

**UNITED REPUBLIC OF TANZANIA
MINISTRY OF HEALTH AND SOCIAL WELFARE**

HRH WORKING GROUP

**RAPID ASSESSMENT OF ONGOING
ENROLLMENT TRENDS OF STUDENTS
IN HEALTH TRAINING INSTITUTIONS
IN MAINLAND TANZANIA**

November 2008

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1 Background

Tanzania is faced with an extensive shortage of required health workers, a situation that is constraining effective implementation of health programmes and services. The following were identified as key problems related to human resources:

- a) Human resource operating at 35% of the required skilled workforce as of 2007,
- b) Insufficient medical equipment, shortage of medicines, supplies and laboratory reagents.
- c) Existing health care system requires major rehabilitation, maintenance, and expansion up to the village level
- d) Health sector is under funded, under managed with poor MIS and low level of technology.

To address these problems, the Government instituted a number of interventions including increasing student enrolment to 6450 in 2006/2007 academic year. Key strategies identified in 2007 for the Primary Health Services Development Programme 2007 – 2012 may be summarized as follows:

a) Human Resource

- i. Increasing output for the key health providers according to the establishment levels, and as shown in Table 1.

Table 1: Projected Health Workforce Productions (Pre-Service)

Designation	No. of Training Institutions	Production 2008	Projected production capacity
Clinical Officer	16	338	785
Dental Therapist	2	40	60
Enrolled Nurse	12	767	560
Health Officer	5	141	250
Laboratory Assistant	4	126	370
Laboratory Technician	3	59	120
Medical Recorder	1	17	30
Nursing Officer	3	383	310
Optician/Optomtrist	1	13	30
Pharmaceutical Technician	2	18	90
Physiotherapist	1	10	30
Radiographer	2	13	55
Total		1925	2,690
Community Health Workers			3,760
		Total	6,450

- ii. Increasing the throughput in the existing training institutions by 100%,
- iii. Upgrading 4 schools for enrolled nurses
- iv. Production of more health tutors
- v. Upgrading the skills of existing staff by provision of Information Technology skills and acquiring new medical technology.

b) Health Systems

- i. Strengthening the health systems by rehabilitation of existing health facilities, construction of new ones and strengthening outreach services by 2012. This includes:
 - a. 8,107 primary health facilities,
 - b. 62 district hospitals,
 - c. 128 training institutions, as shown in Table 2.

Table 2: Current and Planned Health Units by Administrative Level

Administrative Level	Village	Ward	District
Administrative Units Present	10342 Villages	2555 Wards	113 Districts
Health Units	Dispensaries	Health Centres	District Hospitals
Present	4679	481	95
Additional Required	5162	2074	8
Total	9841	2535	103

- ii. Strengthening the Referral System by improving information communication system and transport.

In September 2008, the enrolment rate was about 3831 giving cause for concern given targets set to achieve the objectives of MMAM and other government health priority programmes. This study was planned to enable a rapid assessment of the situation and identify opportunities and constraints in increasing enrollment into health training institutions to reach the target of 6450 annually.

2 Objectives

2.1 Broad Objective

This rapid assessment consultancy assignment to capture among other information, existing in-country capacity to increase the overall quality enrolment of health care training institutions in Tanzania, with a view to identifying existing opportunities and constraints.

2.2 Specific Objectives

- a) Identify existing health training institutions in the country
- b) Assess past, current and future enrolment rates for each category of course offered.
- c) Contact each of the identified health training institutions and identify existing constraints to achieving student enrolment targets including:
 - i. Assess adequacy of existing staffing levels of each school and for each course offered.
 - ii. Assess adequacy of existing teaching equipments and learning facilities
 - iii. Assess adequacy of classroom

- iv. Assess existing facilities for pre-clinical and clinical practical teaching.
 - v. Assess adequacy of accommodation facilities for students
 - vi. Identify alternative accommodation options should item v. above is considered inadequate.
 - vii. Assess adequacy of existing logistic requirements e.g. transport, communication and any additional requirements to enable increase students enrolment.
- d) Review important health sector documents including the MMAM, HRH Strategic plan 2008/2013, GFATM Round 8 proposal, Touch Foundation study, MOHSW enrolment date 2006-2008 and other relevant document.

3 Methodology

Data on enrollment of students into the various health training institutions was obtained from the Directorate of Human Resources, Ministry of Health and Social Welfare and the Heads of Nurse Training and Allied Health Sciences Training at the Ministry.

Data on outputs from the schools for the year 2008 was obtained from the Directorate of Human Resources.

We obtained Information on training related activities for the year 2008/2009 in the approved MOHSW budget for the year.

Heads of 50 Training institutions were contacted by phone to obtain information for specific objective 2.2 c) items i. – vii.

All documents listed under specific objective 2.2 d) were reviewed and the relevant information summarized and included in this report.

4 Results

The Results are presented in seven sections:

- a) Achievements Regarding Targets set for 2007/2008 and 2008/2009
- b) Summary of Constructions/Rehabilitations Funded in 2008/2009 Budget
- c) Current enrollment status in relation to plans
- d) Opportunities for achieving quality increase in enrolment
- e) Summary of constraints and bottlenecks as seen by heads of training institutions
- f) Practical scenarios and options to achieve quality increase in students enrolment.
- g) Outline of requirements considered necessary to achieve quality enrolment.

4.1 Achievements Regarding Targets set for 2007/2008 and 2008/2009

Table 3 summarizes the HRH activities in the MMAM programme as well as achievements of the targets set for year 1 and 2 as of September 2008. It is clear that many of the targets will not be realized at the end of this year as they are not funded.

