

CREATING HEALTHY CITIES IN TANZANIA



**USING THE SOCIAL DETERMINANTS OF HEALTH FRAMEWORK
TO UNDERSTAND HOW URBANISATION IMPACTS ON HUMAN
DEVELOPMENT IN TANZANIAN CITIES**

A SUMMARY - NOVEMBER 2016

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The Ifakara Health Institute (IHI) is an independent, non-profit Tanzanian health research organisation that has been running for more than 50 years. The public health impact of its research is at the core of its mission and operations, and it has a strong track record of influencing policy and practice through knowledge and research translation. IHI is a valued partner of the Tanzanian Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDEG), the President's Office – Regional Administration and Local Government (PO-RALG), Local Government Authorities, and various donor and non-governmental organisations, which are also among the main users of its research output. Further information on the work of the Ifakara Health Institute can be found through their website: www.ihl.or.tz

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This is a summary of a larger technical report that can be found at xxxxxxxx

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1 INTRODUCTION

Population health and the distribution of health outcomes are key measures of how well a society is doing. Tanzania has made significant strides in improving the health of its population, which has resulted in an increase in average life expectancy from 51 years in 2002 to 62 years in 2012. [3] However, these improvements have been seen disproportionately in rural areas, where life expectancy has increased by 13 years, compared with a three-year increase in urban areas.

Additionally, urban populations in Tanzania have higher under-5 mortality, maternal mortality and HIV rates than rural areas, [4] and studies indicate that urban populations are at an increased risk for specific health risks including cholera, [5] diabetes [6] and road traffic accidents. [7]

Tanzania is urbanising rapidly, and it is evident that poverty and lack of infrastructure are already impacting negatively on health and wellbeing in cities. To help understand and prioritise the drivers of poor health in cities, DFID commissioned the Institute of Health Equity (IHE) to investigate the applicability of the social determinants of health framework, which has been used in other locations across the world.

A challenge for this work was the fact that city-level data is often unavailable. The report therefore documents evidence for Tanzania as a whole which will be relevant to those working in cities, and city-specific issues where information is available.

The report is a first attempt at mapping the social determinants of health in the context of urbanisation in Africa. It provides an overview of issues and demonstrates the applicability and usefulness of the social determinants of health framework. For decision-makers, further investigation into areas that appear of concern would be needed, along with collection of additional data.

The report identifies gaps in knowledge and evidence which need to be addressed through further work by a range of stakeholders, including national and local government, non-governmental organisations and community organisations. These gaps have been highlighted in boxes throughout the report and are also summarised in section 6. We also signpost opportunities and partnerships across sectors to improve urban health, wellbeing and living conditions.

This summary report is based on a detailed technical report, which can be found here <https://www.instituteofhealthequity.org/projects/creating-healthy-cities-in-tanzania>

Life expectancy at birth in Tanzanian urban areas at 59.7 years is lower than in rural areas where people can expect to live 62.4 years.

2 THE SOCIAL DETERMINANTS OF HEALTH AND SUSTAINABLE HUMAN DEVELOPMENT

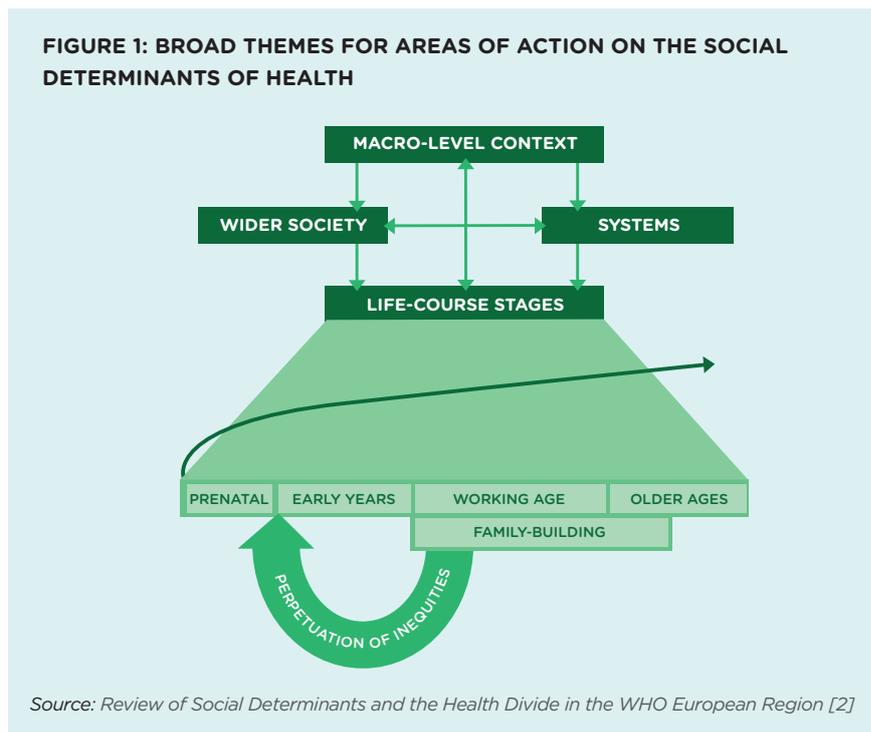
The social determinants of health (SDH) are the conditions in which people are born, grow, live, work and age and are driven by inequities in the distribution of power, money and resources.

