United Republic of Tanzania

Ministry of Health and Social Welfare

Towards the Establishment of a Community Based Health Worker Program (CBHP)

Ministry of Health and Social Welfare. (MOHSW)

Mapping of Community Health Workers (CHW) from Five lake Zone Regions targeted for Big Result Now initiative for RMNCH in Tanzania.

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List of Acronyms

BRN	Big Results Now
CBHP	Community Based Health Program
CHW	Community Health Worker
CHW-LAP	Community Health Worker- Learning Agenda Project
DED	District Executive Director
DMO	District Medical Officer
HIV/AIDS	Human Immunodeficiency Virus /Acquired Immunodeficiency Syndrome
HMIS2	Health Management Information Systems
IMCI	Integrated Management of Childhood illness
JHU/JHSPH	Johns Hopkins University/Johns Hopkins, Bloomberg School of Public Health
LAP	Learning Agenda Project
MEO	Mtaa Executive Officer
MNCH	Maternal, Newborn and Child Health
MOHSW	Ministry of Health and Social Welfare
MUHAS	Muhimbili University for Health and Allied Sciences
PHC	Primary Health Care
RAS	Regional Administrative Secretary
RMO	Regional Medical Officer
SPSS	Statistical Package for Social Science
TB	Tuberculosis
TOT	Trainer of Trainees
VEO	Village Executive Officer

1. Introduction

1.1. Primary Health Care Program

As far back as 1978, the Alma Ata Declaration highlighted the need for attention to the health workforce, noting that primary health care "relies, at local and referral levels, on health workers, including physicians, nurses, midwives, auxiliaries and *community workers as applicable*, suitably trained socially and technically to work as a health team and to respond to the expressed health needs of the community." It is widely recognized (1-4) that Community Health Workers (CHWs) (referred to here as broad range of community based health workers and volunteers) have high value as trusted providers, communicators, facilitators and enablers who are permanent members of the health team.

Following the Alma Ata declaration in 1978, Tanzania was among the first few countries to embark on the development and implementation of the Primary Health Care (PHC) strategy (5). Tanzania spearheaded the 'Health for All' approach by massively expanding first line health services. According to the Primary Health Services Development Programme (2007-2017), the goal was to expand health services by adding at least one health center to every ward and at least one dispensary to every village by 2017(PHSDP, 2007). Access and equity in health care have, therefore, been a driving principle in the implementation of the national health policy (5), with particular emphasis on self-reliance through community mobilization.

1.2. Background of CHW Program in Tanzania

Although Tanzania currently has many uncoordinated CHW programs in different regions, there is wide consensus among stakeholders that its health sector should consider development of a general, multi-purpose CHW cadre. One of the major benefits of a general CHW cadre would be the institutionalization and integration of this cadre into the health system in an effort to standardize practice throughout the country and strengthen policies for remuneration of services. To date, the majority of CHWs working throughout the country have been engaged in multiple community programs. However, their distribution, training background and capacity (i.e., education level) and motivation to provide a broader range of services is unknown.

Since the creation of the *Community-Based Health Program* (CBHP) policy in March 2014, the Tanzanian Ministry of Health and Social Welfare (MoHSW) has been committed to achieving an integrated community-based approach that strives for better health outcomes at the community-level. Central to this vision has been the intent to implement a standardized Community Health Worker (CHW) cadre across Tanzania. The CBHP therefore aims to not only strengthen service delivery, but also mechanisms to support quality of care at the community-level. Also another initiative, the Big Results Now (BRN) complements government efforts that aim to accelerate achievement of health development goals in low performing regions in the country, in part through strengthening the existing CHWs.

In order to achieve the above goals the MoHSW, in collaboration with other implementing partners, is planning to develop a streamlined and centralized data management system for the CHWs by collecting data from them and analyzing it to assess numbers, educational level, previous trainings and contact information for possible future training and /or deployment, .This exercise was conducted in five selected BRN regions which included Mwanza, Kigoma, Mara, Geita and Simiyu.

1.3 Objectives of CHW Mapping:

The objectives of the mapping activity were as follows.

1. To capture CHW individual data related to formal education and level of RMNCH training, among other attributes.
2. To develop an integrated and centralized data management system that can monitor and track CHWs in every district in the region through the District Health Information Software (DHIS2).
3. To build capacity among CBHP District Coordiantors to process data , monitor and track down all CHW individual data that will be collected during this and future mapping exercises.
4. To identify all form four levers in the villages who are currently not formaly employed and who will qualify to join the CBHP longer term training or the intergrated RMNCH training, beginning mid September , 2015

2. Methodology

2.1. Introduction

A desk review of previous CHW mapping initiatives was undertaken to capture and synthesize earlier mapping activities undertaken in Tanzania. This review was conducted in an effort to ensure that the CHW mapping that was undertaken would augment existing initiatives and comprehensively address any gaps in data that had not been documented. This information is crucial when implementing the community health based program.

The mapping exercise targeted the five BRN regions, which were selected by the BRN team on the basis of their low performance in Maternal, New Born and Child Health (DHS, 2010). The exercise was a complete census of existing CHWs in these 5 regions down to village level.

2.2 Data Collection Tool

A structured data collection tool (see appendix 1) was jointly developed and implemented by the MoHSW, the CHW Task Force, CHAI and CHW-LAP team to capture information on individual CHWs.