Table 3: Achievements of Targets set in the MMAM programme for years 1 and 2

Component/Objectives	Target Year 1-2	Achievements Sep 2008
A. District Health System (S93.9 Billion)		
Rehabilitation, construction and upgrading of 128 training institutions, including construction of new training institution by year 2012.	38 training institutions constructed, rehabilitated and upgraded.	34 training Institutions funded 2008/9 (See section 4.2 and Annexes 1A & 1B)
B. Human Resource (S24.4billion)		
a) Increase output for most needed cadres (Pharmacy Tech, Radiology, Health Officers, Community Social Workers, Laboratory Tech, AMO, Enrolled Nurses (NM), Clinical Officers (CO) and Registered Nurses	Feasibility study to construct and expand 11 multipurpose training centres (8 zonal training centres plus Tanga, Tabora and Sumbawanga)	Studies on Tabora and Mtwara ongoing. Other studies not funded.
b) Expand training intake in the existing Training Institutions by 100%	Increase pre-service intake to 6,450	Targets reached in 2007 except for Community Workers. (See section 4.3 and Annexes 2A & 2B)
c) Reopen 4 MCHA schools for Enrolled Nurses Midwife	Rehabilitate and Fully Furnish 4 Institution (Tunduru, Kibondo Nachingwea and Nzega)	Needs assessment completed. Rehabilitation of Mpanda & Kibondo included in the 2008/9 MTEF
d) Train and acquire 500 tutors	Train 100 tutors (CEDHA, Muhimbili)	None trained
e) Obtain adequate clinical instructors	On site training conducted to districts and regional centres	None trained
f) Rehabilitate 20 Health Institutions	Rehabilitate 5 Institutions	6 Health facilities funded 2008/9 (See section 4.2)
g) Capacity building for existing Health Workers on new technological advancement in health.	Comprehensive training needs conducted	Training needs assessment done in 2007/8. Training Plan already elaborated, needs to be implemented
h) Capacity building of the FBO institutions to enroll more students	Meeting with private and FBO training institutions to discuss increased enrolment of pre service students Renovate & expand 15 FBO & Private institutions to enroll more students	Meeting not held

Component/Objectives	Target Year 1-2	Achievements Sep 2008
i) To build capacity of training institution for sustainability & delivery of quality training	Purchase of teaching equipments - LCD, Flip Charts, Chalkboard, Anatomical models, Anatomical charts, Microscopes. Purchase 35,000 Reference books & Furniture. Increase fund allocation to public & private training schools to accommodate increase in enrollment. Orient new teachers in teaching methodology	Not funded
j) Conduct Situational analysis on the infrastructure to accommodate more students	Identify training institutions Public, FBO's & Private which can accommodate the increase in enrolment. Identify resource needed as per situational analysis to ascertain needs per institution	Not funded
k) Ensure increase of recruitment and deployment of staff Medical doctors, CO, Nurse Midwives, AMOs, Laboratory Technicians.	Recruitment of 21,692	For 2007/8 6,437 posts granted by Utumishi/Hazina. By June 2008, 4,812 (75%) of the posts had been filled. For 2008/9 5,241 posts granted by Utumishi/Hazina.
l) Institute differential incentive package to all Districts	Incentive package established /developed	Package being developed by Utumishi for all government employees
m) Improve working environment	Occupational Health safety promoted to 20% of all health facilities	Not done
n) Devise work place motivational programme for all districts	Workplace motivational programme developed	Study done by NIMR, dissemination of results pending
o) Improve establishment by 50% to reduce the current ratio of skilled staff to population by 2012	Review existing establishment and advocate its implementation	Current levels were approved in 1999. A review of 2005 did not include HIV/AIDS requirements and the conversion of regional hospitals to referral level needs more staff. A review is still pending.

Component/Objectives	Target Year 1-2	Achievements Sep 2008
p) Recall capable retired skilled health workers to provide services	Provide contract to capable retired skilled health workers to provide services	No blanket approval from Utumishi, permission needed for each individual case. For 2007/8, 10 doctors and 1 laboratory technician were given contracts.
	Review of 2-year training curricula for Enrolled Nurses, Clinical Officers, Laboratory Assistants and Community Health Workers	Not funded
	Train Laboratory Assistants in 19 regional hospitals	Not funded
	Train 3,760 Community Health Workers in 40 districts	Not funded
C. MATERNAL HEALTH		
To increase coverage of births attended by skilled attendants from 46% in 2006 to 80% by 2012	Recruitment and deployment of: 10,000 Nurse Midwives 100 AMOs 2,000 CO 100 Lab Tech 100 Anaesthetists 200 Medical Doctors into the existing and new health facilities	Not achieved (see B. k) above)
D. Institutional Arrangement		
To build the capacity of MOHSW and PMO RALG in coordinating and managing PHSDP by recruiting PIU	PIU recruited	Not done
E. Financial Resources Required		
Human Resource for Health	24,380,000,000	Tshs 5 billion allocated for rehabilitation of training institutions for 2008/2009
Annual Totals	1,307,786,410,000	
Available	422,300,000,000	
Resources Gap	885,486,410,000	

4.2 Summary of Constructions/Rehabilitations Funded in 2008/2009 Budget

In the 2008/2009 budget, construction of new facilities was provided for 27 training institutions. For 10 others, various rehabilitations were included. A summary is provided in Table 4; details are shown in Annexes 1A & 1B. It should be noted that these works were intended to rectify existing deficiencies with the current intakes and for the majority will not lead to increased intake of students.

Table 4: 2008/2009 Funded Constructions in Health Training Institutions

Training Institution	Area of Rehabilitation/ Construction			Increased Intake?
	Classroom	Hostel/ Dinning Hall	Others	
1. Bagamoyo Nursing School	√			Yes
2. CEDHA			√	No
3. Institute of Social Work			√	No
4. Iringa Primary Health Care Institute	√			No
5. Kagemu Health Technician School		√		No
6. Kibaha COTC		√		No
7. Kondo Nursing School	√	√	√	?
8. Korogwe Nursing Home	√		√	Yes
9. Mafinga COTC		√		No
10. Masasi COTC			√	No
11. Mbozi Nursing School			√	No
12. Mbulu Nursing School	√		√	No
13. Morogoro Nursing School		√	√	?
14. Mtwara Nursing School			√	No
15. Muhimbili Allied Health Sciences Institute		√		No
16. Muhimbili Nursing School		√		No
17. Musoma COTC		√		No
18. Ngudu School of environmental Health sciences		√		Yes
19. Njombe Nursing School		√	√	No
20. Nzega Nursing School	√	√	√	No
21. Same Nursing School	√	√	√	No
22. Singida Health Laboratory Assistance Training Centre			√	No
23. Tanga School of Environmental Health		√		No
24. Training institutions in Mpanda, Kibondo, Nachingwea & Tunduru			√	No
25. Tukuyu Nursing School		√		No
Total	7	14	14	

4.3 Current enrollment status in relation to plans

Annexes 2A & 2B contain details of all health training institutions including location, type of enrollment, ownership, award and number of students selected for enrollment for 2008/2009. Table 5 shows a summary of the non degree courses whose details are in Annex 2B. If all those selected actually join the schools, the total pre-service intake for the year would only amount to 3,059.