For example, early-years experiences, education, poverty, work quality, housing, sanitation and discriminatory processes are all social determinants of health. Health inequalities are caused by differences in exposure to health-damaging (and health-promoting) conditions that accumulate throughout life. These exposures are closely related to social position, which is influenced by education, occupation, income and other characteristics such as gender and ethnicity, as well as where people live. [1]

Figure 1 shows the broad themes for analysis and action developed for the WHO European Review; it illustrates how the wider context in which individuals live impacts on people in different ways throughout their lives, or across the life course.

These factors include:

- the **macro-level context** (global factors such as trade, aid, climate change; national socioeconomic and political context)
- **wider society** (the built, social and natural environment)
- the **systems** and institutions that interact with individuals and society such as the healthcare system, education and judicial system.



Disadvantaged groups are more likely than others to be exposed to a number of health-damaging conditions, such as child poverty; poor attendance at school, low quality education and low attainment; lack of sanitation, poor housing and unsafe environments; lack of good quality, well paid employment; and reduced physical and economic access to health care and health-promoting services. [8] However, health inequalities follow a social gradient, meaning that everyone except those at the very top will be affected by the social determinants of health to some degree. [9]

The social determinants of health approach encompasses the key human development concepts of health, education, standard of living and good quality work [10] and has been used to look at the urban environment in different contexts. [11] The approach has been used by several international organisations including the World Health Organisation (WHO), [11] the United Nations Development Programme (UNDP), [12] and the United Nations Children’s Fund (UNICEF), [13] as well as transnational organisations including the European Union [14] and national governments including the UK’s [8] and Taiwan’s. [15] Examples of action, including within cities, can be found across the world, from Sweden to Slovenia, from Argentina to Australia. [16] The SDH approach has also been used in 16 countries of East and Southern Africa for a range of activities including research, monitoring and capacity-building in the area of SDH. This has been carried out by Equinet, a network of professionals, civil society members, policy-makers, state officials and others within the region. [17] Applying an SDH framework offers a way of building synergies between health-related and others of the UN’s Sustainable Development Goals. [12] A coherent approach across sectors is vital in order to enable co-benefits for health, equity and other areas of sustainable human development.

3 WHY FOCUS ON URBAN AREAS?

TANZANIAN CITIES ARE GROWING, WITH WIDE-RANGING IMPACTS ON ALL ASPECTS OF HUMAN DEVELOPMENT

Tanzania's urban population increased from 6 per cent of the total population in 1967 to 30 per cent in 2012. [2] This growth has mostly been seen in the largest cities, including the former capital Dar es Salaam, plus Arusha and Mwanza. [18] Dar es Salaam has been quoted as being the fastest-growing urban area in Sub-Saharan Africa, on track to become a 'megacity' inhabited by more than 10 million residents by 2025. [3, 4]

Urbanisation in Tanzania is caused by three factors:

- Migration
- Natural increase: more births than deaths
- Reclassification: an administrative procedure that gives urban status to areas that were previously considered rural, due to, for example, an increase in population size

Migration contributes to 17 per cent of urban population growth, while 83 per cent of the growth of cities is due to natural growth or re-classification, [19] although this figure may hide urban-to-urban migration and migration to peri-urban areas not classified as urban.

