USAID'S HEALTH EVALUATION AND APPLIED RESEARCH DEVELOPMENT (HEARD) PROJECT

POLICY BRIEF: TANZANIA URBAN NUTRITION & WASH PROFILE

INTRODUCTION

The majority of the world's population now lives in urban areas (50.6% in 2010, UN-Habitat 2010). By 2050, more than 68% of the world's population—an estimated 6.7 billion people—are projected to live in cities (Ritchie and Roser 2018). Between 2018 and 2030, the number of cities with 500,000 inhabitants or more is expected to grow by 57% in Africa and 23% in Asia (UN, 2018).

Rapid population growth in urban areas lead to an increase in slums and informal settlements. Informal settlements exist because urbanization has grown faster than the ability of government to provide planned land, infrastructure, and homes (Michelutti, & Smith, 2014). The UN-HABITAT (2003) characterized slums as having inadequate access to safe water; sanitation and other infrastructure; overcrowding; insecure residential status; and poor structural quality of housing. Globally, there has been increasing recognition that the conditions in urban settlements are a major contributing factor to poor health outcomes, disproportionally affecting the poorest population. Addressing urban health is in line with four sustainable development goals: SDG 3-Good Health and Wellbeing, SDG 10-Reduced Inequalities, SDG 11-Sustainable Cities and Communities, and SDG 13-Climate Action.

Tanzania is the one of the countries in sub- Saharan Africa that has highest proportion of its urban population living in informal settlements (Mnyone, 2015). Informal housing settlements provide shelter to the majority of the urban poor in Tanzania and approximately 70% of the total population of Dar es Salaam lives in such areas and approximately 60% in other major towns. Informal

urban development can create patterns of sprawl, and it is difficult and expensive to extend infrastructure and services to reach these areas. Because these areas have been settled outside legal or formal systems, governments may also lack the incentives to provide essential services and infrastructure (Combaz, 2015). In Tanzania, the rapid increase of informal settlement has generated significant demand for infrastructures like water, sewage systems, schools, and hospitals, as well as food, which has challenged the government's and other partners' capacity to deliver high quality services (WB, 2002).

Tanzania has very limited information on its poor urban population, but some existing evidence highlights nutrition, WASH, social, economic, and environmental vulnerabilities among children, adolescents, and mothers. Understanding more about these factors and how they interact to affect the lives of people living in slums is paramount when advocating for improved and adequate services for this neglected group. To address knowledge gaps and inform opportunities for action, Ifakara Health Institute, with financial support

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from USAID's Health Evaluation and Applied Research Development Project based at University Research Co., LLC (URC), conducted an assessment of the nutrition, health, and WASH situation in urban slums of Tanzania. This brief summarizes the results in order to facilitate better planning of interventions for poor urban communities.

OBJECTIVES

1. To identify key nutrition and WASH vulnerabilities shaping health outcomes for children, adolescents and women living in slums
2. To identify quantitative datasets, that include data on food, nutrition and WASH
3. To identify existing policies, programs and practices that are underway and/or planned that address one or more food/nutrition, WASH and health vulnerabilities
4. To identify community-based actors, NGOs, governmental, academic and other stakeholders implementing maternal/childhood nutrition-focused interventions

METHODS

To understand how to improve the situation among the target population—children under five and adolescents in poor urban areas—the following was undertaken:

1. A review of grey and published literature
2. An urban data inventory of existing quantitative datasets
3. A policy and stakeholder review to identify and assess policies, programs, approaches, and key actors
4. Community Case Study of Tandale slum to provide a deeper analysis of the realities facing poor urban communities

NUTRITION & WASH AT A GLANCE

In Tanzania, malnutrition remains a significant cause of morbidity and mortality in children under-five. Despite a decrease in the national prevalence of stunting from 42% in 2010 to 34% in 2015-16 (DHS, 2015-16), it is still unacceptably high per the WHO classification. About 14% and 5% of under-five children were underweight and wasted, respectively, as well as three in five children were anemic in 2015. Of women of reproductive age (15-49 years), 45% reported being anemic in 2015-16 which is 5% higher compared to 2010. While cases of underweight in women of reproductive age have declined from 11.4% in 2010 to 5.5% in 2015-16 (DHS, 2015-16), obesity rose from 18% in 2004 to 28% in 2015-16 (DHS, 2015-16).

When examining the disparities between urban and rural populations, a recent publication by Levira and Toddy (2017) indicated that maternal mortality rate was higher in urban (432) than rural (336) populations and the prevalence of overweight women of reproductive age was higher in urban (41.5%) than rural (21.7%) areas. Under-five mortality was higher in urban (71.2 deaths per 1000 live births) versus rural settings (65.9 deaths per 1000 live births) and low birth weight was higher in urban (7.4%) than in the rural areas (6.6%) (Levira and Todd 2017) (see Table 1).