Table 5: Summary of Selections for 2008/2009 for Non Degree Courses

SN	Course	In-service	Pre-service	Both	Award	Owner	Number of Institutions
1	Advanced Diploma in Medical Laboratory	33	0	0	adv	Gov	1
2	Advanced Diploma in Nursing	200	0	0	adv	Gov	7
3	Assistant Dental Officer	15	0	0	adv	Gov	1
4	Assistant Medical Officer	205	0	0	adv	Gov	10
5	Centre for Continuing Education & Development in Health					Gov	1
6	Clinical Assistant	0	315	0	cer	Gov	6
7	Clinical Officer	45	145	0	dip	FBO	4
8	Clinical Officer	0	260	0	dip	Gov	6
9	Dental Technician	0	5	0	dip	Gov	1
10	Dental Therapy	0	28	0	dip	Gov	2
11	Dental Therapy	0	20	0	dip	Private	1
12	Diploma in Nursing	120	80	0	dip	FBO	5
13	Diploma in Nursing	105	334	0	dip	Gov	9
14	Diploma in Nursing	231	550	0	dip	Private	19
15	Enrolled Nurse	0	170	0	cer	FBO	4
16	Enrolled Nurse	0	687	0	cer	Gov	13
17	Enrolled Nurse	0	250	0	cer	Private	6
18	Health Officer	20	0	170	dip	Gov	6
19	Health Records	0	20	0	cer	Gov	1
20	Laboratory Assistant	0	50	0	cer	FBO	3
21	Laboratory Assistant	0	80	0	cer	Gov	1
22	Laboratory Technician	0	0	94	dip	Gov	2
23	Laboratory Technician	0	0	74	dip	Private	2
24	Occupational Health	0	10	0	dip	Gov	1
25	Optometry	0	15	0	dip	Gov	1
26	Orthopaedic Technician	0	0	0	dip	Gov	1
27	Pharmaceutical Assistant	0	25	0	cer	Private	1
28	Pharmaceutical Technician	0	0	62	dip	Gov	2
29	Physiotherapy	0	15	0	dip	Gov	1
30	Primary Health Care Institute					Gov	1
31	Radiographer	0	0	48	dip	Gov	2
	Total	974	3059	448			121

Adv = Advanced Diploma, dip = Diploma, cer = Certificate, Gov = Government, FBO = Faith Based Organization

Enrollment data is summarized in table 6. A notable increase in student enrollment is seen in the degree courses, particularly for doctors. For the non degree pre-service courses, the intakes for 2008/2009 are the same as for the previous years, except for laboratory technicians and laboratory assistants.

Table 6: Summary of Selections for 2007/2008 & 2008/09 and Graduate for 2007 & 2008

SN	Course	Selections 2008/9		Intake 2007	Graduated	
		In-service	Pre-service		2008	2007
	A. Degree Courses					
	Doctor of Philosophy				1	
1	Master of Medicine	112			26	
2	Master of Public Health	35			28	
3	MSc. *	55				
4	MD + MBBS		689		205	
5	BSc. Nursing	65			9	
	BSc. Nursing Management				2	
6	BSc. **	129				
7	Master of Dentistry	6			1	
8	Master of Pharmacy	2				
9	BMLS ***	37				
10	DDS		13		34	
11	B. Pharm		50		47	
	BSc. Environmental Health Sciences				19	
12	Advanced Diploma Nursing	130				
13	Assistant Medical Officers	205				
14	Assistant Dental Officers	15				
15	Advanced Diploma in Medical Laboratory	33				
16	Health Officers – Vector Control	20				
	Total				372	
	B. Non Degree Pre-Service Courses					
17	Dental Therapy		31	49	40	
18	Dental Laboratory Technology		5		5	4
19	Environmental Health Officers		170	179	141	39
20	Occupational Health		10			
21	Pharmaceutical Technician		62	50	18	
22	Pharmaceutical Assistants		25	25		
23	Laboratory Technician		168	105	40	102
24	Laboratory Assistant		130	80	126	
25	Radiographer		48	35	13	
26	Physiotherapy		15		10	13
27	Optometry		15		13	11
28	Medical Records		20	17	17	13
29	Clinical Assistants		315	310		
30	Clinical Officers In-service	45			27	216
	Clinical Officers Pre-service		405	371	338	277
31	Diploma Nursing (Registered Nurses) In-service					283
	Diploma Nursing (Registered Nurses) Pre-service		864	818	383	320
32	Certificate Nursing (Enrolled Nurses)	741	466	973	767	571
33	Orthopaedic Technician			15	7	
	Total	1,630	3,501	3,027	1945	1,849

* MSc – Cardiology, Neuro-Surgery, Tropical Disease Control, Applied Epidemiology, Parasitology & Entomology, Epidemiology & Laboratory Management, Hospital & Clinical Pharmacy, Clinical Research, Urology

** BSc – RTT, Environmental Health Sciences, Health Laboratory Sciences, Physiotherapy, Prosthetics and Orthotics

*** BMLS – Clinical Chemistry, Histotechnology, Haematology and Blood Transfusion, Microbiology and Immunology, Parasitology and Entomology.