TANZANIAN CITIES ARE FALLING BEHIND ON A NUMBER OF HUMAN DEVELOPMENT OUTCOMES

The Urban Health Index (UHI) compared health determinant indicators for 57 cities utilising data from 2003 to 2013 – including Dar es Salaam – in low- and middle-income countries. Indicators included, for example: access to water and sanitation, use of solid fuels, women's education, and women's knowledge of HIV and child health service coverage. [20]

In Tanzania life expectancy at birth has been increasing steadily for everyone over time. However, data from the national censuses carried out in 2002 and 2012 demonstrate that while rural areas made substantial increases in life expectancy, with an extra 13 years added, the urban population gains were much more modest at three years. Life expectancy at birth in rural areas now exceeds urban areas, as

Dar es Salaam scored 0.34 on the Urban Health Index, placing it 45th out of the 57 countries measured, and lower down than other cities in East and Southern Africa including Nairobi, Addis Ababa and Kampala.

Because increases in life expectancy in urban areas have not kept pace with increases in rural areas, more focus on urban health and its drivers is required.



FIGURE 2: CHANGES IN LIFE EXPECTANCY IN TANZANIA, BY AREA OF RESIDENCE, BETWEEN 2002 AND 2012



Source: Tanzanian national census 2002 [21] and 2012 [3]

EVIDENCE GAP

Tanzania's urban disadvantage in life expectancy and under-five mortality rate requires a greater understanding of what makes Tanzania different from other countries in the region.

Further research into the urban disadvantage in life expectancy and mortality rates is further justified by the 11th of the UN's Sustainable Development Goals, which is dedicated to making cities inclusive, safe, sustainable and resilient. [143] Tanzania will need to demonstrate how it is working towards this target.

Figure 2 demonstrates.

Comparing mortality rates for different age groups between rural and urban areas of residence demonstrates that the urban disadvantage is most pronounced for children aged under 5, for both sexes but particularly for boys. This urban disadvantage persists throughout age categories, before being reversed for those aged over 65. [22] Generally in Tanzania, while under-5 and infant mortality rates have decreased significantly over time, neonatal and maternal mortality have not seen major improvement. [23]

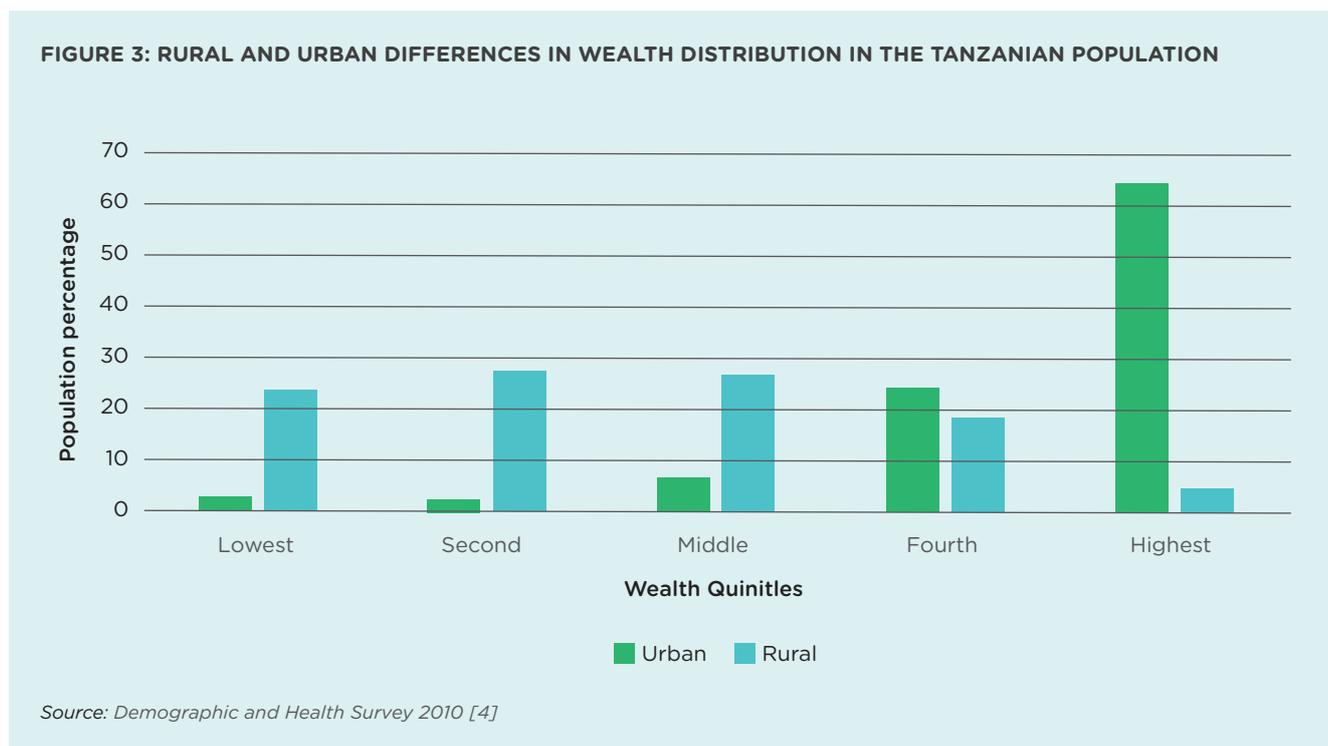
While it is not possible to compare rural and urban life expectancy across countries, we can look at under-five mortality in other countries in Sub-Saharan Africa. The data demonstrates that an urban advantage in under-five mortality is the norm. However, five countries demonstrate a rural advantage: Tanzania (where there is a mortality rate of 94 per 1,000 live births in urban areas and 92 in rural areas - 2010 figures), and Mauritania, São Tomé and Príncipe, Swaziland and Kenya. [24] While there is nothing immediately obvious to connect these countries, further work may illuminate what is causing this trend.