2.3. Data Collection Methods

Cascade methodology was used to train data collectors. From the National level a team of trainers were trained in one day TOT on the objectives of the mapping exercise the data collection tool and the methods which will be used during the exercise. The National Trainers were then deployed to the regions where they trained regional and district trainers. The Regional and Districts trainers in turn trained Ward executive Officers (WEO's) and Village Executive Officers (VEOs) or Mittaa Exewcutive officers (MEOs) who were the data collectors. Different cascade models were used to train data collectors in different regions to assess the more cost effective method of training data colectors before inititaing data collection in the reamainng regions. In two regions (Kigoma and Simiyu) the cascade was for the TOT's to train the WEO's and the WEO's to train the VEOs or MEOs . In the other three regions (Geita, Mwanza and Mara) WEO's and VEOs or MEOs were trained together.

2.2.1. Regional Level

At the regional level the team paid a courtesy call to the Regional Administrative Authorities (Regional Administrative Secretary (RAS) and the Regional Medical Officer (RMO)), to inform them about the CHW mapping activity and to seek their support in field level data collection. General advocacy efforts were made across all regions to sensitize regional and district administrative authorities about the National CHBP program and the CHW Mapping study. It is the Regional Authorities who gave us a go ahead to proceed with the activity and wrote letters to introduce us to the district authorities to seek their support. In some regions, the Team was accompanied by the representative for Regional level.

2.2.2. District, Ward, and Village Levels

A pre-entry contact was established with the District Administrative Authorities (District Executive Director (DED) and the Distict Medical Officer (DMO)). In each district, the assessment team worked with the district CBHP Coordinator who supervised all CHW mapping activities. Data collection from the five BRN regions commenced at the beginning of June 2015 and continued until end August 2015. In all the regions data collection was done by the VEOs or MEOs who were supervised by the WEO's. The study used exisiting government structures for data collection and supervision instead of hiring external research assitants in order to build the district capacity for maping CHWs and other cadres in future.

During data collection the VEOs or MEOs were also assigned to identify all form four leavers from their respective villages that are not formally employed and could qualify to join the intergrated RMNCH three weeks training or the CBHP one year training program. In villages or Mitaas where they were no VEO/MEO employed, other government officials working in the villages/Mitaas were contracted to help in Data Collection. VEOs or MEOs worked with teachers and hamlet leaders to identify form four leavers.

3.3. Data Management and Analysis

After data collection, VEOs or MEOs submitted filled data collection tools to WEOs and WEOs in turn submitted those tools to the CBHP Coordinator and using the same cascade method the tools were submitted to the data processing unit of CHW-LAP. The data processing unit used Epi Info for data entry. In the case of Kigoma the CBHP Coordinator was trained on data entry package and completed data entry for the region. For quality assurance purposes, all questionnaires which were entered by the CBHP coordinator were checked and re -entered at MUHAS and by doing so data entry errors were picked and corrected.. CBHP coordinators were used in data processing to enable them to do the same in future when in need to map CHWs or other cadres in the districts and councils. In this way quality of data entry was ensured before analysis was attempted. The project team prepared data analysis plan and same was used to analyze data with SPSS package.