4.4 Opportunities for achieving quality increase in enrolment

Nearly all of the 58 training institutions interviewed indicated that they had enrolled students to the maximum capacity of the school and that further intake was possible only with additional support. Table 7 shows that the institutions had substantial staff shortages and that they received only a few additional staff within the last two years: 32 received against a deficit of 190 for the 56 institutions that provided data. Almost all schools had staff deficits.

Table 7: Summary of Student Capacity and Staffing for Training Institution

	Course	Number of Institutions	Intake 2008/9	Staff status		
				Current	Gap	Received last 2 yrs
1	Clinical Officer	11	587	47	43	14
2	Dental Laboratory Technician	1	5	4	1	1
3	Dental Therapist	3	52	13	5	7
4	Enrolled Nurse	10	171	14	7	0
5	Health Officer	5	160	24	27	1
6	Laboratory Assistant	4	210	17	11	2
7	Laboratory Technician	2	90	10	24	1
8	Medical Recorder	1	20	2	6	0
9	Nursing Officer	11	560	69	41	2
10	Optometry	1	20	4	2	1
11	Pharmaceutical Assistant	1	24	6	0	0
12	Pharmaceutical Technician	3	86	11	11	2
13	Physiotherapist	1	36	5	5	1
14	Radiographer	2	58	9	7	0
	Total	56	2079	235	190	32

Among other details, Annex 3 includes information on available opportunities for increasing student enrollment. These are summarized as follows:

- i. Training Institutions supportive of increased enrollment
- ii. Partners and other stakeholders ready to assist in solving the HRH problem
- iii. Possibility of off campus accommodation
- iv. Training institutions supportive of off campus accommodation
- v. Use of double deckers to increase number of accommodated students
- vi. Possibility to run shift classes
- vii. Some government buildings available in some districts may be rehabilitated for use as dormitories
- viii. Building space available
- ix. Nearby hospitals available for clinical training
- x. Strategic plans showing tendency for increasing student intake
- xi. Possibility of recruiting students locally
- xii. Availability of private and FBO schools with possibility for increased student intake
- xiii. Availability of part time teachers
- xiv. Possibility of mounting short courses in teaching methodology.

4.5 Summary of constraints and bottlenecks as seen by heads of training institutions

Several constraints were mentioned by the interviewed heads of training institutions (see Annex 3 for details) and inputs from the Lake Zone PPP Forum (see Annex 4 for details). These are summarized as follows:

- a) Off campus option is not feasible in some remote areas
- b) Limited publicity of the application modality
- c) Institutions may seek applicants from nearby schools or receive applications from local community but have no mandate to enroll them without communicating with MOHSW
- d) Only an average of 50% of posted students report initially although for 2008 most institutions had enough candidates. Second selections were unavoidable.
- e) Late publication of results of selections results in loss of potential students into other courses
- f) High admission criteria (credits in science subjects) limits the number of applicants
- g) High fees for private and FBO students
- h) Limited grants to FBO training institutions
- i) No government scholarships for private and FBO students
- j) Shortage of teaching staff
- k) Ordinary hospital staff who could be used as part time teachers lack exposure to teaching methodology
- l) Poor infrastructure including insufficient staff houses and dormitories
- m) Few teaching aids and administrative support utilities (e.g. computers, photocopy, projectors, e-mail, and modern teaching aids)
- n) Lack of transport
- o) Inadequate or no library
- p) Low staff morale partly due to lack of scheme of service for teachers in health training institutions
- q) Inadequate government support to private and FBO schools
- r) Limited schools for nurse trainers.
- s) NACTE requirements may hinder implementation of some of the new programmes, e.g. training of laboratory assistants in the regional hospitals.
- t) Inadequate prioritization of activities in line with the limited available funds.

4.6 Practical scenarios and options to achieve quality increase in student enrolment.

The options for increasing student enrollment must be considered in the light of the magnitude of the deficits. Table 8 summarizes the requirements for key health workers as projected in 2007. It is clear that simply increasing the capacity of the current schools will not suffice to solve the HRH crisis: it will require more than 30 years to train as many people as the current deficits. Many new schools are therefore needed for some of the key cadres.

Table 8 also shows numbers of additional schools required to produce as many trained people as the current deficits within a period of ten years. Staff requirements for the new schools will be a big huddle and needs urgent attention, especially because we have substantial staff deficits for the current schools and for some of the schools additional staff is a requirement for increased student enrollment (Annex 3).

Table 8: Projections of Selected Key Health Workers for regional hospitals and lower facilities

SN	Designation	Total Required	Present	Deficit	Adjusted Deficit **	No. of Institutions	Current production capacity	Projected production capacity	Envisaged Increase in Production	Course Duration	Production Estimate 2007/08 - 2017/18	Additional Institutions to fill deficits in 10 years
1	Clinical Officer	29,936	3,596	26,340	33,120	16	330	785	455	3	5,495	51.5
2	Dental Therapist	2,828	99	2,729	3,369	2	28	60	32	3	420	9.2
3	Enrolled Nurse	19,896	7,389	12,507	17,033	12	30	560	530	2	4,480	24.5
4	Health Officer	3,316	777	2,539	3,292	5	160	250	90	3	1,750	1.6
5	Laboratory Assistant	12,882	865	12,017	14,932	4	95	370	275	2	2,960	12.1
6	Laboratory Technician	448	458	-10	93	3	85	120	35	3	840	-2.8
7	Medical Recorder	4,070	328	3,742	4,663	1	15	30	15	2	240	14.5
8	Nursing Officer	20,008	3,280	16,728	21,263	3	145	310	165	3	2,170	17.6
9	Optician/Optomtrist	234	55	179	232	1	15	30	15	3	210	-0.2
10	Pharmaceutical Technician	782	106	676	853	2	60	90	30	3	630	-0.1
11	Physiotherapist	802	61	741	922	1	15	30	15	3	210	2.1
12	Radiographer	274	99	175	237	2	35	55	20	3	385	-1.1
	Total	95,476	17,113	78,363	100,009		1,013	2,690	1,677		26,900	141.3

Note:

- a) Community Health Workers (Multipurpose) to be trained in each of 94 district hospitals are not included in the above table
- b) Without additional schools only one quarter (1/8 for Nursing Officers) of the deficit will have been trained in the 10 year period.
- c) The requirements will be higher if we include those for referral/specialist hospitals, MOHSW HQ and training institutions
- d) ** Allows for Attrition of 23% of those currently present plus additional 22.6% of output to cater for private sector
- e) Calculation of the required additional schools is based on the average projected capacity of the current schools.

