 3.5% for Human resources. Between 2004/05 and 2006/07 the Health Sector budget remained almost the same but the proportion of the budget for human resource increased from 3.47 % to 5.3 %.

Budget allocation for human resources at district level shows an increasing trend. However, human resource recruitment and retention budget are inadequately reflected within Comprehensive Council Health Plan (CCHP) due to the spending guideline restrictions of Health Basket Fund and Block Grant.

The Sector faces serious challenges including shortages, and unmatched distribution of human resources which impact on quality of health care services. In spite of identifying human resource as a priority and challenge of Health and social welfare Sector, budgetary allocation has not taken into consideration human resource as a priority area.

## 8 THE ACTUAL NEEDS IN HUMAN RESOURCES FOR HEALTH IN THE NEXT FIVE YEARS

### 8.1 MOHSW PROJECTIONS FOR HUMAN RESOURCE FOR HEALTH

**Table 7: Human resource status and projection in public health facilities**

FACILITY	HEALTH FACILITIES			HEALTH STAFF						REQUIREMENT (2007 - 2017)	REQUIRED STAFF TO FILL THE EXISTING GAPS INCLUDING PHSDP (2007 - 2017)
	AVAILABLE FACILITIES 2006	NEW FACILITIES PHSDP (2007 - 2017)	TOTAL	REQUIRED PER ESTABLISHMENT 2005	REQUIRED FOR EXISTING FACILITIES	MEDICAL PROFESSIONAL STAFF AVAILABLE 2006	SHORTAGE 2006	SHORTAGE %	PHSDP REQUIREMENT (2007 - 2017)		
Referral and Specialized Hospitals	8	-	8	*	8,546	4,477	4,069	48%	-	4,069	
Regional Hospital	21	-	21	346	7,266	2,481	4,785	66%	-	4,785	
District Hospitals	95	19	114	197	22,458	7,364	15,094	67%	3,743	18,837	
Health Centers	331	2,074	2,405	36	11,916	4,908	7,008	59%	49,776	56,784	
Dispensaries	3,038	3,108	6,146	10	30,380	9,384	20,996	69%	31,080	52,076	
Training Institutions	72	4	76	*	1,711	449	1,262	74%	-	1,262	
<b>TOTAL</b>	<b>3,565</b>	<b>5,205</b>	<b>8,770</b>		<b>82,277</b>	<b>29,063</b>	<b>3,214</b>	<b>65%</b>	<b>84,599</b>	<b>137,813</b>	
						Attrition Rate 0.5% per year			4,230	6,891	
									<b>88,829</b>	<b>144,704</b>	
<b>TOTAL NEW STAFF REQUIRED (2007 - 2017)</b>										<b>144,704</b>	
<b>Source:</b> MOHSW (2006)											
<b>Note:</b> 1. * indicates health facilities/Institutions with varying staffing levels											
2. To mitigate the existing shortage in public including PHSDP we need to recruit							<b>14,470</b>	Staff yearly for 10 years			
3. To create a pool of trained health workers for public facilities we need to enroll over							<b>14,470</b>	Students yearly for 10 years			

**Table 8: HUMAN RESOURCE STATUS AND PROJECTION FOR PRIVATE HEALTH FACILITIES**

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FACILITY LEVEL	AVAILABLE HEALTH FACILITIES	HEALTH WORKERS				STAFF SHORTAGE %
		REQUIRED STAFF PER ESTABLISHMENT 2005	REQUIRED STAFF FOR EXISTING FACILITIES	AVAILABLE STAFF 2006	STAFF SHORTAGE 2006	
Hospitals	132	197	26,004	3251	22,753	87.5%
Health Centers	150	36	5,400	758	4,642	86.0%
Dispensaries	1,641	7	11,487	1842	9,645	84.0%
Training Institutions	36	*	756	288	468	61.9%
<b>TOTAL</b>	1959		43,647	6139	37,508	85.9%
<b>Attrition Rate 0.5% per year</b>					<b>1,875</b>	
<b>TOTAL NEW STAFF REQUIRED FOR PRIVATE HEALTH FACILITIES</b>					<b>39,383</b>	

1. \* indicates health facilities with varying staffing levels
2. Number of Workers required for existing Public H/facilities is **82,277** available is **29,063** and shortage is **53,214** same as **65%**
3. Workers required for existing Private Health facilities **43,647** available are **6,139** and shortage is **37,508** same as **86%**
4. Workers required for existing public and private facilities are **125,924** available **35,202** shortage is **90,722** same as **72%**
5. Total staff requirement for public and private health facilities including PHSDP is **214,753**
6. To mitigate the shortage in all facilities including PHSDP the recruitment should be **17,955** Staff yearly for 10 years
7. To create a pool of workers for public and private including PHSDP we need to enroll over **17,955** Students yearly for 10 years

## 8.2 SUGGESTIONS FOR THE WAY FORWARD

In line with the Government of Tanzania Vision 2025, attaining MKUKUTA and the MDGs there must be a viable strategy to address the human resource crisis in Tanzania. These strategies must include what is viable within available means such as;

**Increasing training capacity and exploiting trained HRH maximally** in that firstly create a targeted recruitment program to capture more of the current training output; second, increase productivity per existing health worker but as much as 75 percent; and third and in parallel to the first and second, increase training capacity by at least fifty percent for the system to remain at current capacity relative to the population. Purposive targeting of expanded pre-service training is required. Purposively invest in indigenous health worker training. This targeting is essential given the massive demands for HRH which will be occasioned by the Primary Health Services Development Program.

### **Translating policy into action**

Despite an obvious need Tanzania has not yet launched a comprehensive and actionable training expansion program. The MMAM and HRHSP policies called for doubling health worker training but did not connect this with a concrete set of activities and investment for doing so.

Developing such a plan requires three things as outlined below:

- Physical on-site assessment of Tanzania's training institutions to determine their potential for expansion.
- Evaluation of system-wide opportunities to increase training capacity and
- Development of an analytical model that links overall training capacity to the effect of related and therefore, to the government's ability to expand health services as outlined in the MMAM.

Recent assessment of 39 of Tanzania's 97 health worker training institutions showed that targeted interventions to expand training capacity would increase output of the training system by ninety percent given adequate investment.

Despite this, we found that adoption of this plan could nearly double the health care workforce by the tenth year (from 25,400 to 48,000 if implementation begins in 2010). If voluntary attrition could be halved, the health care workforce could grow to 52,000 by year ten, or more than double its current size. We examined this critical issue of retention in our Lake Zone diagnostic.

### **Harnessing existing opportunities**

Optimizing capacity of existing training institutions through simple, school-specific improvements-such as constructing new laboratories or hiring new nurse tutors-was by far the most powerful lever to increase the number of health workers trained in Tanzania in the near term. Improvement at the individual school level can account for sixty to eighty percent of the total increase in school intake capacity.

Research has established that training schools face six common constraints in scaling up: lack of qualified students, shortage of non-clinical faculty, shortage of clinical faculty, inadequate non-clinical infrastructure, sub-scale clinical infrastructure, and limited financial resources. While each of the 39 schools we visited faced a unique combination of these constraints, we were encouraged to learn that few faced all six. Each institution had capacity to spare on at least one dimension, making optimization of the current training network a more attractive and efficient approach than trying to create new institutions immediately.

### **Enabling system-wide support**

School-specific optimization efforts, however, cannot succeed without simultaneous system-wide changes to support those improvements. The following have been identified as important initiatives:

- Encourage and subsidize off-campus housing for students
- Encourage faculty members to continue teaching beyond the national retirement age of 60
- Provide incentives for successful MD students to teach in exchange for priority entry to a post-graduate specialization.

### **Furthering transformational change**

- Shorten the training pipeline. Training a health worker takes an average of three years and no less than two. It would be worthwhile to seek new approaches to decreasing the time required to educate new, lower-skilled, health care workers.
- Augment capacity with technology. Virtual learning techniques such as DVD training programs, could expand training capacity if used in conjunction with increased clinical rotations at district and regional hospitals. Such approaches could also be used to continue in-service training for workers trained on accelerated schedules.
- Ensure financial sustainability. Student fees at most private and all government schools do not cover the full cost of continued investment for sustainability. Raising student fees and optimizing the government's approach to cost sharing, financial aid, or student loans could help schools expand in a methodical way, potentially at minimal additional cost to the government, and enable the expansion of training capacity to be increasingly self-financing.

### **Capabilities, leadership and funding are required**

Optimizing the existing training system and refining the new training approaches will require skilled project management achievable annual targets for improved throughput, and a thoughtful implementation plan to support ongoing evaluation and modification. Collaboration with the Universities and Research institutions in the country will help in these aspects.

### **Implementation starting now**

Transformational approaches to health worker training will be necessary to generate a health workforce that meets the minimum WHO ratio. But substantial progress in workforce expansion, driven by a doubling of training capacity, can be achieved through optimizing the existing training system, and realizing a small set of key initiatives targeting teaching staff and student housing – the primary constraints on capacity.

Funding permitting, this facility-level optimization can begin immediately, allowing Tanzania to make significant progress while it continues to assess and design more transformational initiatives. Our data collection methodology and analysis were not revolutionary, but we believe we filled an exceedingly important gap too often left unaddressed. Our aim was to provide the necessary technical assistance to make the leap from ambitious strategies to executable action plans.



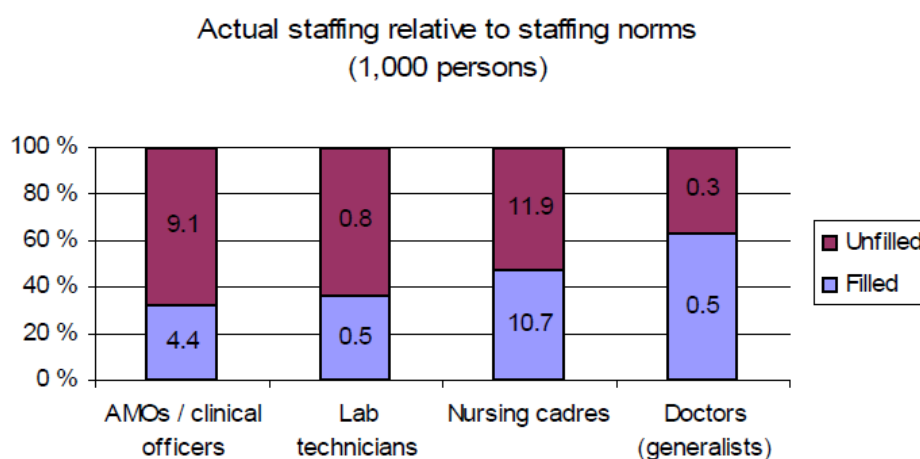


## 9 Assessment of current staffing levels to actual work load

### 9.1 Analysis of the staffing norms establishment 1995/99

One way of assessing the magnitude of the health worker shortage is to compare actual employment with official staffing norms. In key cadres, such as nurses, clinical officers and laboratory technicians, employment in 2002 was 50% or less of the agreed staffing norms in 1999. Among doctors, the employment was slightly above 60% of the recommended level. The aggregate shortage in the cadres presented in Figure 1 is 19,000 health workers, implying that the average staffing level in these key cadres is only 45% of the norm. In lower cadres, though, there is reason to believe that there is an oversupply of workers relative to the staffing norms. Ministry of Health has estimated that there is a shortage of 17,500 health workers in the public sector (Dominick and Kurowski, 2005). Like the figures presented above, this estimate does probably not adjust for the oversupply in lower cadres. In the private not-for-profit health facilities, actual staffing is estimated to 40% of staffing norms. Figure 4 shows shortage of personnel in key cadres

**Figure 4: Shortage personnel relative to staffing norms in key cadres**



Source: HRH Census 2001/02. Ministry of Health staffing norms from McKinsey (2004).