4. Results

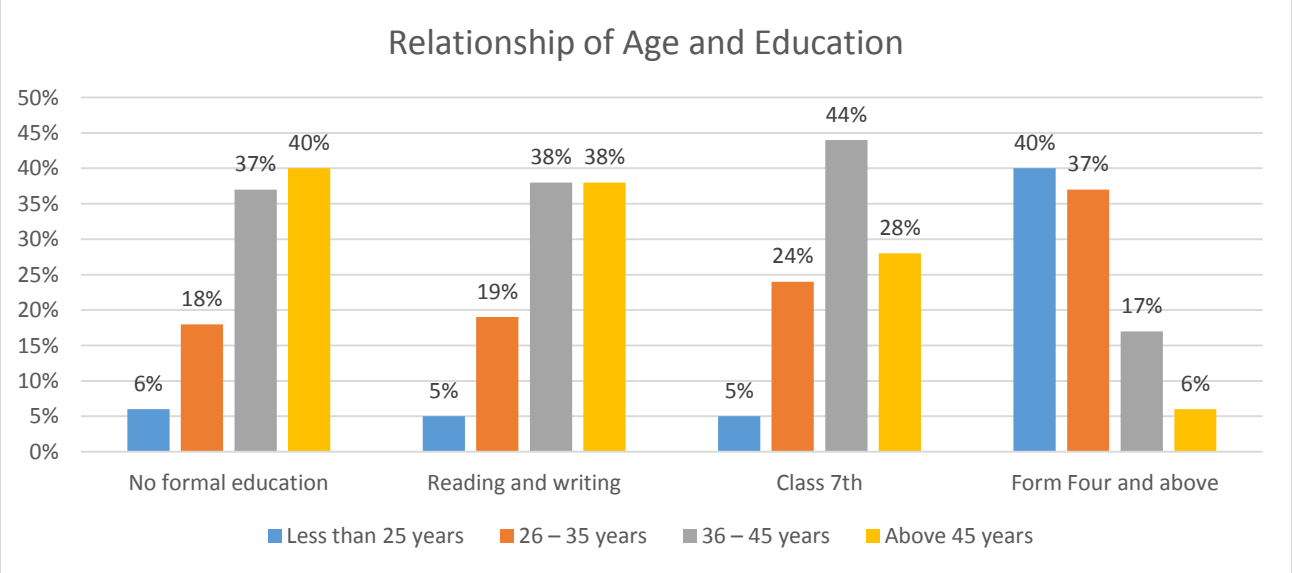
1. **Characteristics of CHWs:**

Table -1: Characteristics of CHWs

	Characteristics of CHWs	Geita (%)	Kigoma (%)	Mara (%)	Mwanza (%)	Simiyu (%)	Total (%)
1	***Sex of CHWs***						
	a. Male	833 (52.1%)	671 (47.3%)	974 (46.9%)	2089 (48.3%)	1736 (51.2%)	6303 (49.2%)
	b. Female	765 (47.9%)	747 (52.7%)	1100 (53.1%)	2229 (51.7%)	1654 (48.8%)	6495 (51.8%)
	Total	1598	1418	2074	4318	3390	12798
2	***Age of CHW***						
	a. Less than 25 years	153 (9.6%)	170 (12%)	182 (8.8%)	358 (8.3%)	1028 (30.3%)	1891 (14.8%)
	b. 26 – 35 years	445 (27.8%)	357 (25.2%)	433 (20.9%)	1081 (25%)	1144 (33.7%)	3460 (27%)
	c. 36 – 45 years	679 (42.5%)	489 (24.5%)	827 (39.9%)	1725 (39.9%)	904 (26.7%)	4624 (36.1%)
	d. Above 45	321 (20.1%)	402 (28.3%)	632 (30.5%)	1154 (26.7%)	314 (9.3%)	2823 (22.1%)
	Total	1598	1418	2074	4318	3390	12798
3	***Education level of CHW***						
	a. No formal education	9 (0.6%)	43 (3%)	150 (7.2%)	45 (1%)	36 (1.1%)	283 (2.2%)
	b. Reading & Writing only	35 (2.2%)	44 (3.1%)	28 (1.4%)	99 (2.3%)	19 (0.6%)	225 (1.8%)
	c. Completed class 7^{th}	1246 (78%)	1086 (76.6%)	1537 (74.3)	3357 (77.9%)	1562 (46.1%)	8788 (68.7%)
	d. Form 4 and above	308 (19.3%)	245 (17.3%)	359 (17.3%)	817 (18.9%)	1773 (52.3%)	3502 (27.4%)
	Total	1598	1418	2074	4318	3390	12798
5	***Number of years in Service***						
	a. Less than 2 years	373 (23.3%)	455 (32.1%)	537 (25.9%)	627 (14.5%)	1015 (29.9%)	3007 (23.5%)
	b. 2 – 5 years	378 (23.7%)	370 (26.1%)	511 (24.6%)	1988 (46%)	1648 (48.6%)	4895 (38.2%)
	c. 5 – 10 years	357 (22.3%)	239 (16.9%)	341 (16.4%)	635 (14.7%)	240 (7.1%)	1812 (14.2%)
	d. More than 10 years	490 (30.7%)	354 (25%)	685 (33%)	1068 (24.7%)	487 (14.4%)	3084 (24.1%)
	Total	1598	1418	2074	4318	3390	12798

Table-1 on background characteristics shows that there is little or no variation on distribution of CHWS based on sex across all the regions as about half of existing CHWs are female (51.2%). Overall there were equal proportions of male and female CHWs. The findings indicate that just over 40% of CHWs are below age of 35 years while just over one third of CHWs fall in age group of 36 -45 years. Only Simiyu region varies on overall age structure of CHWs as over 60 % of existing CHWs in the region are below 35 years of age with highest proportion of CHWs in age group of 26 -35 years. Education is another important characteristics for the new CHW program in the country as it sets form -4 as minimum education level for eligibility to work as CHW. The findings indicate that just a little over one fourth of existing CHWs has completed form-4 or above education while highest proportion of CHWs completed class 7 education. The findings also show that in Simiyu the highest proportion of CHWs were form 4 levers (52.3%). This is due to the fact that before the mapping exercise Simiyu has recruited a large proportion of CHWs with form 4 education. The MoHSW should encourage recruitment of CHWs with form 4 education. Overall the majority of CHW's (38.2%) had 2-5 years of working experience. In Simiyu and Mwanza almost half of the existing CHWs have working experience of 2-5 years, while in Kigoma 32.1% of CHWs had less than 2 years. However, in Mara and Geita, more than one-third of CHWs had work experience of more than 10 years.

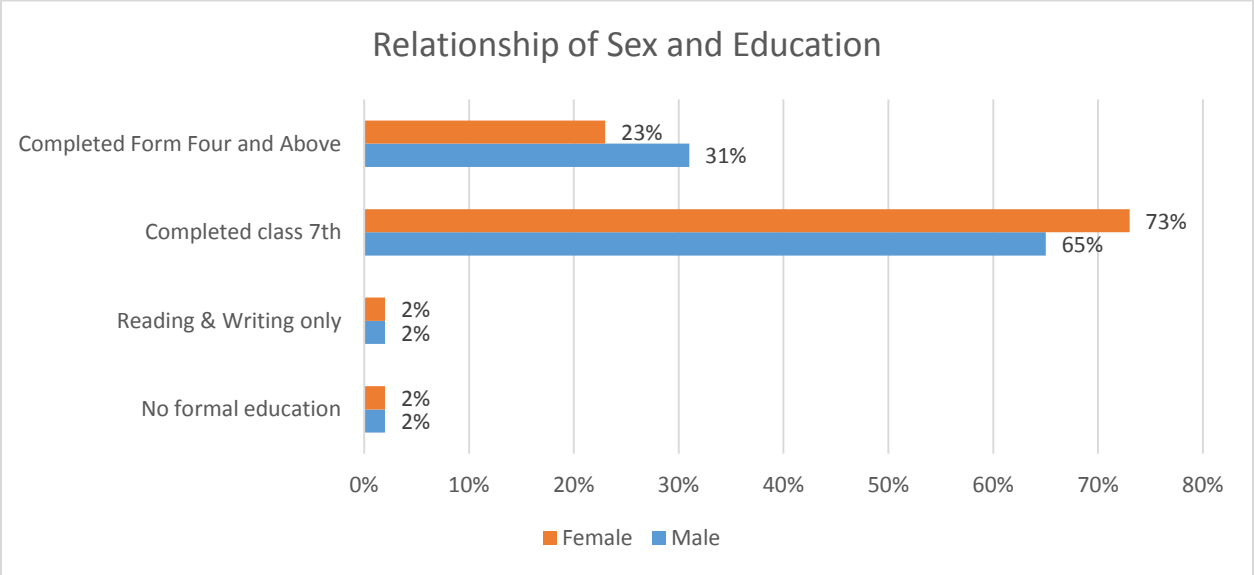
2. Relationship between age and education:



The study also tried to establish relationship between age an education with assumption of lower education level among older age CHWs as compared to their younger counterparts and finding from the study hold the assumption true as it showed an inverse relationship of age and education, which means the higher the age the lower the education. The results show that only about 6 % of CHWS

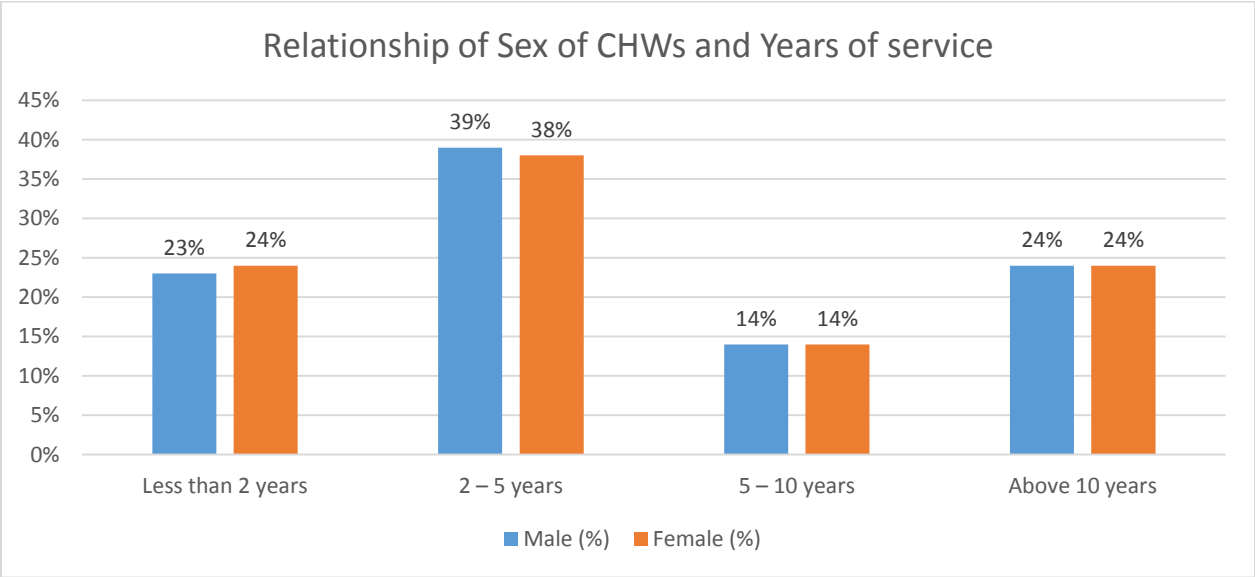
above age of 45 years completed form -4 level of education, whereas about 40% of CHWs in age group below 25 years has form-4 level education. Similarly about 75% of CHWs in the age group of 36 years and above did not attend any formal education while less than 10% of CHWs with age less than 25 years did not have formal education. About 50% [(1413+1279)/(1891+3460)] of existing CHWs under the age of 35 years will qualify to enroll in the new integrated CHW program to be implemented by the MoHSW.

3. **Relationship between sex and education:**



As the government is planning to hire more female CHWs under the new scheme hence study attempted to explore relationship of education level with sex of CHWs. The study brings out the fact of that more than 90% of existing CHWs from both sex have completed standard 7 or higher. Among the existing CHWs who completed standard 7, more than 70% are females. Even though more females completed standard 7, a less number of female CHWs (23%) completed form 4 compared to male CHWs (31.9%). The majority of existing females CHWs may not qualify to enroll into the CHW program. The MoHSW should consider new potential female candidates out of the pool of form 4 levers, who were identified during the mapping exercise.

4. **Relationship between sex and years in service:** The majority of either sex CHWs mapped in this study showed to have 2-5 years of service. About two third of male and female CHWS has work experience of less than 5 years and only about one fourth of CHWs from both sex has work experience of more than 10 years The variation can be due to the period of the implemented CHW programs tend to phase out between 2-5 years. The MoHSW is working out ways to sustain donor funded projects. The results show no relationship of sex and years of experience as CHW.



5. **Coverage and availability of CHWs :** Overall the study revealed disparities in average number of CHWs per village across the 5 BRN regions with Simiyu having highest CHWs per village (6) than Geita, Mara and Kigoma having the lowest average number of CHWs per village (3). The government is aiming to recruit at least 2 CHWs per village so the study tried to analyze percentage of villages having 2 or more CHWs under existing programs. The result showed that in more than 70% of villages of regions like Kigoma, Mara and Simiyu has 2 or more CHWs per village while about 33% of villages in Mwanza has only one CHW. Geita is the only region with about 48% villages having no or 1 CHW per village. Overall Simiyu region had the highest number of CHWs per 10,000 population (21) while Kigoma had the lowest number of CHWs per 10,000 population (7). Overall more than 59% of the villages in all the regions had at least one female and one male CHW with Simiyu region having highest percentage (75%) of villages having at least one female and male CHW. The study also identified the form four leavers with no employment and residing in the village. It is envisioned that, the potential CHWs for the new CHW cadre will be selected from this pool.