Table 1. WASH, health and economic indicators for children and mothers, comparing urban and rural areas of Tanzania

Indicators		Urban	Rural
Child information	Under-five mortality/1000 live births	71.2%	65.9%
	Neonatal mortality	43%	24%
	Perinatal mortality	47%	37%
	Under-five stunting	24.7%	37.8%
	Under-five underweight	9.1%	15.2%
	Under-five wasting	3.8%	4.7%
	Diarrhoea	14.1%	11%
	Anemia (haemoglobin level) (<11.0g/dl)	53.5%	59.2%
	% of Under five children with symptoms ARI	5.1%	3.3%
	Low birth weight	7.4%	6.6%
	Exclusively breastfed	1 3.7%	16.2%
	No breastfeeding	17.5%	13.9%
Complementary feeding (%)	Consumed a minimum food diversity (4 food groups)	36.4%	19.6%
	Minimum meal frequency	37.3%	44.9%
Health and Nutrition status of women	Maternal Mortality/100,000 live births	432	336
	Underweight (<18.5 BMI)	7.4%	10.7%
	Overweight (BMI >25)	41.6%	20.7%
Water, hygiene and sanitation (WASH)	Improved sources of drinking water	86%	47%
	Unimproved sources of drinking water	13.4%	52.9%
	Improved latrine	35%	10%
	Unimproved latrine	21%	4%
	Shared latrine	42%	73%
	No latrine facility	2%	13%

Source: DHS-MIS, 2015-16; Levira 2017

Are slums populations more vulnerable?

Tanzania has no nationally representative data collected within slums. However, existing data sets from across smaller studies suggest that slum dwellers are disadvantaged when considering key health, nutrition, and WASH indicators (see table below). Urban dwellers have low life expectancy, higher under-five mortality, high diarrhea cases, higher usage of unimproved latrines and have a high stunting prevalence. This implies that children in slums continue to be disadvantaged since malnutrition impacts cognitive ability and reduces learning ability, which in turn results in low productivity, thus creating a vicious circle of poverty.

Themes	Indicator	Urban	Rural	Slums
General population	Life expectancy (years)	60	62	44-46
	HIV/AIDS (%)	7.2	4.3	-
	Unimproved latrines (%)	21	73	83
	No latrines (%)	2	13	14
Child health and nutrition	U5 mortality/1000 live birth	71.2	65.9	97
	Low birth weight (%)	9.1	5.8	-
	Stunting (%)	24.7	37.8	56
	Diarrhoea (%)	14.1	11	60
	Pre-lacteal feeds (%)	12	14.5	91

Source: DHS 2015/16, Levira 2017, Findings for slums came from different small studies

LITERATURE REVIEW

Service delivery/care vulnerabilities facing the urban poor related to maternal/adolescent nutrition, health, and WASH: Despite urban areas having a large number of health facilities, the services offered often viewed as unfriendly (health workers were said to be unkind) and culturally unacceptable to pregnant adolescents. The latter hindered timely seeking of services among adolescents when they discover they are pregnant (Hokororo et al. 2015). Likewise, services were unevenly distributed in urban areas, in some cases, as illustrated by lower rates of fully immunized children from poor families (Levira and Todd, 2017).

Decision-making around food behaviours/feeding practices among caregivers: Child feeding practices seem to be nearly similar in all urban/unplanned settlements except exposure to pacifier which was very high in slums (91%). Most studies reported that almost all mothers ever breastfed their children and continue to breastfeed up to more than a year; however, very low rates of exclusive breastfeeding for six months (9%) were reported in unplanned settlements (Vingunguti, Buguruni and Tabata) in Dar es Salaam (Kulwa, 2006). Determinants of exclusive breastfeeding in slums were mother's employment, education, marital status, breast feeding-related pathologies, an assistant during delivery, and level of education of partner (father) (Kulwa et al., 2006; Nkala and Msuya, 2011. Additionally, in most poor urban settings, types of complementary foods introduced at an early stage were a thin cereal porridge and water (Kulwa et al., 2006) which have low nutrient content (Kulwa, 2015).