According to the Ministry of Health staffing norms, a dispensary serving a population of 10,000 persons should have two nurses and two medical staff (clinical officers).

#### **Conclusion.**

Against this background, the figures above demonstrate there is massive shortage of personnel at the health facilities in most districts. The average staffing levels of the key personnel is 45% of norm 95/99

## 9.2 Identification and assessment of HR models from other African countries

### 9.2.1 Workforce planning models

Health workforce planning is necessary in order to ensure that trained and knowledgeable health workers are available to deliver health care services when and where they are needed. Ensuring adequate human resources for health (HRH) is crucial in order to continue progressing toward the realization of the Millennium Development Goals (Dreesch et al, 2005). In this context, health workforce projections can be very useful.

**Needs-Based Approaches:** Needs-based approaches estimate future health workforce needs based on the projected health service needs (both met and unmet) of the current population, adjusted for age and gender (O'Brian-Pallas et al, 2001a; O'Brian-Pallas et al, 2001b; Dreesch et al, 2005). Professional norms and expertise regarding manpower requirements for health services delivery are also incorporated into this approach, in order to discover the most cost-effective method of meeting health care needs. This approach seeks to address all health care needs and assumes that the use of resources will be prioritized based on need. This approach is centered on improving the efficiency of a combination of HRH resources to deliver health care services. Additionally, compared to some of the other HRH projection methods, the needs-based approach is somewhat easier to explain and understand, and therefore can be helpful for advocacy.

**Utilization-Based Approaches:** Utilization-based approaches (demand-based approaches) project future health service requirements based on present health service utilization (O'Brian-Pallas et al, 2001a; O'Brian-Pallas et al, 2001b; Dreesch et al, 2005). This approach may incorporate projected trends in the current workforce, such as demographics, turnover, attrition rates, etc. Utilization-based approaches assume that the population currently uses a suitable mix of health services. Future health care needs can be estimated based on predictable trends in population fertility, mortality and migration.

**Health Workforce-to-Population Ratio in South African Public Sector Mental Health Service :** A health worker-to-population ratio estimates the current ratio as well as the desired future ratio of doctors to population and of other health professionals to doctors. This method uses a base year ratio, estimating annual changes in future numbers of health workers (Hall, 2001). Projected future health worker supply is compared with projected need and projected costs are compared with projected available funds. Assumptions about growth rates are adjusted until desired ratios are reached. For example, the World Health Report (World Health Organization, 2006) states that countries need a population density of at least 2.28 doctors, nurses and midwives per 1,000 population to ensure skilled attendance at birth. This health worker-to population density is used across many countries. This approach is quick, relatively simple and may be satisfactory if realistic assumptions are made about growth rates (Hall, 2001).

**Service Target-Based Approaches:** Target-based approaches set targets for specific health care services, based on health worker supply or health services demand (Hall, 2001). Targets are created using information about current services provided, technologies in use, demand and expert opinion (Dreesch et al, 2005). These targets are then translated into staffing requirements for personnel and productivity norms for health care facilities (Dreesch et al, 2005; Hall, 2001).

**Facilities-Based Approaches:** Facilities-based approaches range from simple to complex methods of target setting for health care facilities. Thomas Hall has described a sector-level,

facilities-target approach focused on improving individual health center capacity, facility mix, geographic distribution of health care facilities and adjustments to the private-to public sector ratio (2001). Targets are founded on staffing standards in each type of facility, student-to-faculty ratios, the quantity of public health personnel and funding levels required to pay salaries. For example, Uganda estimates its workforce needs based on staffing norms for each type of health facility and estimates the required number of facilities based, in part, upon the population (Ministry of Health, 2007).

## **Conclusion**

Choosing a projection approach or forecasting method requires deliberate consideration since the type of model used can have a significant effect on the resulting outcomes and recommendations.

Projection approaches should be selected with consideration of practicality and feasibility, given the data and resource constraints of a given situation. Useful projection models should address a clearly defined, quantifiable objective or problem. Additionally, models should be flexible enough to respond to new data and updated information. Model choice should also take the available data (or the data to be collected) under consideration. For example, using a sophisticated model that requires a large amount of data may produce inaccurate projections if the available data are unreliable, whereas collecting a smaller amount of less detailed but more trustworthy data and using a simpler projection model may lead to more accurate results.

### **9.2.2 Coping with shortage of staffs**

**Emergency Hiring Plan (EHP) in Kenya:** This is one of solution, designed to quickly hire and train large numbers of qualified health workers and deploy them where they are most needed. The approach has attracted substantial attention from donors, nongovernmental organizations and national level human resources for health (HRH) planners as a promising mechanism to rapidly expand the health workforce to increase service access. Through the process of negotiating with the Government of Kenya (GOK) to implement a solution to the health worker crisis, the EHP opened a window of opportunity for HRH strengthening and provided an influential model for good governance. Capacity Project staff worked with the Ministry of Health, the Directorate of Personnel Management in the Office of the President, the Ministry of Finance and African Medical and Research Foundation (AMREF) to design an acceptable recruitment and hiring process that outsourced hiring and employment management to a local private-sector organization (Deloitte and Touche, Kenya). The EHP reduced the time for recruitment from approximately one year (and sometimes as much as 18 months) to less than three months. In approximately six months, the EHP recruited, hired, trained and deployed 830 new workers

**Task-Shifting In Uganda, Malawi ,Zambia and South Africa:** Task-shifting has been shown to be effective in high-income countries where appropriately trained and supervised lower-level cadres perform delegated tasks as well or better than physicians. A recent randomized controlled trial in South Africa found that nurses were non-inferior to doctors when monitoring the treatment of HIV patients on ART. Another cluster randomized trial in Uganda found that patients receiving home-based support, monitoring and drug delivery by lay workers with 6 monthly routine evaluation achieved favorable and comparable outcomes--mortality and virologic failure--to patients receiving facility-based care with monthly visits for drug refill and 3-monthly evaluation. Task-shifting to nonphysician clinicians in Malawi and to non-physician clinicians and nurses in Zambia did not compromise quality of care (Wood et al 2009, Jaffar et al 2009, Lin et al 2000 and Morris et al 2009)

### 9.3 Workload analysis

Studies documenting Tanzania’s health sector workforce workload analysis by cadre and health facility are scanty. However, the team managed to access one study on the subject matter. In his study, Maestad et al (2008) defined as the number of patients per full-time clinician in the OPD. They found Heaviest in the poorly staffed districts, The highest cadres (AMO and MO) and lowest cadres (Attendants and Auxiliaries) had the highest workload ratings irrespective of workforce size, Nurses and Attendants mostly shouldered the bulk of the workload in the better staffed district, Clinicians were mostly overwhelmed in the poorly staffed ones

#### Tasks performed

NIMR (2007) found all clinicians who reported to be aware of their job descriptions mentioned diagnosing and prescribing as their job items. Interestingly, 76% of attendants included “patient care” in their job description, mentioning also diagnosing (40.5%), prescribing (25%), dispensing (42.5%), major operations (19%), and giving injections (52.4%).Table 8 shows reported tasks performed by various cadres in different health facilities

**Table 8 Reported tasks by cadre**

Job item	Number (%) reporting the job item				P- value
	Attendants	Clinicians	Nurses	Total	
Patient care	64(76.2)	63(100)	55(91.7)	182(87.9)	0.00004
Diagnosing	34(40.5)	63(100)	33(55.0)	130(62.8)	0.0000
Prescribing	21(25.0)	63(100)	20(33.3)	104(50.2)	0.0000
Dispensing	36(42.5)	40(63.5)	44(73.3)	120(58.0)	0.0007
Performing minor operations	16(19.0)	51(81.0)	14(23.3)	81(39.1)	0.0000
Performing major operations	1(1.2)	2(3.2)	3(5.0)	6(2.9)	0.4
Administering injections	44(52.4)	34(54.0)	45(75.0)	123(59.4)	0.014
Cleaning	68(81.0)	24(38.7)	43(71.7)	135(65.5)	0.0000
Providing health education	58(69.0)	56(90.3)	52(86.7)	166(80.6)	0.002
Supervision	17(20.2)	57(90.5)	37(61.7)	111(53.6)	0.0000
Administrative duties	23(27.4)	53(84.1)	29(27.6)	105(50.7)	0.0000
<b>Total</b>	<b>84(40.6)</b>	<b>63(30.4)</b>	<b>60(29.0)</b>	<b>207(100)</b>	

Note: Attendants included “medical attendants” and “health attendants”. Clinicians included assistant clinical officers, clinical officers, Assistant Medical Officers and medical officers. Nurses included all nursing cadres irrespective of rank or specialization, and MCHA.

#### Conclusion

The highest cadres (AMO and MO) and lowest cadres (Attendants and Auxiliaries) had the highest workload ratings irrespective of workforce size, Nurses and Attendants mostly shouldered the bulk of the workload in the better staffed district, Clinicians were mostly overwhelmed in the poorly staffed ones.