Table -2: Geographic distribution of CHWs

	Distribution of CHWs	Geita (%) (n =565	Kigoma (%) (n=481)	Mara (%) (n=691)	Mwanza (%)(n=845)	Simiyu (%) (n=605)	Total (%) (3,187)
1	***Average number of CHWs per village (Total Number of CHWs in the Region/Total Number of Villages in the Region)***	3	3	5	3	6	
2	***Number of CHWs per village***						
	a. 1 CHW	90(16%)	120(25%)	193(28%)	279(33%)	121(20%)	804(25%)
	b. 2 CHWs	136(24%)	87(18%)	276(40%)	161(19%)	48(8%)	708(23%)
	c. 3 – 5 CHWs	90(16%)	178(37%)	173(25%)	194(23%)	127(21%)	763(23%)
	d. More than 5 CHWs	68(12%)	96(20%)	48(7%)	194(23%)	309(51%)	715(21%)
	e. No CHW	181(32%)	0(0%)	0(0%)	17(2%)	0(0%)	198(9%)
3	***Number of CHWs per 10,000 population (Total Number of CHWs in the Region/Total Population of the Region *10,000)***	9	7	12	16	21	65
4	***Proportion of villages having at least one male and one female CHW***	232(41%)	313(65%)	456(66%)	499(59%)	460(76%)	1880(59%)
5	***Number of Form Four levers identified per region***	3416	*2742	5100	5237	**4068	

* Identified not more than 10 CHWs per village of form 4 candidates

** Identified not more than 15 CHWs per village of form 4 candidates

6. Training and service provision

Table -3: Training Status of existing CHWs

	Training status of CHWs	Geita (%) [n=1598]	Kigoma (%) [n=1418]	Mara (%) [n=2014]	Mwanza (%) [n=4318]	Simiyu (%) [n=3390]	Total (%)[n=12798]
1	***% of CHWs received any form of training***	1451 (90.8%)	1213 (85.5%)	1970 (95%)	4164 (96.4%)	3250 (95.9%)	12048 (94.1%)
2	***% of CHWs trained on***						
	a. MNCH	1056 (66.1%)	859 (60.6%)	1551 (74.8%)	3767 (87.2%)	3116(91.9%)	10349 (80.9%)
	b. HIV/AIDs	1156 (72.3%)	1023 (72.1%)	1737 (83.8%)	3373 (78.1%)	2474 (73%)	9763 (76.3%)
	c. IMCI	745 (46.6%)	520 (36.7%)	1019 (49.1%)	2663 (61.7%)	1886 (55.6%)	6833 (53.4%)
	d. Nutrition	1056 (66.1%)	783 (55.2%)	1540 (74.3%)	3500 (81.1%)	2740 (80.8%)	9619 (75.2%)
	e. Malaria	1190 (74.5%)	820 (57.8%)	1636 (78.9%)	3434 (79.5%)	2567 (75.7%)	9647 (75.4%)
	f. Family Planning	1174 (73.5%)	889 (62.7%)	1632 (78.7%)	3561 (82.5%)	2891 (85.3%)	10147 (79.3%)
	g. Neglected Disease	467 (29.2%)	334 (23.6%)	539 (26%)	1514 (35.1%)	786 (23.2%)	3640 (28.4%)
	h. TB	541 (33.9%)	507 (35.8%)	846 (40.8%)	1748 (40.5%)	1150 (33.9%)	4792 (37.4%)
3	***% of CHWS trained on***						
	a. Only one thematic area	88 (6.1%)	112 (9.2%)	77 (3.9%)	205 (4.9%)	143 (4.4%)	625 (5.1%)
	b. 2 -3 thematic areas	289 (19.9%)	283 (23.3%)	296 (15%)	469 (11.3%)	386 (11.9%)	1723 (14.3%)
	c. 4 -7 thematic areas	844 (58.2%)	627 (51.7%)	1309 (66.4%)	2592 (62.2%)	2201(67.7%)	7573 (62.9%)
	d. All 8 thematic areas	230 (15.9%)	191 (15.7%)	288 (14.6%)	898 (21.6%)	520 (16%)	2127 (17.7%)
	Total	1451	1213	1970	4164	3250	12048

Overall results reveal that most regions had over 90% of CHWs receiving any form of training. There was little variation in the regions except Kigoma, which had 85.5% of CHWs, trained. This may imply that about 15% of the existing CHWs in Kigoma were not trained and yet practicing CHW work. The most common training received by CHWs across all regions are, MNCH (80.9%), followed by family planning (79.3%) and HIV/AIDS (76.3%), while the lowest proportion of CHWs received training on neglected diseases (28.4%) and TB (37.4%). Overall, about 80% of existing CHWs received training on more than 4 thematic areas, while about 18% of CHWs reported receiving training on all 8 thematic areas. However, only 5% of CHWs reported receiving training on one thematic area.

7. **Drugs, supplies, commodities and other resources available to CHWs:** As the existing CHWs are working under different projects and thematic areas hence they received different supplies and logistics based on project goals and objectives. Table -4 shows that about 58% of existing CHWs reported receiving of health awareness and education material indicating that majority of existing CHW programs used CHWs as health educator. About half of the CHWs (49.7%) received uniform which may have provided them unique identity and special status at village level. Other commodities and supplies given to CHWS were family planning commodities (26.4%), malaria control commodities (21.2%), job aids (25.1%), medicines (11.2%) and any form of electronic gadget (10.7%). The study also assessed financial assistance received by existing CHWs and the result indicate that majority of the existing CHWs are working on voluntary basis (84.3%) though more information needs to be collected on motivational factor for voluntary work. Only about 15% (14.7%) CHWs received payments for their work. About 57 % CHWs reported receiving transport allowance for their field movement and just 5 % received communication allowance. Regional variation in availability of these resources was also observed and this could be attributed to the type and number of available programs in each region.