Given all the above, to achieve any substantial increase in student enrollment, all the MMAM activities summarized in table 3 need to be implemented, in the following priority order:

- a) Tutor training for both the current schools and new ones.
 - i. Re-introduce short courses in teaching methodology.
 - ii. Full tutor training course – more schools, increased intake
- b) Address issues identified as opportunities and constraints that do not require substantial funds but may allow increased enrollment
 - iii. Allow and support off campus accommodation where possible
 - iv. Use of double deckers to increase number of accommodated students
 - v. Possibility to run shift classes
 - vi. Rehabilitate available buildings for use as dormitories
 - vii. Allow schools to recruit students locally for second selections but while ensuring quality intakes.
 - viii. Increased use of part time teachers

- ix. Enhance publicity of the courses and application modality
 - x. Early publication of results of selections results to avoid loss of potential students into other courses
 - xi. Review admission criteria (credits in science subjects)
- c) Improvement in teaching facilities and equipment for the current schools
- d) Address longer term issues
- i. Review fees for private and FBO students
 - ii. Review grants to FBO training institutions
 - iii. Consider government scholarships for private and FBO students
 - iv. Consider loans for non degree courses in Health
 - v. Improve infrastructure including staff houses and dormitories
 - vi. Review schemes of service and remuneration for tutors.
- e) Building of new schools: public and private/FBO.

4.7 Outline requirements considered necessary to achieve quality enrolment

a) Sustained political will

This needs to be maintained through continued elaboration of the huge deficits and the need for political mobilization of moral, financial and material support from all stakeholders, including multinational companies.

b) Continued acceptance and support of the efforts to increase HRH production from all key stakeholders

Deliberate effort is required to set aside sufficient funds for implementing the agreed activities.

As is the case with the education sector, communities should be mobilized to support construction of buildings in the training institutions for both students and tutors, especially in areas where accommodation is not available even for hire.

Private and multinational companies may be approached to invest in health training at non degree level, just as they are doing for universities.

c) Availability of suitable candidates to join the programmes

- i. Advertise the courses
- ii. Early selection of students to reduce the problem of applicants opting for other courses where selections precede those by the MOHSW.
- iii. Accept second local selections to fill spaces left by none response in the first selection.
- iv. Organising remedial courses to increase the pool of suitable candidates.

- v. Continued review of remunerations for health workers to encourage people into the sector.
- vi. Ready markets to employ graduates. One is not encourage to enter a course where they are not sure of employment on graduation.

d) Use of private sector investor in HRH training

- a. Provide enabling environment for those wishing to invest in training institutions, e.g.
 - i. tax relieve
 - ii. training grants to institutions
- b. Government scholarships for students

e) Day students

The problem of accommodation may be lessened through

- i. Posting students to schools close to their homes
- ii. Allowing day students and even providing them with financial support for accommodation.
- iii. Dormitories to be a priority for remote areas.
- iv. Rehabilitate unused government buildings for accommodation.

f) Introducing a shift system

It is possible to run two streams of students with morning and afternoon or evening classes. Most courses involve practical sessions. One stream could occupy the classroom while the other streams are doing practical work.

Annex 1a: 2008/2009 Budgeted Consultancy Services

SN	Specific Description	Sources of Funds		
		Local	Pool	Total
1	Rehabilitation of Nursing Hostels MNH	9,000,000		9,000,000
2	Rehabilitation of MTC Building at MNH	9,000,000		9,000,000
3	Consultancy Fee for Construction of Library for Institute of Social Work (on going)	108,000,000		108,000,000
4	Construction of landscaping and walkways Njombe Nursing School		18,900,000	18,900,000
5	Construction of dining hall Njombe Nursing School		13,500,000	13,500,000
6	Rehabilitation of storm water drainage system Mtwara NS		1,935,360	1,935,360
7	Rehabilitation of staff houses Mtwara NS		3,112,243	3,112,243
8	Completion of classroom block Korogwe Nursing school		14,400,000	14,400,000
9	Completion of fence works Korogwe Nursing school		5,400,000	5,400,000
10	Construction of One dormitory Tukuyu Nursing School	23,965,760	18,000,000	41,965,760
11	Construction- Library demonstration room Mbulu Nursing School		10,800,000	10,800,000
12	Construction- Classroom & Two Offices Mbulu Nursing School		10,800,000	10,800,000
13	Completion- construction of dormitories & Administration block Mirembe Nursing School	9,000,000	18,000,000	27,000,000
14	Rehabilitation Two C/Rooms for advanced Diploma Nursing at Mirembe Nursing		3,240,000	3,240,000
15	Construction - Classrooms Bagamoyo Nursing School		7,650,000	7,650,000
16	Completion of Construction of students hostel Vector control Training Centre		27,000,000	27,000,000
17	Construction of Classrooms Kondoa Nursing School		11,606,000	11,606,000
18	Construction of Dining hall Kondoa Nursing School		17,333,781	17,333,781
19	Construction of Toilet Block Kondoa Nursing School		3,679,439	3,679,439
20	Continue Construction of students dormitory Same Nursing School		9,000,000	9,000,000
21	Construction Classroom Same Nursing School		4,950,000	4,950,000
22	Repair of electrical installation Same Nursing School		687,015	687,015
23	Construction Same Nursing School		1,742,400	1,742,400
24	Procurement of furniture for demonstration room block and finalization of Hostel Tarime Nursing School		13,500,000	13,500,000
25	Refurbishment, remodeling and rehabilitation of the centre – CEDHA		32,000,000	32,000,000
26	Completion of students hostel Kagemu Health Technician School	22,500,000		22,500,000
27	Completion of students hostel Phase III- School of Environmental health Tanga	18,000,000	18,000,000	36,000,000
28	Construction of students dormitory Mafinga COTC		6,750,000	6,750,000
29	Procurement of Furniture for the Library and administration Block Kilosa COTC	100,000,000		100,000,000
30	Construction of fencing wall Mbeya AMOTC		18,000,000	18,000,000
31	Construction of hostel block Nzega Nursing School		22,500,000	22,500,000
32	Construction of Teachers office and meeting room Nzega Nursing School	13,500,000		13,500,000
33	Construction of Class Room Nzega Nursing School		4,702,500	4,702,500
34	Construction of demonstration Room Nzega Nursing School		3,212,045	3,212,045
35	Construction of Library Nzega Nursing School		4,300,470	4,300,470
36	Construction of Library Masasi COTC		2,492,134	2,492,134
37	Extension of Administration Block to acquire two staff office Masasi COTC		803,866	803,866
38	Rehabilitation of Mbozi Nursing School		771,093	771,093
39	Rehabilitation of electrical installation Mbozi Nursing School		3,194,041	3,194,041
40	Construction and rehabilitation of sewerage and water supply and harvesting installations Mbozi Nursing School		16,650,454	16,650,454
41	Rehabilitation of school fencing Singida Health Laboratory Assistance Training Centre		9,000,000	9,000,000
42	Rehabilitation of drainage system in dormitories in Singida Health Laboratory Assistance Training Centre		2,700,000	2,700,000
43	Rehabilitation of water supply system and procurement, installation and commissioning of standby generator Singida Health Laboratory Assistance Training Centre		1,395,176	1,395,176