## **10 Assessment of the bottleneck affecting efforts to train more, recruit, deploy and retain health workers**

### **10.1 Training**

Among the most serious HRH challenge facing the health sector is the existing low production capacity both quantitatively and qualitatively. There is also, limited skills, knowledge and competence gap among health workers to cope with fast technological advancement in health. The training and supply of health workers has not kept pace with health sector needs, both quantitatively and qualitatively. The country has 116 training institutions of which government owns 72 and 44 are owned by the private sector and faith based organizations (HSSP III). There are also 6 medical universities 5 of which are privately owned. For the past nine years the output from medical schools is 23,536 including all cadres in health from certificate to postgraduate studies. The training institutions have several setbacks to match the existing demand in training. The limitations are primarily related to infrastructure (such as shortage of classrooms and hostel facilities, clinical preceptors), inadequate numbers and skills of their teaching staff, inadequate capacity to plan and manage the institutions due to insufficient funding.

In-service training (IST) and continuing professional development (CPD) is essential for updating and maintaining health workers skills and knowledge and for assuring quality service provision. IST/CPD systems and practices need to base on the factors such as changing disease patterns and health services demand. Unfortunately, the capacity of the current IST/CPD system to address these issues is limited. In-service training interventions need to be well coordinated. In service training programmes are often done outside the working environment contributing to staff absences and increased workloads for those remaining on site.

The MoHSW has established 8 Zonal Training Centres (ZTC) to facilitate the update of health workforce skills particularly at the district level. Given the changing and expanding roles of health workers, it is also important to ensure that IST/CPD interventions focus on professional and personal as well as medical training and development.

To reduce identified limitations, the following need to be considered; Infrastructure and technology development; Recruitment of teaching staff; Planning and coordination of pre-service and in-service training; Review training duration and levels of various cadres; Regular quality assurance improvement of curriculum and accreditation activities

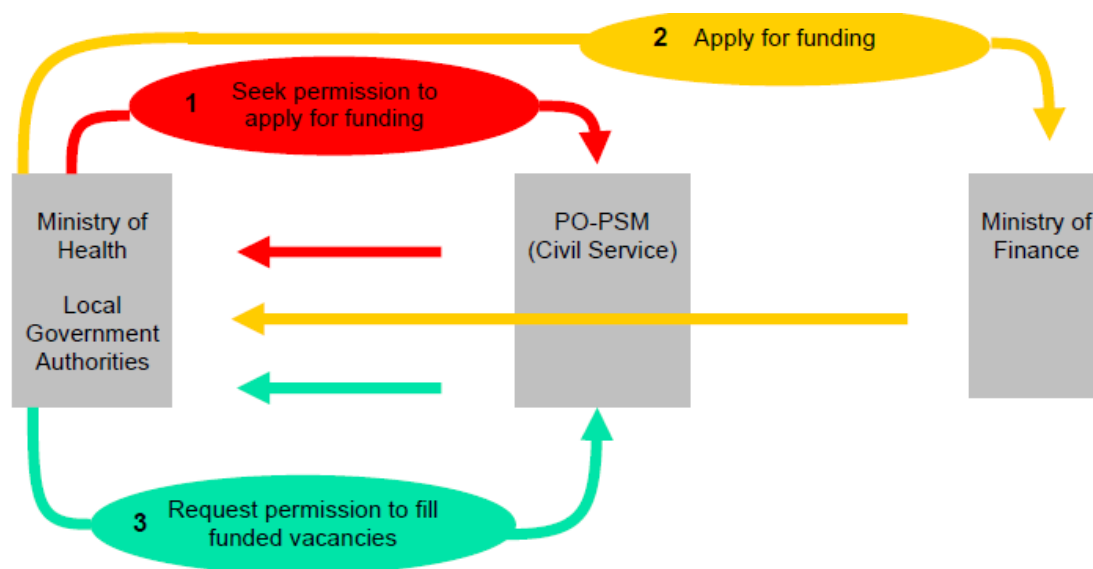
### **10.2 Recruitment and Deployment**

There are constantly quite a number of funded but vacant posts in the Tanzanian health sector. It is a clearly stated goal of the Ministry of Health to reduce the vacancy rate. Data on the number of vacancies have not been published, but the Ministry of Health has identified a total of 2616 posts for recruitment in the district health system for the financial year 2004/05. To date the total number of vacancies must lie well above this figure. Improving the deployment procedures is thus a strategy with potential in terms of solving the health worker crisis.

The Ministry of Health has been writing letters to district Councils reminding them to fill up vacant posts. They have also reinstated central recruitment of clinical officers in an attempt to speed up the recruitment process. The recruitment process is a cumbersome procedure involving a number of ministries in several steps (Figure 5). When a permit to fill a funded post is finally issued to the employer (i.e., the Ministry of Health or the Local Government Authority), the permit is valid for three months only. Experience shows that districts may not

be able to fill the posts within this time frame. The delay may in part be a result of the fact that districts so far have little experience with the decentralization reform, but it may also be a reflection of fundamental difficulties in getting potential workers to go to the districts and show up for an interview, after which the candidate may eventually be turned down. The costs of traveling may be too large to bear this risk. Hence, it is unclear how much the vacancy rate can be reduced simply through administrative measures.

**Figure 5 Cumbersome recruitment process**



Source: Ministry of Finance.

Possible policy alternatives to improve the deployment process include:

- Better information about recruitment procedures to Local Government Authorities (who are responsible for recruitment in the district health system).
- Simplification of the recruitment process
- Empowering employers with new instruments to attract workers into the health sector in general and into rural districts in particular.

### 10.3 Retention

To counter the significant shortage of qualified professionals, the GoT raised salaries for the health services staffs effective in 2006. The increase decompressed salary ranges at lower end with significant increase for middle cadres. Public health interviewed was reasonably happy with their increase in income. However, some have indicated it was still not enough to cover basic living. Therefore, the 2006 increase in salary may not have solved the retention problem automatically. Socio-economic disparities and other work environment challenges have been factors that put off professionals and thereby affecting their retention, particularly in the rural areas. An incentive package and retention strategy need to be developed that will take into account the need to improve performance and management. The use of attractive differential incentive packages including preferential career development should be considered when designing the incentive package.

## **11 Human Resource, Financing and Status of Man Health Indicators: Maternal Health and Child Health**

### **11.1 Distribution and Financing of Human Resources**

The promotion of universal coverage means that health systems should seek to ensure that all citizens have access to adequate health care (adequately staffed with skilled and motivated health workers) at an affordable cost. The quantity and quality of the health care services provided in health facilities depends among other things the availability and skills of the health workers providing the services. The quality and quantity of health care services reflects the health status of the population. Improvement of the quality of services, among other things, requires more health workers with skills to provide the services. It is increasingly clear that weak health systems capacity in developing countries is one of the key factors that constrains scaling up health service delivery and improving population health. While health systems rely on several inputs in order to function effectively, currently one of the key health systems constraints is insufficient human resources for health capacity (Wagstaff and Claeson 2004, Narasimhan et al 2004, Joint Learning Initiative 2004). Decisions on labour force participation are in turn governed by prevailing wages in the public and private sectors, working conditions, age, gender, household structure, and presence of other income earners, among others, that should also be analysed and taken into account to estimate the effect that a given policy or scale-up will have on productivity, quality, hours worked, public-private mix, and geographical distribution.

It has been found that in Tanzania there is no way to expand health service delivery unless there is a rapid scaling up of human resources for health capacity, scalling of HIV and AIDS actiuvities is one case in point. . There are also indications that lack of health care providers is significantly impeding the disbursement of funds from global health initiatives such as the Global Fund for AIDS, Tuberculosis and Malaria (Global Fund Audit Report, 2009). and as services simply cannot be delivered without the necessary trained people who are in short supply.

In Tanzania, estimates have been made of many human resources to meet the MDGs, improvements of maternal and child health being among those goals that are human resources development. At the country level, Kurowski et al (2003) carry out such an analysis for Tanzania, estimating the health workforce size up to 2015 given expected increments(e.g. from training institutions) and losses (e.g. from death) and the health workforce needed in order to provide key MDG related services. By 2015 they estimate human resources for health requirement to be over 98,000 full- time equivalentents (FTEs) while the actual availability is estimated to be just over 36,000.

Table 9 indicates the financing of the major Reproductive Health indicators. The most current information indicate that per capital expenditure per woman of reproductive age for the year 2005/06 was about USD 13, and the RH expenditure as Percent of overall health expenditure is USD 10.7 for the year 2005/06. The Antenatal Expenditure as a % of RH spending for the year 2005/06 was about 4%. The main sources of financing of the RH activities was mainly households (40.2%), followed by the public sector including parastatals (34.5), donors (21.6) and other private sources (3.7), for the year 2005/06. (TNHA, 2008).



**Table 9: Financing Reproductive Health**

Item	2002/03	2005/06
<b>Total RH Expenditure (Tshs)</b>	<b>67,390,348,724</b>	<b>121,806,598,409</b>
<b>RH expenditure per woman of reproductive age (Tshs)</b>	<b>7.406</b>	<b>12,993</b>
<b>RH expenditure per woman of reproductive age (US \$)</b>	<b>7.1</b>	<b>10.53</b>
<b>RH expenditure as of GDP</b>	<b>0.4%</b>	<b>0.8%</b>
<b>RH expenditure as % of overall health spending</b>	<b>13.67%</b>	<b>10.74%</b>
<b>Antenatal Expenditure as a % of RH spending</b>	<b>3%</b>	<b>4%</b>
<b>Postnatal Expenditure as a % of RH spending</b>	<b>1%</b>	<b>1%</b>
<b>Inpatient (deliveries expenditures as a % of RH spending)</b>	<b>21%</b>	<b>24%</b>
<b>Family Planning as a % of RH spending</b>	<b>54%</b>	<b>15%</b>
<b>Other RH services</b>	<b>36,441,874,373</b>	<b>18,135,127,089</b>
<b>OOP expenditure on maternal health care (Tshs)</b>	<b>12,920,763,083</b>	<b>9,321,825,785</b>

Source: Extracted from the Tanzania National Health Accounts, July 2008.

## 11.2 Human Resources and Reproductive and Child Health

Data collected by various studies by 2004 in Tanzania show that the maternal mortality ratio is around 578 per 100,000 live births. However, the World Health Organization data paints an even bleaker picture, listing the Tanzania maternal mortality ratio for 2005 at 950 deaths for every 100,000 live births. In comparison, the United States had 11 maternal deaths for every 100,000 live births in 2005. Studies in some regions in Tanzania indicate that one in 39 women who survive until reproductive age will die before age 50 due to maternal causes. The main causes reported for maternal death in settings with high levels of maternal mortality, provided by hospital data are puerperal sepsis and postpartum haemorrhage; Most deaths happen due to direct obstetric cause – hemorrhage, early pregnancy, and obstructed labor . Others are caused by indirect causes of obstetric deaths are anaemia, hepatitis, and undetermined. Apart from the indirect and direct causes there are also operational causes that are directly related to the availability and ability of the health workers to organize and provide health services: low standards of health care for obstetric referrals, failure to recognize the severity of the problem at the community and low health facility level, and substandard primary health care.