4 IS THERE AN URBAN ADVANTAGE?

The figures described above suggest that we need to rethink the narrative of the ‘wealthier and healthier’ urban Tanzanian and the notion that greater wealth will lead to better population health.

WEALTHIER CITIES?

As Figure 3 demonstrates, Tanzanian’s wealth is clearly concentrated in cities. This is especially true for Dar es



Salaam, where in 2011/12 only 4 per cent of the population were classified as living in poverty when measured according to the National Poverty Line. [25]

However, this wealth is not experienced by everyone living in cities, and differing definitions of both ‘urban’ and ‘poverty’ could be creating a distorted image of wealthy cities.

DEFINING ‘POVERTY’

How poverty is defined has a large impact on future policy and programme development, and inadequate definitions could mean that vulnerable populations’ needs are not being recognised or met. This has an impact across all of Tanzania, as well as having an urban component.

A number of different methods have been used to measure poverty in Tanzania, leading to wide variations in

the levels of poverty reported – from approximately 10 per cent when measuring those living below the food poverty line, to 66 per cent when measuring according to the multidimensional poverty index; see Table 1.

TABLE 1: POVERTY LEVELS IN TANZANIA USING DIFFERENT MEASUREMENTS

Survey/source	Year	Poverty line	Percentage below poverty line
Household Budget Survey [25]	2011/12	Basic needs poverty line - nationally used figure (minimum resources needed for physical wellbeing in terms of goods consumption). This is estimated at TZS 36,482 per adult per month (approximately US\$ 1/capita/day at 2005 Purchasing Power Parity). [26]	28.2
		Food poverty line - spending less than is needed to meet minimum nutritional requirements, often referred to as the extreme poverty line .	9.7
World Bank [27]	2011	International poverty line - US\$ 1.90/capita/day (recently increased from US\$ 1.25/capita/day based on prices collected in 2011). Purchasing Power Parity (PPP) exchange rates are used to convert this into the US dollar and create an internationally consistent figure i.e. US\$ 1 PPP should buy the same basket of goods in Tanzania, India or the UK.	46.6

EVIDENCE GAP

Due to sample sizes of surveys, it is not possible to meaningfully disaggregate multi-dimensional poverty indices down to city level. Greater city-level understanding of multi-dimensional poverty is needed

UNDP Multidimensional Poverty Index [28]	2010	<p>Multidimensional Poverty Index - classifies a person as poor if they are deprived in at least one-third of the weighted indicators. The 10 indicators in this measurement include:</p> <p>Health: nutrition and child mortality</p> <p>Education: years of schooling and school attendance</p> <p>Living standards: type of cooking fuel, sanitation, availability of clean and safe water, access to electricity, type of floor, ownership of assets.</p>
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A multi-dimensional understanding of deprivation that recognises poverty beyond economic measures is becoming more broadly accepted globally. Other indices that attempt to measure poverty more holistically in Tanzania include the UNDP's Human Development Index [29] and UNICEF's Childhood Deprivation Index. [30]

There are several issues that are specific to urban areas that affect how poverty is defined:

- **The cost of living in cities is underestimated** for a number of basic goods and services. Some forms of wealth are not captured in definitions, for example ownership of dwellings, which is far more common in rural areas than in urban areas. [25]
- **Averages obscure poverty in cities**, as indicated in Table 2, which uses two measurements of income inequality.
- **Poverty looks different from one city to another.** A small-scale study found that for one-third of the cities analysed, income poverty