Economic, cultural and other social factors: Living in urban slums increased the consumption of less nutritious food especially high sugar processed food due to the high price of fresh food such as vegetable, meat and fish. The rural-urban migrants shift from staple such as cassava and maize flour to high sugary foods. Their choices of were driven by means of food access, food prices, and income. Expensive food items such as milk and meat products, fruits and vegetables were rarely bought. High sugar food which have high calories accelerates the possibility of overweight/obesity as reflected in the current prevalence of obesity among women of reproductive age (Unwin, 2010; Levira and Toddy, 2017). Obesity was linked to increased total cholesterol and HDL as well as decreased blood pressure among women and increased blood pressure in men (Unwin, 2010).

Girls in informal settlements were exposed to early and forced marriages which compromises their education, health and nutrition statuses. A study conducted in Tandale slums by Stark (2018) showed that young girls at the age of 15 were forced marry a man chosen by parents or guardians. This process is named locally as "ndoa ya mkeka" (meaning marriage at the mat). This marriage is normally arranged when a girl is suspected of having a boyfriend and when the parents or relatives catch the pair together in a prohibited area. No voluntary consent is given by either party in this process. The study found that young girls were vulnerable since only 5-20% of these marriage succeed while the rest end up in divorce or abandonment of the young women and their children (Stark 2018). Another study conducted by Stark (2013) found that most girls in Tandale were engaged sexual relationships with the expectation of receiving money in return. The author emphasized that the aforementioned behaviour is a key element in the intergenerational perpetuation of female poverty through early pregnancy and early marriage (Stark 2013).

Geography, environment and infrastructure: Slum dwellers relied mostly on purchasing water from water suppliers who were not monitored for quality. Sanitation in an unplanned urban settlement was handled by informal frogmen who are responsible for emptying household pit latrines and disposing of solid waste (Riggio, 2012). In an urban area, the government is responsible for the waste collection and disposal. However, the sewage system is reported to be overloaded and large volumes of garbage were left to litter the street or to accumulate in open dumps where flies, rats, and other disease-carrying insects and rodents proliferated (Nuhu and Mpambije, 2016). Also, during the rainy season, pit latrines were subjected to flooding or were manually emptied which led to contamination of human settlements, soil and water sources.

Children in slums were constantly exposed to contaminated water and unhygienic environments exposing them to health risks. Mushi (2018) reported high contamination (52.6%) of E. Coli in water samples collected from 207 households in Mwanza slums. This high contamination indicates an increased exposure to faecal contaminants in households around slums (Mushi et al. 2018). Due to poor access to safe water and unsafe waste disposals, several water-borne diseases were reported in slums where children under-five were the major victims. A study conducted by Pauschert

DATA INVENTORY

Six data sets were obtained: DHS, Tanzania National Nutrition Survey, Household Budget Survey (HBS), National Panel Survey, Decentralized Sanitation Systems (DEWATS), and District Health Information System (DHIS2).

DHS, TNNS and DHIS2 covered nutrition indicators for children under five and maternal factors including breastfeeding practices, nutrition, maternal and child mortality, maternal and child health etc. WASH indicators included access to safe water, hygiene, and hand washing.

Gaps: There are no quantitative datasets specific to urban poor populations in Tanzania and all national survey data can only be disaggregated between urban and rural.

Recommendation: National Bureau of Statistics should include clusters with slums in the future and have a general picture of health, nutrition and WASH in these settings OR have an independent urban surveillance system.

POLICY/STRATEGIES/GUIDELINES INVENTORY

The ministries selected for policy/strategies/guidelines inventory were those focusing on health, agriculture, education, water and irrigation, land and urban planning, labor, employment, youth and disabled. Most policies, strategies and guidelines recognized the need to address health, nutrition and WASH related factors in urban areas while urban poor and slums were left behind.

The National Health Policy highlighted how urban populations were disadvantaged in terms of health, nutrition and WASH. However, the policy has no specific statement or action that addresses the need of urban poor populations.

Infant and Young Child Feeding National Guideline while stating that IYCF behaviors of the urban population are better than that of the rural population, the policy recognizes that urban settings face more consequences of urbanization and globalization than rural settings. However, the policy did not indicate whether there are differences in consequences between urban poor and non-poor. In addition, the issues of WASH in relation to infant feeding in slums was not well addressed.

The Food and Nutrition National Policy recognizes the multi-causality of nutrition problems and the need for a multisectoral approach. The policy is also recognizing that pregnant and lactating mothers, adolescents and children are among the most vulnerable groups. No specific action was mentioned covering urban poor population who might need a different approach.

Revised Food and Nutrition Policy and National Multi-sectoral Nutrition Action Plan (NMNAP) highlighted the need to cover vulnerable groups but there is little focus on urban poor and no proposed action to address the needs of adolescents. All policies and action plans focusing on nutrition recognized that malnutrition is a multi-causal problem requiring multisectoral implementation approaches and coordination structures from bottom to national level. Despite being recent, urban poor had no specific interventions.