Table-4: Commodities, supplies and payments to CHWs

	Commodities , supplies and payments to CHWs	Geita (%)[n=1598]	Kigoma (%) [n=1418]	Mara (%) [n=2074]	Mwanza(%) [n=4318]	Simiyu (%) [n=3390]	Total (%) [n=12,798]
1	***CHWs receiving following***						
	a. Uniform	509 (31.9%)	480 (33.9%)	782 (37.7%)	1800 (41.7%)	2790 (82.3%)	6361 (49.7%)
	b. Transport assistance	471 (29.5%)	341 (24.0 %)	888 (42.8%)	2739 (63.4%)	2801 (82.6 %)	7240 (56.6%)
	c. Technology (Camera mobile etc.)	69 (4.3%)	49 (3.5%)	95 (4.6%)	303 (7.0%)	764 (22.5%)	1280 (10.0%)
	d. Medicines	236 (14.8%)	216 (15.2%)	298 (14.4%)	514 (11.9%)	174 (5.1%)	1438 (11.2%)
	e. Family Planning commodities	568 (35.5%)	340 (24%)	509 (24.5%)	1134 (26.3%)	826 (24.4%)	3377 (26.4%)
	f. Malaria control commodities.	461 (28.8%)	214 (15.1%)	585 (28.2%)	978 (22.6%)	475 (14.0%)	2713 (21.2%)
	g. Job aids	346 (21.7%)	210 (14.8%)	509 (24.5%)	1483 (34.3%)	667 (19.7%)	3215 (25.1%)
	h. *Health awareness and education material*	939 (58.8%)	533 (37.6%)	1180 (56.9%)	3202 (74.2%)	1575 (46.5%)	7429 (58.0%)
	i. Communication assistance	71 (4.4%)	33 (2.3%)	90 (4.3%)	231 (5.3%)	217 (6.4%)	642 (5.0%)
	j. CHWS receiving payments for the work	254 (15.9%)	308 (21.7%)	287 (13.8%)	524 (12.1%)	384 (11.3%)	1757 (13.7%)

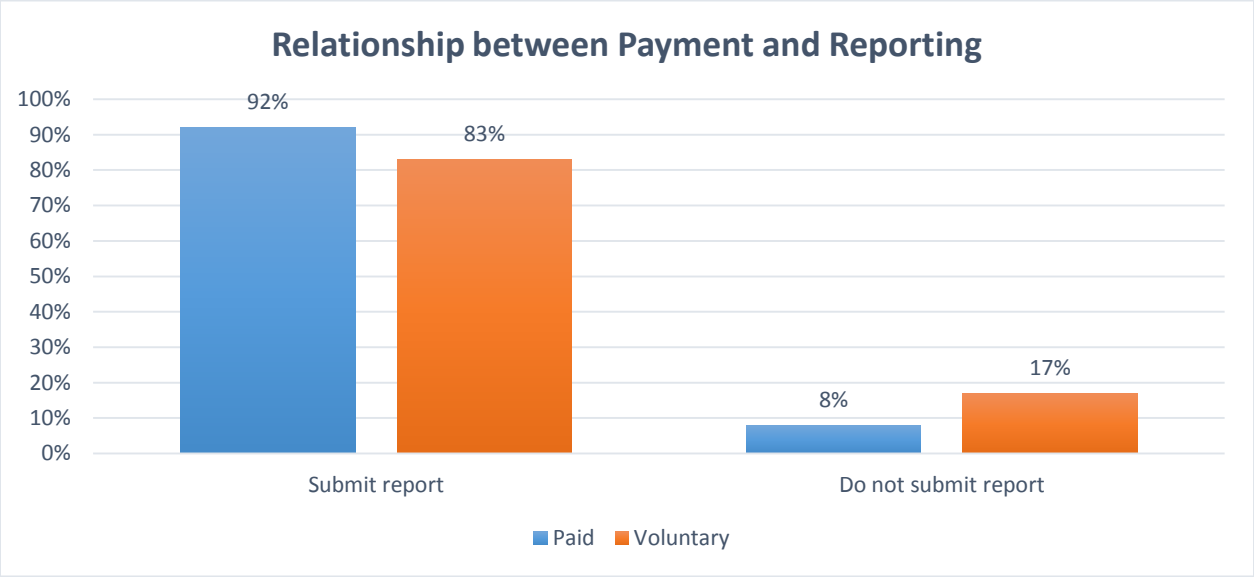
8. Record keeping and Reporting Mechanism:

Table -5: Reporting by CHWS

Characteristics of CHWs	Geita (%) [n=1598]	Kigoma (%) [n=1418]	Mara (%) [n=2074]	Mwanza(%) [n=4318]	Simiyu (%) [n=3390]	Total (%) [n=12,798]
CHWs submitting any form of report	1326(83%)	924 (65.2%)	1630 (78.6%)	3715 (86%)	3214 (94.8%)	10,809 (84.5%)
CHWS submitting report with following frequency						
a. Monthly	681 (51.3%)	609 (65.8%)	898 (55.1%)	1948 (52.4%)	2649 (82.4%)	6785 (62.8%)
b. Quarterly	615(46.3%)	244(26.4%)	869(53.3%)	1791(48.2%)	90(2.8%)	3609(33.4%)
c. Six monthly	64(4.8%)	39(4.2%)	214(13.1%)	194(5.2%)	11(0.3%)	522(4.8%)
Place of reporting						
a. Village	351(26.5%)	279(30.2%)	592(36.3%)	1791(48.2%)	1140(35.5%)	4153(38.4%)
b. Health Facility	896 (67.6%)	365 (39.5%)	1075 (65.9%)	1724 (46.4%)	2200 (68.5%)	6260 (57.9%)
c. NGO	264(19.9%)	336(36.4%)	519(31.8%)	779(21%)	657(20.4%)	2555(23.6%)
d. CBO	30(2.3%)	34(3.7%)	197(12.1%)	100(2.7%)	18(0.6%)	379(3.5%)