SN	Specific Description	Sources of Funds		
		Local	Pool	Total
44	Acquisition of a 50 acres plot and construction of dormitory Morogoro Nursing School		13,500,000	13,500,000
45	Construction of seminar and classrooms primary Health Care Institute Iringa		364,000,000	364,000,000
46	Rehabilitation of existing buildings at revived training institutions in Mpanda, Kibondo, Nachingwea and Tunduru		64,448,539	64,448,539
47	Completion of Ifakara AMO Training School	18,000,000		18,000,000
48	Completion of construction of dormitory Ngudu School of environmental Health sciences	11,759,760		11,759,760
49	Completion of construction of dormitory Musoma COTC	13,500,000	9,856,898	23,356,898
50	Completion construction of Dormitory Kibaha COTC	13,500,000		13,500,000
	Total	369,725,520	813,513,454	1,183,238,974

Annex 1b: 2008/2009 Budgeted Construction Costs

SN	Specific Description	Sources of Funds		
		Local	Pool	Total
1	Rehabilitation of Nursing Hostels MNH	91,000,000		91,000,000
2	Rehabilitation of MTC Building at MUHAS at MNH	91,000,000		91,000,000
3	Consultancy Fee for Construction of Library for Institute of Social Work (on going)	1,092,000,000		1,092,000,000
4	Construction of landscaping and walkways Njombe Nursing School		327,600,000	327,600,000
	Construction of dinning hall Njombe Nursing School			0
5	Rehabilitation of storm water drainage system Mtwara NS		19,568,640	19,568,640
	Rehabilitation of staff houses Mtwara NS		31,468,238	31,468,238
6	Construction of water well and rain water harvesting Korogwe Nursing Home		4,500,000	4,500,000
7	Completion of classroom block Korogwe Nursing school		145,600,000	145,600,000
8	Completion of fence works Korogwe Nursing school		54,600,000	54,600,000
9	Construction of One dormitory Tukuyu Nursing School	2,370,240	182,000,000	184,370,240
10	Construction- Library demonstration room Mbulu Nursing School		109,200,000	109,200,000
	Construction- Classroom & Two Offices Mbulu Nursing School		109,200,000	109,200,000
11	Construction - Classrooms Bagamoyo Nursing School		77,350,000	77,350,000
12	Construction of Classrooms Kondoa Nursing School	5,000,000	128,962,357	133,962,357
	Construction of Dining hall Kondoa Nursing School		192,597,563	192,597,563
	Construction of Toilet Block Kondoa Nursing School		40,882,657	40,882,657
13	Continue Construction of students dormitory Same Nursing School		91,000,000	91,000,000
	Construction Classroom Same Nursing School		50,050,000	50,050,000
	Repair of electrical installation Same Nursing School		6,946,485	6,946,485
	Construction Same Nursing School		1,742,400	1,742,400
14	Refurbishment, remodeling and rehabilitation of the centre – CEDHA		768,000,000	768,000,000
15	Completion of students hostel Kagemu Health Technician School	227,500,000		227,500,000
16	Completion of students hostel Phase III- School of Environmental health Tanga	182,000,000	182,000,000	364,000,000
17	Construction of students dormitory Mafinga COTC		68,250,000	68,250,000
18	Construction of hostel block Nzega Nursing School	250,000,000		250,000,000
	Construction of Teachers office and meeting room Nzega Nursing School	136,500,000		136,500,000
	Construction of Class Room Nzega Nursing School		47,547,500	47,547,500
	Construction of demonstration Room Nzega Nursing School		32,477,345	32,477,345
	Construction of Library Nzega Nursing School		43,482,530	43,482,530
19	Construction of Library Masasi COTC		25,198,241	25,198,241
	Extension of Administration Block to acquire two staff office Masasi COTC		8,127,974	8,127,974
20	Rehabilitation of Mbozi Nursing School		7,796,607	7,796,607
	Rehabilitation of electrical installation Mbozi Nursing School		32,295,304	32,295,304
	Construction and rehabilitation of sewerage and water supply and harvesting installations Mbozi Nursing School		73,373,300	73,373,300
	Construction and rehabilitation of sewerage and water supply and harvesting installations Mbozi Nursing School		85,249,934	85,249,934
	Construction and rehabilitation of sewerage and water supply and harvesting installations Mbozi Nursing School		9,731,358	9,731,358
21	Rehabilitation of school fencing Singida Health Laboratory Assistance Training Centre		91,000,000	91,000,000
	Rehabilitation of drainage system in dormitories in Singida Health Laboratory Assistance Training Centre		27,300,000	27,300,000
	Rehabilitation of water supply system and procurement, installation and commissioning of standby generator Singida Health Laboratory Assistance Training Centre		14,106,775	14,106,775
22	Acquisition of a 50 acres plot and construction of dormitory Morogoro Nursing School		136,500,000	136,500,000