Land Policy and Urban Settlement Policy recognizes urban poor and states clearly that slum dwellers have the right of occupancy since the urban growth outweigh the capacity of the government to provide land and infrastructure.

et al. (2012) in low-income areas from 19 regions showed that the prevalence of diarrheal disease was high (60%) among children under-five. About 85% of the households that reported their children had diarrhoea frequently had no domestic drinking water connection (Pauschert et al. 2012). Also, a study conducted by Said and Joseph (2016) in Tandale slum showed that the common water-borne diseases affecting the families in Tandale were diarrhoea (31%), typhoid (19%), cholera (16%), worms (10%) and Schistosomiasis (6%). The main causes of these water-borne diseases as reported by respondents were unsafe water (70%), uncollected wastes (14%) and poor water supply (12%). In the same area 41% of deaths due to diarrhoea was reported where children under-five years were most vulnerable (30%) while the remained 11% of deaths were for the rest age groups (Said and Joseph 2016).

Stakeholder Mapping

Across the Nation, only nine stakeholders/organizations were identified during the mapping exercise that implemented programs in slums. A total of 25 projects; 23 ongoing and 2 that ended were identified. Below is a brief introduction about the stakeholders and their activities:

1. **Center for Community Initiatives (CCI):** CCI has projects targeting to improve access to water supplies through the extraction of the borehole in slums and the construction of Water Kiosks and household water connections. They also provide affordable loans through a revolving fund known as JENGA to enable communities to access water. CCI has projects on sanitation where they build household and public toilets to be used by communities in slums. CCI works in Dar es Salaam, Morogoro, Dodoma, Arusha, Mwanza, Zanzibar, and Tanga.
2. **Nipe Fagio:** The organization has projects focusing on empowering individuals, civil society, the private sector and government to act in improving the quality of life through environmental conservation in slums. Nipe Fagio provides awareness on environmental improvements through organizing communities to engage in cleanliness. They work in Tandale, Ubungo, and Kigamboni in Dar es Salaam.
3. **BRAC:** BRAC in Tanzania is part of an international organization which is implementing a research project on safeguarding potable water provisioning to urban informal settlements. This project, called "The Last 100 meters", is in collaboration with Lancaster University of UK. These projects are implemented in Dar es Salaam and Mbeya.
4. **Tanzania Water & Sanitation Network (TAWASANET):** TAWASANET projects aim to strengthen coordination, networking and building capacity of Tanzania's Civil Society Organizations and other stakeholders in the water and sanitation sector through education and by advocating for good practices. The organization also deals with improvement in water and sanitation in different poor settlements of Dar es Salaam.
5. **WAT-Human Settlements Trust (WAT-HST):** WAT-HST is providing housing microfinance (HMF) and housing support services (HSS) to promote and facilitate adequate and affordable housing and secure tenure for low and middle-income groups, particularly women. The organization works in Dar es Salaam in Kinondoni and Temeke.
6. **BORDA Tanzania:** An international organization which is implementing projects on sanitation solutions through strengthening local governments, municipalities, and utilities and advising them on sanitation solutions, marketable systems and instruments for integrated sanitation solutions in urban areas. Programs are implemented in Dar es Salaam.
7. **TAMASHA:** TAMASHA's projects are implemented in slums targeting the most vulnerable children from poor families. TAMASHA provides psychosocial life skills, counseling and provides educational material support like textbooks, school uniforms and bags. The organization has also supported vulnerable young mothers by providing them with training in life skills, parenting skills, sexual and reproductive health, entrepreneurship and leadership. The programs are implemented in Tandale, Temeke and Arusha.
8. **Tandale Youth Development Center (TYDC):** TYDC is a grassroots organization which offers reproductive health education as well as counseling services, peer education on health issues, awareness raising and sensitization on hygiene, water and sanitation,

COMMUNITY CASE STUDY IN TANDALE: QUALITATIVE FINDINGS

This study revealed poor health, poor nutrition, inadequate economic opportunities as well as poor infrastructure as among the main factors influencing hardship of life among slum dwellers in Tandale.

Nutrition: Child feeding was a problem where majority of slum dwellers introduced pacifiers, practiced non-exclusive breastfeeding and introduced early complementary feeding. Reasons given for these practices included: inadequate knowledge, maternal engagement in income generating activities, lack of maternity leave, adolescent motherhood, high number of single mothers and lack of stable formal and informal structures of support. Lack of a balanced diet at the household was also a problem where food choices were driven by price, time for preparation and quantity of food and not quality.