It is critical for any program to receive progress reports from the field to understand the progress of the work under the project. The study results from table-5 shows that majority of existing CHWs (84.5%) submit report in some or other form. Regional variations are seen on reporting by CHWs with 95% CHWs from Simiyu submitting their report as compared to just 65% CHWs from Kigoma submitting any report. The study also analyzed the frequency of reporting and results shows that about 63% of CHWs submit reports on monthly basis. The frequency of reporting varies across the regions with about 82% of CHWs from Simiyu submitting monthly report against just 51% of CHWs from Geita following monthly reporting cycle. The study shows that more than half of CHWs (57.9%) send their reports to Health Facilities, the highest being Simiyu with 68.4% and Kigoma having lowest of 38.7%. This may be due to type of programs implemented and distance to health facilities in the different regions. Findings indicate the need for strategies for improving coordination and links between CHWs and Health Facilities.

9. Relationship between % of CHWs reporting and payment status



The study tried to analyze relationship between payment status of CHWs and reporting. The results indicate that higher proportion of paid CHWs (92%) submit any form of report which is higher as compared to voluntary CHWs (83.3%). The findings suggest that payments are critical to CHWs performance and reporting.

Study limitations:

- The use of cascade training methodology may have imposed dilution of the intended message to be communicated, that less and less was understood as training went down the cascade to the final field data collectors (VEO)
- The use of existing Government Administrative structure (VEO/MEO and WEO) in collecting data and supervision may have imposed poor quality of data collected due to lack of training in research ethic and experience in conducting field data collection and also being occupied with their daily office responsibilities.
- The mapping activity of CHW was only conducted in Five BRN region, who are performing low in RMNCH hence the findings and Characteristics of CHW's from these regions can not be used to generalize the rest of existing CHW across the whole country.
- Variation of the training methodology and field data collection variations experienced during the mapping of the CHWs across the 5 BRN region may have imposed some effect in the finding obtaining from this activity.

Conclusions: The study results provide insights into existing CHWs characteristics and their work areas, experience which could be useful in designing new integrated CHW program in the country and also to design effective systems for its implementation. The following are key conclusions based on study findings

- Existing CHW programs implemented in the country have equal number of male and female CHWs and no particular sex dominates the current programs, indicating that both male and female can effectively work at community level as CHWs.
- About half of the existing CHWs will not be eligible for selection as CHW under new integrated scheme based on age criteria for government service and only about little over 40 % will satisfy age criteria for government service.
- Based on analysis of education of CHWs, only about 27% of existing CHWs will qualify mandatory education criteria of form-4 level education under the new integrated CHW program in the country and majority of experienced CHWs will not fulfill the criteria hence government will have to plan to utilize these experienced but not qualified CHWS in future to strengthen the primary health care in the country.
- From the existing pool of CHWs working in five regions only little over 20% will meet both education and age criteria for government service.
- The results also showed that lower percentage of female CHWs having form-4 education as compared to their male counterparts hence it is likely that female candidates with form-4 education may not be available in some of the villages and government may need to consider revise education levels in such cases in order to recruit more female CHWs.
- High variations are seen across the regions on availability of the CHWs though on broader level all regions shows that every village has more than 2 CHWs though on detail analysis Geita has the lowest number of CHWs and about 48% of villages in region do not have CHWs as per government norms of 2 CHWS per village.
- The standard norm for Tanzania is one CHW per 500 population looking at population density and distance to cover for providing services but only Simiyu fulfills the criteria of 1 CHW per 500 population while all other regions have less than one CHW per 500 population.
- Current CHW programs implemented by different donors and partners do not cover all the villages in the region hence there are villages in Geita and Mwanza without any CHW programs.
- There are more than 10 form-4 levers who are not currently employed available in each village indicating that government will be able to find form-4 educated CHW from each village in these regions though current data do not provide bifurcation of available form-4 levers on sex.
- Majority of existing CHWs (94.1%) are trained on project thematic area in which they are working by the implementing partners though it brings out the fact that still about 6% of existing CHWs are not trained and still working as CHW, which is matter of concern.
- More than three fourth of the CHWS have received training on MNCH, HIV/AIDS, Malaria, Nutrition and Family Planning, About 80% of existing CHWs are trained on more than 4 thematic areas hence do have basic knowledge on these topics and can be used by government as community educator and mobilizers to support selected CHWs.

- Majority of existing CHWs are working as health educator and providing information to community on their thematic area of work while less than 20% of CHWs are involved in service provision like FP and malaria.
- Majority of existing CHWs are working on voluntary basis (84.3%) though study could not get deeper insight on motivational factors for voluntary work hence further research is needed to understand the factor and government can use those findings to engage existing CHWs which do not qualify under current government norms for selection and recruitment of CHWs.
- Majority of both paid and unpaid CHWs submit their reports to implementing partners though variation is seen in proportion of paid CHWs and unpaid CHWs reporting. More paid CHWS submit report as compared to voluntary CHWs.

Recommendations: Based on study findings, conclusions and limitations, the following key recommendations can be used for the implementation of new CHW program and also to undertake mapping exercise in remaining regions of the country.