SN	Specific Description	Sources of Funds		
		Local	Pool	Total
	Acquisition of a 50 acres plot and construction of dormitory Morogoro Nursing School		50,000,000	50,000,000
23	Construction of seminar and classrooms primary Health Care Institute Iringa		36,000,000	36,000,000
24	Rehabilitation of existing buildings at revived training institutions in Mpanda, Kibondo, Nachingwea and Tunduru		651,646,349	651,646,349
25	Completion of construction of dormitory Ngudu School of environmental Health sciences	118,904,000		118,904,000
26	Completion of construction of dormitory Musoma COTC	136,500,000	99,664,187	236,164,187
27	Completion construction of Dormitory Kibaha COTC	136,500,000		136,500,000
	Total	2,469,274,240	4,063,015,744	6,532,289,984

Annex 2a: Selections for Degree Health Training Institutions 2008/09

SN	Degree Course	MUHAS	HKMU	KCMC	IMTU	AGHA KHAN	BUCHS	Total
1	Master of Medicine	61	-	36	-	-	15	112
2	Master of Public Health	15	-	20	-	-	-	35
3	MSc. Parasitology & Entomology	3	-	1	-	-	-	4
4	MSc. Applied Epidemiology	7	-	-	-	-	-	7
5	MSc. Epidemiology & Lab. Management	3	-	-	-	-	-	3
6	MSc. Cardiology	2	-	-	-	-	-	2
7	MSc. Neurosurgery	1	-	-	-	-	-	1
8	MSc. Urology	-	-	1	-	-	-	1
9	MSc. Clinical Research	-	-	8	-	-	-	8
10	Master of Dentistry	6					-	6
11	Master of Pharmacy	2					-	2
12	MSc. Nursing	11					-	11
13	MSc. TDC	9					-	9
14	MD	200	70	185	-	-	83	538
15	MBBS	-	-	-	151	-	-	151
16	BSc. Nursing	-	-	-	15	50	-	65
17	BSc. Physiotherapy	-	-	14	-	-	-	14
18	BSc. Health Laboratory Sciences	-	-	53	-	-	-	53
19	BSc. Prosthetics & Orthotics	-	-	6	-	-	-	6
20	DDS	13	-	-	-	-	-	13
21	BMLS Clinical Chemistry	7	-	-	-	-	-	7
22	BMLS Histology Tech	5	-	-	-	-	-	5
23	BMLS Haematology & Blood Transfusion	6	-	-	-	-	-	6
24	BMLS Microbiology & Immunology	14	-	-	-	-	-	14
25	BMLS Parasitology & Med. Entomology	5	-	-	-	-	-	5
26	BPharm	50	-	-	-	-	-	50
27	BSc. RTT	9	-	-	-	-	-	9
28	BSc EHS	34	-	-	-	-	-	34
29	BSc Midwifery	6	-	-	-	-	-	6
30	BSc Nursing Management	7	-	-	-	-	-	7
	Total							1184

Annex 2b: Selections for Non Degree Health Training Institutions 2008/09

SN	Course	Enrolment			Increase	Award	Owner
		2008		2007			
		In-Service	Pre-Service				
1	Advanced Diploma Paediatric Nursing	28				adv	gov
2	Advanced Diploma Ophthalmic Nursing	30				adv	gov
3	Morogoro Public Health Nursing	29				adv	gov
4	Mirembe Psychiatric Nursing	30				adv	gov
5	Mbeya Theatre Management.	20				adv	gov
6	School of Nurse Tutor - Muhimbili	23				adv	gov
7	Advanced Diploma In Midwifery - Muhimbili	40				adv	gov
8	Assistant Medical Officer - Bugando	45				adv	gov
9	Assistant Medical Officer - Ifakara	45				adv	gov
10	Assistant Medical Officer - KCMC	-				adv	gov
11	Assistant Medical Officer - Lugalo	30				adv	gov
12	Assistant Medical Officer - Mbeya	44				adv	gov
13	Assistant Medical Officer - Tanga	41				adv	gov
14	Assistant Medical Officer - Anaesthesia KCMC	-				adv	gov
15	Assistant Medical Officer - Dermatology KCMC	-				adv	gov
16	Assistant Medical Officer - Ophthalmology KCMC	-				adv	gov
17	Assistant Medical Officer - Radiology KCMC	-				adv	gov
18	Assistant Dental Officer - Muhimbili	15				adv	gov
19	Health Officers - Vector Control Muheza	20				adv	gov
20	Advanced Diploma in Medical Laboratory Muhimbili	33				adv	gov
21	Mbeya Dental Therapy		14	14	0	dip	gov
22	Tanga Dental Therapy		14	15	-1	dip	gov
23	Bulongwa Dental Therapy		20	20	0	dip	pri
24	Dental Technician School - Muhimbili		5	6	-1	dip	gov
25	Pharmaceutical Technician - Bugando		30	30	0	dip	gov
26	Pharmaceutical Technician - Muhimbili		32	20	12	dip	gov
27	Pysiotherapy - KCMC		15	17	-2	dip	gov
28	Optometry - KCMC		15	13	2	dip	gov
29	Occupational Health – KCMC		10			dip	gov
30	Occupational Health – Muhimbili		15				
31	Training Center for Health Record - KCMC		20	17	3	cer	gov
32	Kilimanjaro School of Pharmacy - KCMC		-				
33	Pharmaceutical Assistants College Kilimanjaro			25		cer	pri
34	Kigoma Clinical Officers		40	40	0	aco	gov
35	Masasi Clinical Officers		55	55	0	aco	gov
36	Maswa Clinical Officers		55	55	0	aco	gov
37	Musoma Clinical Officers		55	50	5	aco	gov
38	Songea Clinical Officers		55	55	0	aco	gov
39	Sumbawanga Clinical Officers		55	55	0	aco	gov
40	Bumbuli Clinical Officers	45				dip	fbo
41	Kibaha Clinical Officers		45	45	0	dip	gov