More reasons related to poor performance, lack of skills of health workers and inadequate resources including equipment and supplies have been reported to contribute to the increasing of the maternal mortality ratio. Wrong decision at the district level and lack of equipment at the referral centre were the **main** reasons for **inadequate** care. It is concluded that although community education on danger signs **in** pregnancy and labour is important, provision of the core resources and supplies for emergency obstetric **interventions**, as well as clear protocols for management and referral, are absolutely necessary for improvement of **maternal** survival.(DHS, 2004; Urassa at al, 1995)

Other probable or possible contributing factors to these maternal deaths are purely related to the characteristics of the individuals and communities they respde: delays in starting the

decision-making process to seek health care, lack of transport. The often long distances between people's homes and any health facility, much less one that has medical staff that can deal with emergency surgeries or complications, is one of the main weaknesses in Tanzania's health system..

Supply side factors are equally mentioned in contributing low quality care provided to patients, and Unequal distribution of health facilities (by levels) creates unbiased allocation of health workers, rural areas having less skilled workers than urban areas. The 2005 Poverty and Human Development Report cites poor health worker motivation and performance commonly manifesting in many of the health workers behaviour resulting in low quality care, non-utilization of the modern health services by different populations, and resulting into negative health outcomes. Poor motivation is cited to contribute to lack of courtesy to patients, illegitimate charging for drugs and equipment, high levels of absenteeism, “dual practice”, and poor task performance, such as, failure to conduct proper patient examinations (REPOA, 2005).

With increased resources, and in line with the Government of Tanzania's One Plan, USAID is supporting a new 5-year program called MAISHA: this stands for “Mother and Infants, Safe, Healthy, Alive”. The objectives of the MAISHA program are to reduce the major causes of maternal mortality such as postpartum hemorrhage as well as newborn mortality due to infection, asphyxia, malaria and congenital syphilis. The program will start up this year in Lindi and Mtwara Regions and expand to the remaining regions over the following two years. MAISHA will strive to improve availability and quality of basic emergency obstetric and newborn care services in all districts of Tanzania, to save the lives of mothers and their newborns. Under MAISHA, the American people – through USAID – will continue to support the White Ribbon Alliance of Tanzania in its advocacy and community mobilization efforts to improve safe motherhood and reduce maternal, newborn and child mortality in Tanzania. ([http://tanzania.usembassy.gov/pr\\_04232009b.html](http://tanzania.usembassy.gov/pr_04232009b.html) Accessed December, 2009)

### **11.3 Birth attended by skilled health workers**

Millennium Development Goal 5 (MDG5)– improving maternal health – was to be measured by reductions in maternal mortality, primarily through improving women's access to skilled assistance at childbirth, however, to date relatively few women are delivering in health facilities. Worse of all, even those that are delivering in hospitals, few are attended by skilled health workers. The skilled health workers available lack the necessary equipment to provide quality care..

The 2004/05 TDSH show that 94% of Tanzania's pregnant women visit the Antenatal Clinic (ANC) at least once, and of these 62% make four or more ANC visits. Despite the high ANC attendance, only 14% of the pregnant women start ANC visit during the first trimester. Less than 53 percent of deliveries in Tanzania happen in health facilities are attended by unskilled people, and only about 47 per cent are attended by skilled health care professionals at a dispensary, health center or hospital, The reasons behind home deliveries, among others include, behaviour of providers, distance to the health facility, inadequacy of health workers and some people only trust healers (TDHS, 2004). Low skills of health workers unprofessional behaviour among health workers and unavailability of some care due

to different reasons, are among major factors mentioned for mothers not to utilize health facilities during births. There is an appreciable low number of births that take place in a health facility (currently less than 48 percent) and in the number of births attended by skilled health workers (less than 47 percent) (DHS, 2004).

In response the government is trying to build dispensaries in every village, train more health workers provide some training to traditional healers (teaching them to recognize danger signs and providing them with antiseptics).



Despite the blames thrown to traditional healers and birth attendants, studies have suggested that when pregnant women in Tanzania. Choose whether to give birth at home or in a clinic, the attitude of health workers and availability of drugs are more important factors than cost and distance to the clinic to the woman.

### **HIV/AIDS and Human Resources**

The HIV epidemic poses significant challenges to the health sector in Tanzania, affecting human resources for health in three dimensions: first, the attrition rate among health care workers, their level of motivation, and absenteeism from work, creating further shortages of human resources; also reduction in productivity results from low morale and absenteeism. Secondly, the existing constraints in staffing are likely to be further aggravated by the impact of the HIV epidemic in increased mortality and morbidity of the work force. Additionally, there are increasing demands placed on the health sector, for the additional care of those infected. Thirdly, the increasing number of HIV and AIDS patients intensifies the already existing shortage of human resources creating further demand of more health workers to attend all patients attending health facilities.

Muhondwa and Fimbo (2006) studied the impact of HIV and AIDS among health workers and the following findings were reported;

- The work place was found to be a potential source of infection;
- HIV and AIDS, affecting health workers and or their relatives, contributed significantly to health workers absenteeism from work;
- Health workers are dying from AIDS reducing the available work force;
- Poor health due to HIV and AIDS leading to low productivity among the infected workforce;
- Mortality and morbidity due to HIV and AIDS resulting into reduction of years of productivity

The above effects leading to shortage of health workers and increased work load, demanding new strategies for employing, motivating and retaining health workers..

#### **11.4 Human Resources and Productivity**

Workload shouldered by health workers could be contributing factors towards demoralizing health workers to work efficiently. However, poor allocation of human resources to different health system levels could create “artificial workload” in the health system. Planners should also move beyond the assumption that existing health-care delivery systems are efficient. A study of time use in Zanzibar, Tanzania, found that on average only 61% of providers' time was spent productively; other studies find substantially lower productivity rates. The task mix itself—generated by a de facto poor skills mix at different levels of the health system—generates inefficiency. The use and targeting of payments, subsidies, and tax breaks, in combination with greater attention to non-financing incentives and investment in supervision and capacity building, can potentially help to increase worker productivity. To implement such strategies, trends in provider productivity must be measured and managed. The substantial variations in provider quality must also be addressed head-on to reduce the potential for inappropriate care and ineffective use of resources.

#### **11.5 Focusing on Improving Maternal and Child Health Indicators**

The Government of Tanzania and her development partners have set targets to reducing the Reproductive and Child Health by 2015. One MDG is reducing the maternal mortality ration from 578 per 100,000 live births to 193 by the year 2015. The National Strategy for Growth and Poverty Reduction (NSGPR 2005-10) acronymed MKUKUTA in Kiswahili spells intervention for reduction of maternal and child mortality, which is also expected to be the emphasises in the next MKUKUTA. The Health Sector Strategic Plan III(HSSP 2009-15), The Tanzania National Road Map Strategic Plan to Accelerate the Reduction of Maternal, Newborn and Child Mortality 2008-12 specify that the health facility assisted deliveries should be improved from 46% to 80% (of all deliveries), and the proportion of pregnant mothers attending all four ANC visits should rise from 64% to 90% by the year 2015. The comprehensive emergency obstetric care should increase from 64% to 100% in hospitals., while increasing the basic emergency obstetric care from 5% to 70% in health centre and dispensary.. The contraceptive prevalence is set to increase from 20% to 60%, while the Prevention of Mother to Child Transmission is projected to increase to at least 80% from 20% of the pregnant mothers, their babies and families by 2015. Among the strategies that have been itemized in the above government documents, to reach the specified targets, is the revamping of the health system, including the scaling up, training and hiring more human resources.

#### **Conclusions**

- Utilization of maternal health services among delivering mothers is absolutely low. The shortage, unequal distribution of skilled workers between rural and urban areas (structural), and low skills, and sometimes absence, of health workers in rural hard to reach areas are among the major causes of underutilization of obstetric health services.
- The untimely utilization of obstetric care amongst delivering mothers are likely to cause deaths of infants, and hence contribute to the increasing of infant mortality rate. Most births in the rural areas are attended by low or unskilled health workers The distribution of health workers between rural and urban, and among health facility levels is unequal.

The rural areas being disadvantaged HIV and AIDS is aggravating the shortage of health workers by impacting on them negatively and reducing their productivity; and by increasing the number of clients that need health workers attention

- The shortage of health workers results into increasing in the workload among health workers attending mothers and their children. This contributes to demoralising health workers facing a decline in productivity.
- Child health services like immunization require availability of labour as the clients arrive at the health facility. The nature of immunization (since is not treatment that the client needs at the time of attending the health facility) does not give an incentive for the mother to wait. Long queues are likely to discourage mothers from taking their children to health facilities.

### Recommmendations

- The unequal distribution of skilled health workers need to be addressed. Rural areas should receive priorities in the deployment of skilled health workers needed to attend mothers and their children.
- Productivity of health workers is also facilitated by health workers behaviour, especially in attending delivering mothers. Providing training on customer care should be emphasized to change the health workers mind set in treating their clients.
- Since mothers still trust their traditional birth attendants, the process of intergrating traditional birth attendants' serices in the health system should not be neglected. They should be trained on obscetric acre and be used as first aide points.
- All nurses and prescribers in rural health facilities, irrespective of the level of the health facility, should be trained in handling AIDS patients including treatment of opportunistic infections and provision and follow up of ARV treatments.
- The health financing options should focus on compensating health workers who work in hard to reach areas, **by providing** bonuses to those who work in these areas.

## 12 Innovative interventions for recruiting, training, deployment retaining of health workers in different regions, districts and other Countries

Nearly all developing countries are challenged by worker shortage, skill mix imbalance, maldistribution, negative work environment, and weak knowledge base. Especially in the poorest countries, the workforce is under assault by HIV/AIDS, out-migration, and inadequate investment. A number of dissatisfiers and demotivators acts to discourage employment, training, deployment and retaining health workers in rural hard to reach areas. Health workers motivation and subsequently retention requires motivation to be satisfied. The motivators are things more than money. The five motivators—meaningful work, achievement, recognition, responsibility and advancement— suggest that people care about more than money and self-interest at work. These elements create a positive work environment where one is valued and supported for doing good work and for contributing to a greater good.

As long as an employee feels that his or her salary, working conditions, living conditions (where appropriate) and the other satisfiers are adequate and within some reasonable norm for the type of job, this will help attract and retain health workers. It will also provide the foundation so that motivators can be used as powerful tools to create a positive environment and increase workers productivity and retention.