- As the current exercise used to capture basic background information of individual CHWs though much detail information will be useful from program implementation perspective hence need to revise the data collection tool to capture more information on existing CHWs from other regions.
- As data collection in current phase is done by VEO and data collection supervision through WEO, which are integral part of government system it is important to continue data collection through VEO as this appears to be more cost-effective than other methods.
- Ensure data quality in the mapping exercise for the rest of the country, supervision of data collection needs to be strengthened.
- In future government would like to collect information on CHWs performance under the new integrated scheme and use the modified tool on periodic basis to capture information on new CHWs and can built software under HRIS to regularly monitor performance of new CHWS.
- About 20% of existing CHWs meet education and age criteria for future CHW training, hence local governments should give priority to these and select eligible existing CHWs to undergo training for integrated CHW program.
- Mandate different partners and donors to follow government criteria for selection of new CHWs in areas where CHWs under government scheme are not yet available. MoHSW should mandate the partners to use government CHWS to implement their programs by providing additional training (if details not given through government program) rather than building parallel systems of CHWs.
- Build up the training curriculum with material based on country disease burden and health priorities for the training of newly recruited CHWs and ensure that all selected CHW candidates complete the training before deployment at village level.
- Design standard equipment and instrument set along with necessary logistics and commodities for new CHWs based on their job roles and responsibilities and establish effective logistic supply systems for replenishment of these logistics and commodities at regular basis.
- Design proper uniform for the new CHWs as uniform gives unique identity and respect to health workers at village level.
- Design standard record keeping and reporting formats to be used by new CHWs and ensure that these formats are not lengthy and complex. Establish regular reporting from each CHW on monthly basis and it can be integrated as part of DHIS-2.

- **Appendix 1**

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MAPPING FORM FOR COMMUNITY HEALTH WORKERS
REGION ID NUMBER …… DISTRICT ID NUMBER ……

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Number	Question	Response	Skip
INSTRUCTIONS: PLEASE FILL IN THE BLANKS ACCORDINGLY			
001	Date of the survey	Day |___|___| Month |___|___| Year |___|___|___|___|	
002	Name of interviewer	_____	
003	Telephone number of the interviewer	_____	
004	Name of the region	_____	
005	Name of the District /Council	_____	
006	Name of the ward	_____	
007	Name of the village /Street	_____	
008	Number of Community Health Workers in the village	No. |___|___|	
009	Numbers of villagers with form four certificated and who are currently in the village.		
INSTRUCTIONS: PLEASE FILL IN THE BLANKS ACCORDINGLY, AND TAKE NOTE OF THE SKIPPING PATTERNS			
010	Name of Community Health Worker	_____	
012	Age in years	Age |___|___|	
012	Sex	Male.....1 Female.....2	
013	Phone number	|___|___|___|___|___|___|___|___|___|___|___|	

Number	Question	Response	Skip
014	Level of education	No formal education.....1 Reading and writing only .....2 Completed Class seven.....3 Completed Form four.....4 Completed Form six.....5 Other _____96 (SPECIFY)	
015	Time in service of being a CHW (years)	Years |___|___|	
016	What is your job title?	_____	
017	Have you received training in any of the following areas since you became a CHW?		
01	Maternal, newborn, child health	Yes.....1 No 2	
02	HIV/AIDS	Yes.....1 No 2	
03	IMCI	Yes.....1 No 2	
04	Nutrition	Yes.....1 No 2	
05	Malaria	Yes.....1 No 2	
06	Family planning	Yes.....1 No 2	
07	Counseling	Yes.....1 No 2	
08	Others	Yes_____1 (SPECIFY) No 2	
018	What are your three main responsibilities as a CHW?		
01	_____		
02	_____		
03	_____		

Number	Question	Response	Skip
019	Do you receive any payment for your work as a CHW (not including any training allowance)?	Yes.....1 No 2	
020	Are you provided with any of the following equipment, supplies, or commodities for service provision as a CHW?	Tick yes if, any of the following are provided	
01	Uniform tick yes if, any of the following are provided (t-shirt, cap, coat, bag, boots, etc.)	Yes.....1 No 2	
02	Transport assistance tick yes if, any of the following are provided (bicycle, motorcycle, etc.)	Yes.....1 No 2	
03	Technology, ticks yes if, any of the following are provided (mobile phones, GPS, camera, etc.)	Yes.....1 No 2	
04	Medicines tick yes if; any of the following medicine are supplied (ORS, zinc, malaria tablets, etc.)	Yes.....1 No 2	
05	Family planning commodities(Pills, Condom)	Yes.....1 No 2	
06	Malaria control commodities tick yes if, any of the following are provided (mosquito nets)	Yes.....1 No 2	
07	Job aids tick yes if, any of the following are provided (flipcharts)	Yes.....1 No 2	
08	Health education materials(brochures , leaflets, posters)		
09	Communication assistance (phone voucher)	Yes.....1 No 2	
10	Others	Yes_____1 (SPECIFY) No 2	
021	Are you affiliated with any NGO?	Yes.....1 No 2	 ➔021
022	If yes, what is the name of the NGO? List all if affiliated to more than one NGO	_____	
023	Do you provide any reports on your work?	Yes.....1 No 2	 ➔024
024	Where do you submit your reports?	Village/Ward office.....1 Health facility .....2 NGO.....3 CBO .....4 Other _____96 (SPECIFY)	

Number	Question	Response	Skip
025	How often to you submit a report?	Monthly .....1 Every three months.....2 Every six months .....3 Other _____96 (SPECIFY)	
026	Is there a health facility in your village?	Yes.....1 No 2	➔END
027	What is the type of health facility in your village?	District hospital .....1 Health center .....2 Dispensary.....3 Other _____96 (SPECIFY)	
THANK YOU!			