SN	Course	Enrolment			Increase	Award	Owner
		2008		2007			
		In-Service	Pre-Service				
42	Kilosa Clinical Officers		45	43	2	dip	gov
43	Lindi Clinical Officers		50	50	0	dip	gov
44	Lugalo Clinical Officers		25	40	-15	dip	gov
45	Machame Clinical Officers		50	50	0	dip	fbo
46	Mafinga Clinical Officers		50			dip	gov
47	Mtwara Clinical Officers		45	43	2	dip	gov
48	Mvumi Clinical Officers		45	50	-5	dip	fbo
49	Sengerema Clinical Officers		50	50	0	dip	fbo
50	Kolandoto Laboratory Assistant			25		cer	fbo
51	Mvumi Laboratory Assistant		25	30	-5	cer	fbo
52	Nkinga Laboratory Assistant		25	25	0	cer	fbo
53	Singida Laboratory Assistant		80			cer	gov
54	Agakhan School of Nursing	40	25			dip	pri
55	Bugando School of Nursing		60	54	6	dip	gov
56	Edgar Marantha School of Nursing		40			dip	fbo
57	Health Officers Kagemu		42	45	-3	dip	gov
58	Health Officers Mpwapwa		30	29	1	dip	gov
59	Health Officers Ngudu		39	35	4	dip	gov
60	Health Officers Tanga		30	30	0	dip	gov
61	Huruma School of Nursing	30	40	35	5	dip	fbo
62	Hydom School of Nursing		40	44	-4	dip	fbo
63	Ifakara School of Nursing	50	40	54	-14	dip	fbo
64	Ilembula School of Nursing		40	45	-5	dip	fbo
65	IMTU Diploma Nursing		71			dip	pri
66	Kabanga School of Nursing		40	44	-4	dip	fbo
67	KCMC School of Nursing		60	50	10	dip	gov
68	Kibosho School of Nursing	40				dip	fbo
69	Kolandoto School of Nursing		40			dip	fbo
70	Lugalo School of Nursing		40	44	-4	dip	gov
71	Masana School of Nursing		40	40	0	dip	pri
72	Mikocheni School of Nursing	40				dip	pri
73	Mirembe Psychiatry Nursing	55	45			dip	gov
74	Mtwara School of Nursing		-			dip	gov
75	Muheza School of Nursing		40	45	-5	dip	fbo
76	Muhimbili School of Nursing		59	44	15	dip	gov
77	Mwambani School Nursing	40				dip	fbo
78	Ndanda School of Nursing		40	40	0	dip	fbo
79	Ndolage School of Nursing		40	45	-5	dip	fbo
80	Newala School of Nursing		70	55	15	dip	gov
81	Nkinga School of Nursing		40	40	0	dip	fbo
82	Orthopaedic Technician KCMC		-	15		dip	gov
83	Peramiho School of Nursing		40	44	-4	dip	fbo
84	Radiographer - Bugando		15	15	0	dip	gov

SN	Course	Enrolment			Increase	Award	Owner
		2008		2007			
		In-Service	Pre-Service				
85	Radiographer - Muhimbili		33	20	13	dip	gov
86	Rubya Nursing School	40	30	50	-20	dip	fbo
87	School of Hygiene Muhimbili		29	40	-11	dip	gov
88	Sengerema School of Nursing		40	45	-5	dip	fbo
89	Tanga School of Nursing	50				dip	gov
90	Phc Institute Iringa		-				gov
91	Cedha Arusha		-				gov
92	Bugando Laboratory Technician		35	37	-2	dip	gov
93	Ikonda Laboratory Technician		30	30	0	dip	pri
94	KCMC Laboratory Technician		44			dip	pri
95	Muhimbili Laboratory Technician		59	38	21	dip	gov
96	Bagamoyo General Nursing		50	54	-4	cer	gov
97	Bukumbi Nurses & Midwives		40	40	0	cer	fbo
98	Dareda Nurses & Midwives		40	44	-4	cer	fbo
99	Geita General Nursing		50	50	0	cer	gov
100	Kahama General Nursing		50			cer	gov
101	Kilimatinde Nurses & Midwives		40	44	-4	cer	fbo
102	Kiomboi Nurses & Midwives		57	80	-23	cer	gov
103	Kisare Nurse & Midwives		40	54	-14	cer	pri
104	Kiuma School of Nursing		40			cer	fbo
105	Konoda General Nursing		50	55	-5	cer	gov
106	Korogwe General Nursing		50			cer	gov
107	Lugarawa Nurse & Midwives		40	40	0	cer	fbo
108	Mbozi Nurses & Midwives		50	50	0	cer	gov
109	Mbulu General Nursing		50			cer	gov
110	Mkomaindo Nurse & Midwives		50	60	-10	cer	gov
111	Murgwanza School of Nursing		30			cer	fbo
112	Mvumi Nurse & Midwives		40	45	-5	cer	fbo
114	Njombe General Nursing		50	60	-10	cer	gov
115	Same General Nursing		50	50	0	cer	gov
116	Shirati Nurses & Midwives		40	54	-14	cer	fbo
117	St. Bakhita School of Nursing		40	50	-10	cer	fbo
118	Sumve Nurses & Midwives		40	44	-4	cer	fbo
119	Tarime School of Nursing		40			cer	gov
120	Tosamaganga Nurses & Midwives		40	44	-4	cer	fbo
121	Tukuyu General Nursing		60	55	5	cer	gov
122	Mtinko School of Nursing		40				
	Total		3613	3063	-105		