By understanding the role of different satisfiers and motivators, different innovative interventions are experimented in different places in the country and other countries that face the shortage of human resources for health.

- **Regular on job training** was one of the strategies employed in reducing maternal mortality ration in Kigoma region of Tanzania from 933 to 186 per 100 000 live births over the period 1984–91
- **In Kenya task shifting** has been experimented to retain health workers. WHO has in recent years proposed task-shifting as one way of filling the gap in availability of health workers. This implies transferring skills to less academically qualified but more available personnel to provide key services. There are some emergent efforts in Kenya to replicate this for mental health services. The various mental health issues and service roles in different stages of the cycle of prevention, treatment and care are explored to assess where task-shifting provides a feasible possibility to reach the community and improve service provision. These efforts must still be shown to make a real difference in effective services for communities. They need to link skilled health personnel with those in frontline care through supervision and support so still demand these high skill personnel for leadership, and in research and higher training. So task shifting makes it even more important to find effective options for retaining these high skill personnel in their own countries and to link their own desired career paths to the needs of the health system. Kenya has been notable in the region for its production and retention of psychiatrists and could make a very interesting case study on the success of national retention psychiatrists, even though these personnel may not be equitably distributed in the country (Equinet Newsletter, 2009).
- A review of incentive programs in East and Southern Africa (Dambisya, 2007) identifies 16 countries with incentive programs specifically aimed at improving recruitment and retention of staff, especially in rural, remote, hard-to-reach areas. The programs all include a combination of financial and nonfinancial incentives,

and a main conclusion of the review is that there is “no ‘one size fits all’ solution to the health worker crisis,” and “no simple prescription for what incentives to use.” The review also identifies as a strategic gap the “the long-term ‘exit’ or ‘scale up’ strategies for incentives.”

- The financial challenges alone are daunting, a combination of satisfiers have been found to attract and retain health workers in rural remote areas in some countries(Dambisya, 2007):
- The following job dissastifiers were identified and ways of removing them were suggested and in others implemenyed to encourage retention::
  - *Take home income:* Compensation (salaries, raises and bonuses) was found to be a very important dissatisfier. All 16 countries in the review of incentive programs noted above (Dambisya, 2007) identify enhanced salaries, salary top-ups, and the like as central in their incetive deployment and retention programmes. Improving their take home salaries is therefore one of very important satisfiers.’ Low salaries Recent studies in Tanzania (Yumkella and Swai, 2007), Uganda (Onzubo, 2007) and Mali (Dieleman et al., 2006) also identify ow salaries as a major factor that could make workers decide to leave their current job.
  - *Better Accommodation:* In some countries toping up of salaries alone was not enough to retain health workers; availability of accommodation is another important factor in health workers retention interventions in the rural areas. In a resorce constraint economy incremantal salaries may be difficult, however that were complemented by making available and improving accommodation.
  - *Relationship with Supervisors/Managers and Team work:*I In the Uganda study (Onzubo, 2007), which looks at the turnover of health professionals in the general hospitals of the West Nile Region, the highest attrition rates was among doctors and midwives The most frequent reason for their attrition, in addition to remuneration, was poor relationships between the staff and managers, and perceived inadequate compensation. Hence, the maon focus in this area was to address tsupervision and compensation dissastifactions.
  - *Availability of tools and equipment:* In Mali (Dieleman et al., 2006), health workers complained about their working conditions: 42% mentioned the lack of loodpressure machines and 28% lacked bandages and delivery kits. He focus here was therefore improvement of the working conditions by increasing the tools of work.
  - *Poor management:* n some countries poor management and unclear regulations in the working environment were not clear. Workers were denied their annual leave by the supervisors.
  - *Working conditions :* In Kenya, concern for safety and security in the work nvironment is a growing dissatisfier. In a rapid assessment in Kenya (Capacity Project, 2009), a specific recommendation is that “measures to ensure the safety and security of staff and their families should be considered in developing HR policies. This would create a sense of appreciation as health workers will feel valued and at ease generally, enabling them to perform well in their daily duties
  - *Improved Working Environment:* incentive programs in Angola,Lesotho, Malawi, Mauritius, South Africa, Zambia and Zimbabwe also include improvement of workplace conditions (Dambisya, 2007 A conducive work environment is one that provides a well-maintained building, equipment, medical supplies, adequate staffing and security for staff and their families.
  - *Improvement of Working Conditions (at the facility level):* even a small budget to get some basic supplies, fix broken floor tiles and paint walls can

- do a lot over time to improve the environment, and this can have a very positive effect on workers' level of professional pride
- *Staying idle during working hours*: Staying idle may be caused by absence of instruments of work (like medical equipment and supplies) and underutilization of health facilities shortage of drugs lowering utilization of a health facility). This is a dissatisfier to health workers. Factors related to low utilization of health facilities should be explored to reduce the dissatisfiers.
  - Job Demotivators were equally identified and ways explored to remove them. Just as it takes time to gradually minimize a dissatisfier, it was also found that demotivators were identified and gradually and implemented to bring about changes that enable motivators to work:
    - *Carreer progression and continuing education*: In South Africa rural doctors (Kotzee and Couper, 2006) stated that lack of career progression and continuing medical education led to doctors "leaving for greener pastures." The interventions they recommended included a new policy that time spent working in rural hospitals could form part of the accreditation toward attaining postgraduate specialist degrees, and access to the Internet for distance-based education. Access to distant learning programs is also part of the retention scheme in Zambia(Capacity Project, 2009),
    - *Feeling responsible/Delagating responsibilities*: In Mali (Dieleman et al., 2006), "feeling responsible" was identified by physicians as a significant motivator eg delegating more decision-making authority to physicians. In the rapid assessment in Kenya, health workers identified receiving supportive feedback as important. (Capacity Project, 2009).
    - *Evaluation Performance*: Performance appraisals are also part of the incentive programs in Mozambique and , South Africa (Dambisya, 2007).
    - *Recognition and advancement*: Recognition of health worker's contribution at their places of work is an important motivator. Health workers need to advance from one position to another. One is motivated for having chances for self advancement have to be understood for any motivating strategy in the ladder of the carrier development

## Conclusions

- Experience from other countries indicate that there is no single solution or strategy which could be applied to improve attraction, training, distribution and retention of human resources in the health sector. The interplay of socio-economic factors, health workers' labour market, availability of resources, equipment and infrastructure, health managers' management and supervision styles, structural allocation of health facilities, rural-urban differentials political will, have to be understood for a meaningful attraction and retention strategies to be designed and implemented successfully.
- The review of other countries experiences also shows that the interaction of the "push" and "pull" factors to demotivate and dissastify health workers emanate from four levels: The local environment (home, social and economic, education for children, accommodation availability of utilities, roads, transportation) workplace environment (salaries, supervision, job prospects, professional advancement, appreciation by others, equipment, supplies location of the health facility); and the individual health workers (age, gender, sex, education level, marital status); and national environment and policies related to human resources management
- Understanding health workers motivators and job satisfaction would help the decision-makers in MoH&SW to be more strategic about the best way to address challenges pertaining to recruitment, retention and performance of health workers
- The understanding of motivators and satsfiers could provide ministry, donors and other stakeholders with a practical way to allocate the funding to interventions that



can would implemented incrementally over time to remove dissatisfiers and demotivators.

- The understanding of the right motivators and satisfiers among different health workers at different levels of health facilities and geographical areas are important in arriving at desired results in recruitment, training, deployment and retention of health workers
- Interventions should be done complementary and incrementally (e.g. increase of compensation and accommodation, together etc.) to produce gains in attraction and retention, and provide the foundation to improve motivators.
- Low cost motivators could be employed (growth and learning, career progression, recognition) to realise the best out of the workers that are in place.
- Performance of health workers should be evaluated, acknowledged and rewarded according to improve health workers performance and productivity.
- The views of health workers are very important in determining the right actions to take. Identifying the satisfiers and motivators for health workers in different disciplines and geographical areas means clearly understanding their interests and concerns.

## 12.1 Recommendations from Lessons Learned from Other Countries

- A clear understanding the interplay between “Push” and “Pull” factors that impact on an individual; and the interplay among factors that influence attraction, training, distribution and retention of human resources in remote rural areas and health facility levels: Since there is no single factor that influence attraction and retention of health workers; and these factors in most cases are related to each other, a understanding their dynamics is important before strategies are defined and developed. The interactions among socio-economic factors, health workers’ labour market, availability of resources, equipment and infrastructure, health managers’ management and supervision skills, structural allocation of health facilities, rural-urban differentials political will, have to be explored in different geographical areas, levels of health facilities and among cadres.
- *Focus strategies on focusing to minimizing* problems that are related to the availability and performance of health workers by reinforcing the health system organization and management and make it attractive to new and existing the health workers ; strengthening the performance of all existing health workers.
- From the reviewed experiences in 16 African countries it is clearly shown that health workers respond to incentives (satisfiers) there strategically the health sector should
  - begin by identifying the main dissatisfier(s) for health workers, by cadre (and maybe by specific geographical region), and for the positions targeted for retention interventions. Second, look for incremental improvements—thinking strategically because everything cannot be fixed at once—that minimize the dissatisfier and over time turn it into a satisfier;
  - Third, identify the main motivators (also by cadre, maybe by locality); and
  - The fourth step is to look for incremental improvements identify incremental actions to enable motivators to work.. When actions are

taken to make improvements that minimize a dissatisfier, and when they start to make a difference, then the motivators can begin to work. Specifically the following are recommended for addressing specific dissatisfiers and motivators at their own merits:

- Human resources strategic plans should focus on improving salaries in conjunction with accommodation. Take home salaries should be improved together with making and improving accommodation in rural remote areas.
- Supervisors/managers have to be trained in leadership relationship and entrepreneurial leadership skills, communication, feedback, respect to colleagues, and team work.
- Working conditions need to be improved by, among others, providing health workers with the necessary tools, supplies, and equipment needed for performing their work.
- Strategic choices about satisfiers and bringing about incremental improvements has to be adopted as the first part of the sequence designed to attract employees and help them to stay committed. The other part in the sequence is to be ready with the motivators to improve their level of performance, as follows:

***For Low Job Satisfaction***

- *1) Identify key dissatisfiers*
- *2) Target specific incremental actions*
- ***Gradually minimizes the dissatisfier, and over time turns it into a sufficient satisfier.*** *When actions are taken to make incremental improvements that minimize a dissatisfier, and when they start to make a difference, then the motivators can begin to work.*
- **A Sequence for Incremental Improvement**  
***For Low job satisfaction***
- *1) Identify the main dissatisfiers (beyond salary)*
- *2) Target specific incremental actions*
- *3) Identify the main motivator(s)—soliciting health worker perceptions is helpful here*
- *4) Target specific incremental actions to enable motivators to work .*
- ***Improved retention and performance continued***
- At the facility level, even a small budget to get some basic supplies, fix broken floor tiles and paint walls can do a lot over time to improve the environment, and this can have a very positive effect on workers' level of professional pride.
- The annual appraisals and promotions that clearly reflected performance Strategic Human Resources leadership and management capacity and skills (professionals) are required within the Ministries of Health and Social Welfare champion this strategic focus on satisfiers and motivators—to formulate the policies, shape the budgets and identify and help implement the targeted incremental improvements.
- Use different staff – less skilled—who are easier to attract and retain in remote rural areas.
- Change the nature of delivering health services
- Develop alternative ways of providing and financing health services eg contracting out or entering partnership with the private sector to provide health services in remote rural areas

- Enact policies that attract the private sector to provide services in the remote rural areas eg tax exemptions, subsidies, allowing the private sector to benefit on government sources of drugs, equipment and supplies.
- Recruiting health workers from remote rural areas and deploy them in their home areas.
- General improvement of the working conditions as identified by health workers
- Initiating compulsory services in remote rural areas for a number of years before a health worker is considered for further training or promotion
- Combine incentives with financial incentives for those accepting to be deployed in remote rural areas.
- Implement a combination of strategies, evaluate them regularly to assess which strategy is more effective and efficient in addressing health workers problems in different geographical and among different cadres.
- Have strategies focusing on the health worker family eg paying school fees of health workers children or sponsoring them to go to school in other areas apart from where their parents work; provide families with a rural allowance etc.
- Improve supportive supervision to motivate health workers and improve their performance and quality of services they provide.

## **13 CLIMATE CHANGE AND THE EFFECTS ON ENVIRONMENT AND HEALTH**

### Introduction

The climate has changed and is continuing to change. Climate change is a significant and emerging threat to public health, and changes the way we must look at protecting our vulnerable populations. Climate and weather have powerful direct and indirect impacts on human life.

### Background – The Greenhouse trap

The atmospheric concentration of carbon dioxide - mainly generated by rich countries - has increased by more than 30% since pre-industrial times, trapping more heat in the lower atmosphere due to the greenhouse gas effect. The Intergovernmental Panel on Climate Change (IPCC) has concluded that the global average surface temperature has increased over the last 50 years; eleven of the twelve years 1995-2006 rank among the 12 warmest years since records began in the 1850s; the rates of warming, and of sea level rise, have accelerated in recent decades; many areas, particularly mid- to high-latitude, have experienced increases in precipitation, and there has been a general increase in the frequency of extreme rainfall and floods; and in some regions the frequency and intensity of droughts have increased in recent decades. It is expected that heat waves, heavy precipitation events, and other extreme climate events will become more frequent and intense, and sea level rise will continue at an accelerating rate.

### Effects on environment and health – relevant global examples and examples from Tanzania

To a large extent, public health depends on safe drinking water, sufficient food, secure shelter, and good social conditions. A changing climate is likely to affect all of these conditions. The health effects of a rapidly changing climate are likely to be overwhelmingly negative in poor countries like Tanzania, which have contributed least to greenhouse gas emissions.

Heavy rains and floods have severe impacts on health through immediate disasters. Approximately six hundred thousand deaths occurred worldwide as a result of weather-related natural disasters in the 1990s. Poor countries and communities in those countries are more susceptible to the impact of the weather changes. In October 1999, a cyclone in Orissa, India, caused ten thousand deaths. The total number of people affected was estimated at ten to fifteen million. In December 1999, floods in and around Caracas, Venezuela, killed approximately thirty thousand people, many in shanty towns on exposed slopes (WHO-fact sheet no266 August 2007). Tanzania has in recent years experienced many flood disasters like the case of Same District floods, in Kilimanjaro region this year.

Climate change has not only caused heavy rainfall and floods; but also long periods of severe drought. This has sparked increased pressure for development of irrigation systems to control the support of water for agricultural purposes. In Tanzania one of the main strategies of the “Kilimo Kwanza” policy is to intensify irrigation systems for food production. However positive this will be in terms of cultivation and crop growing, irrigation systems will also provide growth of snails known to host the bilharzias parasite. People working on the irrigation sites will be exposed not only to bilharzias but also other waterborne diseases.

More variable precipitation patterns are likely to compromise the supply of freshwater and increasing risks of water-borne disease like cholera and typhoid fever. The resurgence of cholera outbreaks in various parts of Tanzania with a total of xxx cases is a result of the changes in the climate and the weather conditions.

Rising temperatures and variable precipitation are likely to decrease the production of staple foods in many of the poorest regions, increasing risks of malnutrition. We are currently

experiencing periods of extreme drought alternating with torrential rains. These have negative effects not only on food production but on the welfare of the nation. Animals are dying in great numbers because of lack of pastures and drinking water. This affects nutrition and increase malnutrition which is already a major problem in the poor countries today. Food prices have increased especially in towns, where the population depends on food imports. The impact on the poor is substantial and leaving an increasing part of the population prone to malnutrition and susceptible to infections and other ill health. Also the infrastructure is destroyed repeatedly by these weather extremes.

Rising sea levels increase the risk of coastal flooding, and may necessitate population displacement. In the coastal areas in Tanzania and specifically in Dar, the rising level of the sea is eroding deeply into the costal land and some costal houses are falling into the sea. The Ocean Road has been denuded and special protection in some specified areas has been done by erecting a protective wall to cushion the road from the sea weaves. However, the sea level rise is expected to continue at an accelerating rate.

Changes in climate are likely to lengthen the transmission seasons of important vector-borne diseases like malaria and viral fevers, and to alter their geographic range, potentially bringing them to regions that lack population immunity and suitable public health infrastructure. In Tanzania we have of recent years seen outbreaks of malaria epidemics in the Kagera regions, Dodoma. In Africa Rift Valley Fever outbreaks are closely associated with periods of above-average rainfall. The 2007 outbreak of Rift Valley Fever infected thousands cattle and hundreds of people in several Regions in Tanzania leading to substantial human suffering and economic losses due to death and abortion among RVF-infected livestock.

### **13.1 Tanzania's health sector response to climate change**

The relationships between the environment and tropical diseases are known. Under Millennium Development Goal no 7, the environment is primarily addressed in terms of preserving the forests and the eco-systems and in terms of sanitation interventions focusing on pollution and preservation of the environment by disposal of solid and liquid wastes. However, the links between climate change and environment have direct and substantial ramification on health in the population and hence on demands to the health sector.

To reduce health vulnerability to future climate change Tanzania needs to strengthen programmes to combat infectious disease, improve water and sanitation services and respond to natural disasters. Awareness of the health implications of climate change and related weather patterns must be raised.

It is of immediate importance to establish comprehensive frameworks for the country to address the negative health impact of climate change. This includes setting up Government structures that will be able to develop appropriate policies and strategies, monitor the health effects from climate change, identifying partners to assist the country – technically and financially – to deal effectively with the climate induced health threats.

The Health Sector will during the implementation of “MKUKUTA II” pursue the following objectives and actions:

1. Establish structures that can effectively address the health effects of climate change in terms of policy development, monitoring systems, country wide organization and generation of resources.

Actions:

- a. Analyze the existing health sector organization in view of its capacity to effectively respond to effects of climate change.
- b. Develop a prioritized action plan for establishing appropriate strategies, structures and systems to address the impact of climate change.
- c. Assess resource requirements for implementing the climate change action plan and identify potential sources of financial and technical support.
- d. Implement the action plan considering allocated resources.

2. Promote and support the production of scientific evidence.

Actions:

- a. Assess the burden of disease attributable to climate change and project it to future years.
  - b. Develop a prioritized research strategy for health impact of climate change.
  - c. Review and develop methodologies and guidelines on how to evaluate vulnerability to climate change-related health effects at national, regional and local levels.
  - d. Support and monitor research to improve public health knowledge on the health risks of climate change and on the most effective interventions to manage those risks.
  - e. Assess the health impact of adaptation and mitigation policies in other sectors and identify the most effective actions which have the potential to benefit health.
  - f. Identify and develop indicators to monitor climate change-related health outcomes within surveillance systems.
  - g. Collaborate with relevant scientific organizations to develop the knowledge base of health effects of climate change.
3. Engage in advocacy and raise awareness of the effects of climate change on health, in order to prompt action for public health measures.

Actions:

- a. Development of tools, guidance, information and training packages to support awareness and advocacy campaigns to protect health from climate change at national and regional levels.
  - b. Develop and run an awareness-raising and advocacy campaign aiming to put health at the centre of the climate change mitigation and adaptation agenda.
4. Engage in partnerships with organizations and sectors other than the health sector at national, regional and international levels, in order to ensure that health protection and health promotion are central to climate change adaptation and mitigation policies.

Actions:

- a. Participate in the relevant mechanisms and coordination activities.
  - b. Provide the health sector with information, tools and advice so it can actively participate in national, regional and international mechanisms.
5. Strengthen health systems to cope with the health threats posed by climate change.

Actions:

- a. Advocate for the strengthening of primary health care (including primary prevention) services to support capacity of local communities to become resilient to climate-related health risks.
- b. Mobilize and guide international support for the urgent strengthening and financing of public health systems at the national level.
- c. Strengthen programmes to combat infectious disease, improve water and sanitation services and respond to natural disasters.
- d. Accelerate programmes like “MMAM 2007-2017” in order to have the most needed midlevel professionals in place to provide health promotion, preventive health care, care & treatment, rehabilitation and maintenance of care for the elderly and chronically ill.

- e. Implement the eleven strategic areas of HSSP III (2009-2015) to ensure the sector health system is operational and robust enough to bail out the country from the health related effects of climate change.
- f. Support the development of early warning systems related to the health consequences of climate change and climate variability.
- g. Assess the effectiveness of health emergency management measures in reducing the impact of extreme events on health with the development of appropriate evaluation methods and pilot studies.

## **14 Challenges and Suggestions for Implementing HRH for “MKUKUTA”**

### **14.1 General**

#### **a. Labour market and labour movement**

- Labour market: The labour market for health workers is mainly dominated by the public sector. The demand for health workers is driven by the price that is predetermined by the government. There is now an influx of workers from the private health facilities, especially the NGOs/NGOs mainly due to differences in the price paid by the private sector (NGO/FBO).
- Labour movement from clinical to prevention: There is a tendency of health workers to move from clinical work in health facilities to non-clinical work in public health facilities or other organizations working in preventive activities. HIV/AIDS and increasing workload in clinical, management have been cited, among other factors, that are have facilitated this movement. This tendency is paralysing the clinical sub sector of the health sector.
- Labor movement from health facilities to organizations working in communities: More and more graduate clinicians and nurses are moving to organizations that are working in communities on social welfare and public health. The main reason for this movement has been the difference in prices paid by these organizations. Although these workers are still working in the health sector, most of them are doing mainly administrative work, especially management of programmes, which could be done by other cadres, and not necessarily nurses or doctors.