Health: The ward has one government health facility on which most of dwellers depend. Though the services provided are to those at other government facilities, there is a long queue and waiting time to see the doctor. Unfriendly services often discourage people to use the facility and results in delayed care-seeking people opting for private facilities when income increases.

WASH: Tap water was reported to be supplied but problems of pump leakage leading to water contamination by soil or human feces was strongly pronounced. Also, challenges related to liability when connecting piped water, high water bills and delays in fixing damaged pipes were mentioned. Most people were using improved latrines (Asian type) but sewage system was still a problem where people opened their chambers during the rainy season which contaminated human settlements and water bodies. In addition, collection of waste disposal was also a challenge where wastes were not collected in a timely manner thereby attracting flies which are disease vectors carrier.

The information acquired through this case study are related to those observed through the literature review. The information which was not captured through this case study were nutritional status of under-five children, adolescents and women living in Tandale slum.

and waste management. The organization also collaborates with local service providers in supporting for HIV testing, counseling and treatment of STIs. TYDC works in Tandale, Dar es Salaam.

9. **SDI:** SDI is a network of community-based organizations of the urban poor in 32 countries and hundreds of cities and towns across Africa, Asia, and Latin America. SDI has a number of projects including Savings Schemes and Credits which prepares communities for medium and large-scale financial management necessary in slum upgrading projects. In partnerships, SDI engages with governments, international organizations, academia, and other institutions wherever possible to create relationships that benefit the urban poor. SDI works on Slum Upgrading which is done through drawing in politicians and policymakers in order to challenge and transform institutional arrangements and policies. These projects are implemented in Dar es Salaam, Dodoma, Morogoro, and Mwanza.

SUMMARY OF RECOMMENDATIONS

Policies: Absence of urban policies and plans or statements addressing urban slums in most policies and guidelines except those related to land and settlement call for immediate action. Formulation of new urban policies and revisions of old national health policy, water policy, national food and nutrition policy or incorporation of new policies/strategies to include health, nutrition and WASH needs of the urban poor population. Also, the National Health Policy, and the Food and Nutrition Policy should state clearly how undernutrition, over-nutrition and micronutrients deficiencies in children and adolescents in urban slums settings will be addressed and improved by developing and implementing cost-effective strategies.

Stakeholders implementing urban slum improvement activities or projects: Government should make efforts to build strong agency involvement by developing a clear joint plan which will include different stakeholders who run programs in slums to address the needs and challenges of the community including issues of nutrition, parenting, adolescent health, WASH, governance and general slum

improvements. Duplication of efforts can be avoided by involving different stakeholders and community members to identify their specific needs. Interventions in slum should respond to the needs and priorities of the communities.

Data availability: There are no qualitative and quantitative datasets specific to urban poor populations in Tanzania and all data from national surveys can only be disaggregated between urban and rural. The National Bureau of Statistics should include clusters with slums in the future and have a general picture of health, nutrition and WASH related factors in these settings or have an independent urban surveillance system.

Barriers/opportunities for engaging with non-health/ nutrition focused organizations: There needs to be an increase in community participation and an increase in partnerships with small scale-non-government organizations, community-based organization and community groups. Communities should be involved in the planning, in the design stages of the programs and in the implementation of these programs as well.

Formal/informal systems and services for healthcare related to child nutrition: Government should reinforce and support the provision of high quality services in public and private facilities. Also, the Government should ensure nutrition services are offered in all health facilities.

Pregnancy health services available in this community: NGOs working in the area of adolescent health, should make efforts to prevent unintended pregnancies and reduce adolescent childbearing through universal access to adolescents' health friendly services that provides quality sexual and reproductive health care. Efforts should be made to increase adolescents' participation/involvement in provision of youth health friendly services in the facilities. The requirement for a spousal appearance in first attendance in the clinic should be reviewed so that it is not an obstacle for unmarried women.

Provision of nutrition-related services for children, adolescents and mothers: NGO partners should support formation of women groups including young mothers' social groups for education and support livelihood enhancement that is purposive for supporting children and adolescents' nutrition. Women Saving Groups should strongly include a nutrition component.

Accessibility of food in the community: Establish innovative financing through enabling community members to form their community development funds that will address health and nutrition needs in a culturally and socially accepted manner. Community development funds receives subsidized revolving funds that is accessed by members who will determine how to use the money depending on their needs.

Management of water, sanitation and hygiene: Water authority should make special arrangements for setting different water tariffs in slum areas to reduce the burden of water cost for poor people. Community groups should be empowered to establish their own waste drainage projects to serve the community. The groups should be empowered to mobilize the community to improveme their latrines and drainage systems.