#### **b. Coordination of HRH**

- A number of government agencies (MOHSW, PMOLARG, POPSM, MEVT, MFEP) are in one way or another involved in planning, recruitment, training, deploying and paying HRH. The communication among these institutions is not obvious. This creates absence of proper information that would be used for proper planning and deployment of HRH.
- The private sector is also largely involved in training and employment of HRH. However, the public private partnership has not been developed enough the enable sharing information regarding implementation of the planning and deployment of HRH.

#### **c. Monitoring**

- Lack of clean and clear professional information to develop and monitor HRH issues complicates the planning and deployment of HRH.
- Lack of clear HRH indicators paralyses the monitoring of HRH

#### **d. Chronic Under-funding complicating the modernization of the of the Health sector**

- Chronic under-funding of the health sector has resulted into lack of equipment in health facilities impairing productivity of HRH
- The infrastructure are ageing impairing on HRH performance
- Under-funding of the planned activities demotivating health workers, reducing the possibilities of meeting the health sector goals, therefore complicating the measurement of performance among HRH.
- Under-funding facilitating the destruction of the working environment creating more dissatisfactions among HRH; eventually affecting performance



- The under-funding has also increased the workload among HRH in health facilities. Few workers attending many patients/clients.
- e. Growth of the economy and education for development**
- The investment in science education needs an emphasis in making the health sector attractive to HRH
  - Most of the health related trainings are relatively expensive. The lack of resources attracts few to join the health education wing. Therefore, few numbers of graduates are produced from health institutions.
  - Quantities, yes; but quality is also very necessary: The education provided need more investment to produce large numbers of health workers qualified to work in the health sector.
  - The low investment in health care market makes it unattractive for new people to enter the market: incentives are not built in the education that is used to produce human resources for health.
- f. Rapid expansion of the number of health facilities**
- Health facilities are managed by health workers. There is a fast increase of health facilities without a corresponding matching of the production of health workers.
  - To capture the increase of health facilities the quality of training is compromised: It takes more than 3 years to produce a skilled health worker, while it takes less than six months to construct a health facility (dispensary). To match this number of exposure to training are reduced compromising the quality of education.
- g. Health sector priorities**
- The health sector priorities have to focus on behaviour change challenges. Most of the health problems that the majority of the population face are behavioural related. Changing behaviour is to encourage more preventive activities. Investment in health related behavioural changes is therefore vital for reducing the burden of diseases.
  - Emphasis on training that would focus on behavioural change is required. This calls for public health educational priority challenge.
- h. Human Resources Decisions and Professional Human Resources for Health Management**
- Decisions on where and how health workers are allocated impacts on workers functioning. Some health workers are placed in units that impair their performance as trained health workers
  - Lack of profession HRH in many places of decision making impairs efficient allocation of HRH to proper areas that would motivate them to perform
- i. Effectiveness of D by D to improve HRH actions**
- The power division between districts and regions, between central level are sometimes disfavours HRH development. Despite D by D, more power still rests at the central level, where all the planning for HRH is done, among others.
  - The RHMTs have been in one way or another paralysed, leaving a number of qualified HRH not fully utilised
  - Lack of Information sharing between the districts and central level facilitates poor planning in HRH. Districts do not necessarily communicate to the central

level on what type of skills and training they require in their districts, before training is conducted. For instance, most of the people trained (in-service), the applications are initiated by the individual applicants for meeting their own needs, and not the district authority's decisions based on districts HRH requirements.

## **14.2 Recruitment**

- a. More recruitment of HRH is currently centrally done. Increased Districts power to define the type of skills they need and recruit them accordingly is vital in HRH development.
- b. Strengthening the districts for them to be able to define and analyse the type of skills required in working in both clinical and prevention health care.

## **14.3 Training**

- a. The distribution of workers by age is somehow skewed towards old age. Most of the health workers are above 40 years of age. Whereas a HRH Strategic plan is very important, a more detailed National Training Plan which abides by the succession principles should be drawn. The plan would contain a Training calendar, which would trace the production of different cadres from different training institutions.
- b. Under capacity utilization of the training institutions is remains a challenge. Most of the health training institutions focus on producing a single type of cadre only e.g. one for nurse midwives, a different for public health nurse; a different one for clinical officers another one for assistant medical officers etc. These institutions have trainers who could also train more than one type of cadres. To maximize the use of existing capacity in these institutions they should be aimed at producing multiple cadres.
- c. Professional underutilization of institutions with highly qualified staff e.g, CEDHA. A fully utilization of such training institutions in HRH planning, management and preparation of national training plan and a training calendar is commended for further development of HRH.
- d. Involvement of the private sector including FBOs in training health workers. The private sector institutions, especially the FBO ones are also underutilized. Involvement of the private sector in planning and identifying ways to utilise their capacity and improve HRH training is crucial in a resource constrained economy.
- e. Strategic training is a challenge. It requires understanding and projecting the HRH needs for the country. It avoids the malaise of training for the market. The market failure in health makes it unpalatable to plan for the market but for the national needs.
- f. Districts have to analyse and specify their training needs. These needs have to be included in the CCHPs in each year. To accelerate this, in-service training need not require an entry examination since they are already in the trade anyway. The removal of such examination would give districts and interested more possibilities of planning for advanced training in different areas of health training.

#### **14.4 Deployment**

- a. There is a great imbalance of deployment of HRH in the countries. Health facilities in the rural areas suffering most. A National Deployment Plan, which defines who will work where, who is working where, when one is working where, and the like, would reduce the imbalances.
- b. Investing in HRH Information system necessary for the deployment plan to work.
- c. Deployment is also constrained by the unclear picture on career development path in different geographical areas. A unit dealing in deployment would be important to define most of issues in deployment.
- d. Apart from payment by performance, a clear policy on how performance would be measured in different contexts would give a clear picture to health workers, as an incentive to workers to be placed in different parts of the country,

#### **14.5 Retention system**

- a. Incentive schemes according to the contexts one is working in have to be developed and included in Districts/Council CCHPs to motivate retention.
- b. Financial incentives have shown not to be the only important motivators in retaining health workers. Non-financial incentives designed for specific contexts have shown to retain health workers in different remote underserved areas of different countries.



## 15 Objectives, targets, interventions and indicators that can be addressed in the next MKUKUTA

The following tables summarize the objectives, targets, interventions and indicators that can be addressed in the next MKUKUTA to mitigate the negative impact of climate change in the population.

**Table 10: The objectives, targets, interventions and indicators to mitigate the negative impact of climate change**

OBJECTIVES	ACTIONS	Targets	Indicators	Timeline	Assumptions	Comments
Objective 1: Establish structures that can effectively address the health effects of climate change in terms of policy development, monitoring systems, country wide organization and generation of resources.	<ul style="list-style-type: none"> <li>a. Analyze the existing health sector organization in view of its capacity to effectively respond to effects of climate change.</li> <li>b. Develop a prioritized action plan for establishing appropriate strategies, structures and systems to address the impact of climate change.</li> <li>c. Assess resource requirements for implementing the climate change action plan and identify potential sources of financial</li> </ul>					

	<p>and technical support.</p> <p>d. Implement the action plan considering allocated resources.</p>					
<p>Objective 2: Promote and support the production of scientific evidence.</p>	<p>a. Assess the burden of disease attributable to climate change and project it to future years.</p> <p>b. Develop a prioritized research strategy for health impact of climate change.</p> <p>c. Review and develop methodologies and guidelines on how to evaluate vulnerability to climate change-related health effects at national, regional and local levels.</p> <p>d. Support and monitor</p>					

	<p>research to improve public health knowledge on the health risks of climate change and on the most effective interventions to manage those risks.</p> <p>e. Assess the health impact of adaptation and mitigation policies in other sectors and identify the most effective actions which have the potential to benefit health.</p> <p>f. Identify and develop indicators to monitor climate change-related health outcomes within surveillance systems.</p> <p>g. Collaborate with</p>					
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	relevant scientific organizations to develop the knowledge base of health effects of climate change.					
Objective 3: Engage in advocacy and raise awareness of the effects of climate change on health, in order to prompt action for public health measures.	<ul style="list-style-type: none"> <li>a. Development of tools, guidance, information and training packages to support awareness and advocacy campaigns to protect health from climate change at national and regional levels.</li> <li>b. Develop and run an awareness-raising and advocacy campaign aiming to put health at the centre of the climate change mitigation and adaptation agenda.</li> </ul>					
Objective 4: Engage in partnerships with organizations and	<ul style="list-style-type: none"> <li>a. Participate in the relevant mechanisms and</li> </ul>					



<p>sectors other than the health sector at national, regional and international levels, in order to ensure that health protection and health promotion are central to climate change adaptation and mitigation policies.</p>	<p>coordination activities. b. Provide the health sector with information, tools and advice so it can actively participate in national, regional and international mechanisms.</p>					
<p>Objective 5: Strengthen health systems to cope with the health threats posed by climate change.</p>	<p>a. Advocate for the strengthening of primary health care (including primary prevention) services to support capacity of local communities to become resilient to climate-related health risks. b. Mobilize and guide international support for the urgent strengthening and financing of public health systems at the national level. c. Strengthen</p>					

	<p>programmes to combat infectious disease, improve water and sanitation services and respond to natural disasters.</p> <p>d. Accelerate programmes like MMAM2007-2017 in order to have the most needed midlevel professionals in place to provide health promotion, preventive health care, care &amp; treatment, rehabilitation and maintenance of care for the elderly and chronically ill.</p> <p>e. Implement the eleven strategic areas of HSSP III (2009-2015) to ensure the sector health system is operational and robust enough to</p>					
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	<p>bail out the country from the health related effects of climate change.</p> <p>f. Support the development of early warning systems related to the health consequences of climate change and climate variability.</p> <p>g. Assess the effectiveness of health emergency management measures in reducing the impact of extreme events on health with the development of appropriate evaluation methods and pilot studies.</p>					
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**Table 11 : Objectives, targets, activities and indicators in addressing human resource availability (training, deployment, recruitment and retention)**

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
To improve expand and utilize capacity in delivering and managing the training by the year 2013 at all levels for both public and private sector	Development of Master Training Plan for health sector	Conduct training needs assessment and rationalize health cadres					
		Develop the MOHSW Master Training Plan					
		Facilitate acquisition of at least secondary education for all health workers					
		Facilitate regions, districts agency and institutions to develop and operationalize the master training plan					
		Mobilize funds for implementing training plan					
	Capacity development of the training institutions	Conduct situational analysis of the training institutions to identify status of existing infrastructure					
		Facilitate the					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
		development of infrastructure development plan for the training institutions					
		Provide modern health learning materials, teaching facilities and equipments					
		Strengthen the use of modern Information Technology and communications					
		Mobilize funds for infrastructure development					
		Construct and rehabilitate training institutions according to the infrastructure development plan					
		Train staff of training institutions in various relevant field					
		Build capacity for Hospitals/facility management teams on quality assurance					
		Mainstreaming gender in the curriculum					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
		Mainstreaming gender in training					
		Establish HIV/AIDS prevention and management Programmes to cater for students in training institutions					
	Scale up enrolment and training of health workers	Increase intake into training institutions in line with HSDP/Human Resource Strategic Plan Projection					
		Increase gradually number of trainees on postgraduate studies including super specializations					
		Re-introduce Community Health Cadres (Clinical Assistants and Nurse B) in line with PHSDP					
improve quality assurance in training institutions by 2013	Strengthening quality assurance in training institutions	Conduct situational analysis of existing quality management system in training institutions					
		Develop and institutionalize quality management framework for					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
		training institutions					
		Facilitate development of business plans of the training institutions					
		Mobilize funds to support training institutions to implement their business plans					
		To recruit adequate number of qualified staff/tutors for training institutions					
		Conduct/update on new advances in care and treatment of reemerging diseases.					
		Review duration of training Programme while maintaining quality					
		Conduct and update tutors on modern teaching methodology					
		Conduct follow up evaluation of the trainees after teaching methodology course conducted by 2012					
		Conduct supportive					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
		supervision					
		Conduct Annual principals/ Head of institutions meeting for experience sharing and improving performance.					
		Facilitate accreditation to training institutions					
		Evaluation of faculty/ institutions by students					
		Conduct tracer studies of graduates from various training institutions					
Improve zonal training centers to support regions, districts and training institutions in delivering quality health care and training by 2013	Facilitate zonal training centers to support regions, districts and training institutions to ensure effective linkage between training and services	Facilitate effective coordination between MOHSW, ZTC's and all other stakeholders regions and districts through redefining roles of each player					
		Ensure zonal training centers are adequately staffed					
		Mobilize funds to facilitate coordination role of MOHSW,					



SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
		ZTC's, Regions and districts					
		To establish governing committees in all ZTC's and health training institutes					
		Develop a supervision guideline for supervising the Zonal training centers					
Improve continuous professional development	Harmonize continuous professional development	Review career path and levels to comply with the current performance management system					
		Undertake a comprehensive evaluation of Muhimbili nursing and allied schools					
		Develop career plan and career levels for all cadres					
		Establish educational resource center at all levels					
	Promote and recognize innovative distance training programs.	Conduct assessment of the current on going distance learning program					
		Develop national					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
		distance learning strategic plan					
		Review and expand distance education curriculum					
		Review social welfare cadres training curriculum to comply with the current reforms requirements					
		Strengthening all training center in ICT to deliver modern distance learning programs					
		Facilitate the delivery of distance learning program					
		Conduct direct contact planned session for distance learners					
		Facilitate the accreditation and recognition of distance learning by relevant authorities					
Strengthen quality	Establish and strengthen	Train health facilities management teams					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
assurance system in all health facilities by 2013	quality programs	and training institutions on quality assurance					
		Facilitate establishment of quality programs in health facilities and training institutions					
		Review curricular of training institutions to incorporate new concepts and technology					
		Develop mechanism for training traditional healers (Consult relevant section in the MOHSW)					
		Train health workforce in customer care					
		Facilitate regions and districts to orient health workers on the legal aspect of health for improved performance (ToTs)					
		Active involvement of Health professional bodies and associations and private training	Conduct assessment of health professional bodies and associations to identify opportunities and obstacles in their involvement				

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATOR	TIMELINE	ASSUMPTIONS	COMMENTS
	institutions	Facilitate review of the laws and roles of the health professional bodies and associations					
		Mobilize professional association to ensure quality of service delivery by their members					
		Support strengthening of private training institutions for higher learning					
		Improve the capacity of regional hospitals to support the internship programs					
		Establish health professional re-registration system					

**Table 12: Improving Attraction, recruitment, retention and productivity of Health workers**

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
Ensure mechanism to manage recruitment and deployment of staff is established at all levels for both public and private sector by 2009	Establishing a coordinating mechanism for different cadres to deal with issues pertaining to decentralization /centralization of HR for health and social welfare.	Review recruitment procedures to reduce bureaucracy					
		streamline the administrative processes so as to ensure timely recruitment of staff whether for filling an existing vacancy or for a new positions					
		Finalize job list and align it with staffing level					
		Establish a registration mechanism for all health cadres					
	Scale up and monitor recruitment	Recruit health workers yearly according to the HRH strategic plan projection/PHSDP					
		Implement Piloted emergency hiring program and study strength and challenges to ensure sustainability.					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		Track and monitor recruitment for improvement					
	Redressing rural urban disparity	Introduce rural clinical exposure after supervised service as a prerequisite for professional registration					
		9.1.3.2 Conduct a health workers mapping exercise					
		Reallocate health workers to ensure equity in the distribution of health workers at all levels					
Improve HRH performance management and reward systems	Institutionalize and accelerate the use of OPRAS at all levels	Conduct baseline study on current performance and performance management mechanisms in public and private					
		Train regional and district teams in OPRAS					
		Support regions and district to develop plans for rolling out OPRAS					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		Develop monitoring mechanisms for tracking implementation and effect of OPRAS on performance					
	Improve the incentive package system for all health workers including special attention for hard to reach areas	Develop an improved incentive package for all health workers					
		Conduct a baseline study for hardship areas identification					
		Design criteria for identifying and ranking hardship areas					
		Develop and advocate an improved incentive package for health workers in hardship areas					
		Conduct consultations with key stakeholders to seek consensus for					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		hardship incentive					
		Develop a cabinet/position paper for approval of the incentive package for hardship areas					
		Advocate incorporation of private sector health employees to NHIS					
	Improve working environment	Facilitate provision of enough supplies, housing, equipment and transport for health workers					
	Promote job enrichment	Conduct a health workers job satisfaction survey					
		Design and implement program for workers satisfaction					
		Design and implement					



SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		a system of supportive supervision at all levels					
	Devise workplace programs that will attract and retain staff	Promote occupational health safety programs					
		Develop guideline and advocate for establishment of credit facilities					
		Promote psychological mentoring					
	Support HIV/AIDS Workplace Programmes implementation.	Advocacy targeting leaders on the implementation of HIV/AIDS Programmes					
		Implement education and awareness Programmes at all levels for health staff and family members.					
		Support HIV					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		prevention measures targeting health staff and family members including PEP, universal protection and provision of condoms.					
		Provide treatment, care and support to infected health staff and family members					
	Establish and implement systems for promotion and career development	Expedite the promotion backlog and streamline the process to ensure timely promotion of staff					
		Design and establish mechanism to put into operation the promotion system for HR in the private sector					
		Design career development plan					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		Implement career development plan					
		Establish mechanisms that ease promotion of staff working in hardship areas.					
	Promote mentoring and coaching	Train regions and district teams in mentoring and coaching					
		Institutionalize mentoring and coaching practices by promoting assignment of mentors to new recruits at regional and districts.					
	Expanding the skill base of existing health workers	Assess ways to which employee at regional and district level could expand their skills base for improved health services provision					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		Facilitate the recognition of staff with additional qualifications in the scheme of service.					

**Table 13: Improving human resource planning and policy capacity at all levels**

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
Improve human resource planning and policy capacity at all levels by 2013	Capacity building in Information management, planning, policy analysis, monitoring and evaluation at all levels (Public and Private sector)	Provide training on HR planning on a tailored programme to HR Planning HQ Staff					
		Provide training on Statistical and workforce analysis to key HRH Staff at central level					
		Train Zonal, regional and district HRH focal persons in HR Planning					
		Train HR departmental staff and health managers on HRH/HMIS information management					
		Train HR departmental staff and health managers on HR policy development and analysis					
		Strengthen and equip HR Department with necessary human resource, technology and equipments					
		Establish M & E Framework for HRH Strategic Plan					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		Train HR Departments and health managers on M&E					
		Conduct annual review of HRH Strategic Plan					
		Conduct Midterm and terminal evaluation of HRH Strategic Plan					
	To establish comprehensive HR Information Systems at all levels	Identify key HRH Variables that should allow data disaggregation by gender and other variables					
		Develop data collection tools/software					
		Conduct HRH data collection and analysis					
		Orient Zones, regions and districts in analyzing and using data					
		Build capacity of regions and districts to effectively collect, process, store and retrieve HRH Information					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		Identify different initiatives on human resource data systems					
		Review and revise HR Information guideline to comply with the new HRIS System					
		Conduct needs assessment of social Welfare services status in Tanzania for improvement					
		Synchronize existing systems and link with HMIS					
		Operationalize HRIS at all levels					
		Monitor and evaluate the implementation of HRIS system at all levels					
	Strengthen workforce planning practices	Develop Specific HR plan to guide HR planning process in collaboration with POPSM to ensure National Compliance					
		Carry out short and long term Human Resource Projections (Forecasting)					

SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
		Conduct HR planning supervision at zonal, regional and district levels					
		Conduct HR Stakeholders analysis/Database for improved planning and coordination of HR initiatives at all levels					
		Develop succession plan at all levels					
		Promote psychological mentoring to the employees					
		Update staffing levels according to the changes in the health care service delivery for both public and private					
		Determine number of health staff working in the local and international special/vertical programmes, industries and institutions etc.					
		Launch HRH Strategic Plan					



SPECIFIC OBJECTIVE	STRATEGIES	ACTIVITIES	TARGETS	INDICATORS	TIMELINE	ASSUMPTIONS	COMMENTS
	Strengthen policy analysis and interpretation	Monitor implementation of HRH Policy					
		Harmonize Policy and guideline on recruitment, deployment of HR with relevant ministries					
		Translate and disseminate HR policy and guidelines to regions and districts					
		Sensitize the employers on the importance of adequate HRH through advocacy at all levels					
		1.1.4.5 Advocate the review of decentralization policy to ensure safeguard health professionalism					

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