While most wealth in Tanzania is concentrated in cities, wealth inequality is higher in urban than rural areas, and highest in Dar es Salaam, where prices are higher and the ownership rate of dwellings lower than in rural areas.

was higher there than in rural areas. [19] An independent research institution, REPOA, demonstrated that poverty is concentrated in different ways in different cities (2005 data). For example, it found that in the Mbeya region, the gap between poverty in rural and urban areas was small, but within the city of Mbeya there were large differences in poverty levels; the reverse was found in Mwanza. [31] A nuanced understanding of urban poverty is needed that understands variations in poverty levels in different cities.

Table 2: Income Gini coefficient and quantile ratio by area, Tanzania mainland, 2011/12

Income inequality measure	Dar es Salaam	Other Urban areas	Rural Areas	Tanzania Mainland
Gini coefficient	0.35	0.37	0.29	0.34
Quantile ratio	4.1	4.7	3.5	4.1

Source: Household Budget Survey [25]

The Gini coefficient measures inequality in levels of income. A Gini coefficient of zero expresses perfect equality, where everyone has the same income. A Gini coefficient of 1 expresses maximal inequality among values (e.g., for a large number of people, where only one person has all the income or consumption, and all others have none, the Gini coefficient will be very nearly one).

The quantile ratio - Ratio of the average income of the richest 20% of the population to the average income of the poorest 20% of the population.

DEFINING 'URBAN'

How urban areas are defined is critically important for how policy-makers both understand and respond to urban poverty. Where data is available it often pertains to Dar es Salaam only. This could be problematic because Dar es Salaam is unique in many ways and any policy or programme that uses data skewed by the capital may not be appropriate in other cities. The key ways in which Dar es Salaam is unique among Tanzanian cities include it having a greater concentration of wealth, a larger and faster-growing population with a greater proportion of young people and a larger number of people who are unemployed, a unique governance structure, and better access to a number of services, but also a greater need for high-functioning services. Creating city-level data to enable direct comparisons between cities would provide for a better understanding of inter-city-level differences.

Unfortunately, a consistent definition of 'urban' is not possible. [32] The World Bank notes three different definitions commonly used in Tanzania:

- The politico-administrative definition, used by the President's Office, Regional Administration and Local Government (PO-RALG). This is the most commonly used, and states: the urban population consists

EVIDENCE GAP

Urbanisation is happening off the radar of government agencies, particularly for informal settings outside of official definitions of city limits. The urban poor are more likely to reside in these areas. This has important implications for resource distribution to local authorities.

A methodology that ensures the urban poor are accurately measured is needed, potentially through a population density based measure, and the use of city-level data would illuminate urban opportunities and barriers to success.

The discrepancy in measurements of Tanzania's level of urbanisation has a significant implication for how poverty is understood in the urban setting.

of people living in areas legally recognised (gazetted) as urban and all areas recognised by Local Government Authorities as urban [3]

- The human settlements definition, used by the Ministry of Lands and Human Settlements Development (MoLHSD)
- The statistical definition, 'the National Poverty Line' used by the National Bureau of Statistics (NBS), [19] which states urban areas to be: 'formal cities and towns characterised by high population densities, high levels of economic activities and high levels of infrastructure'. [25]

A definition of urban based on calculating population density is not

currently being used routinely in Tanzania. One study found a large variation - of 17 per cent - in the extent of urbanisation in Tanzania between the politico-administrative definition, which considers 17 per cent of the country to be urbanised, and the density-based definition which states 34 per cent. [19] When looking at access to basic services, the density-based definition suggests a much lower access rate than the politico-administrative urban definition. [19]

HEALTHIER CITIES?

Urban residents have greater access to health services and a number of essential health prevention measures than rural residents, as Table 3 demonstrates.

TABLE 3: SUMMARY OF KEY PREVENTATIVE INTERVENTIONS, BY AREA OF RESIDENCE

Intervention Definition	Urban %	Rural %	Advantage	Source [1]	Year
<i>Intervention coverage in pregnancy</i>					
Number of 4+ ANC [2] visits	64	45	Urban	AIS [4]	2015-16
1st ANC visit within 4 months onset of pregnancy	19	14	Urban	DHS [5]	2010
Facility delivery	82	52	Urban	AIS	2015-16
<i>Intervention coverage in early childhood</i>					
Children fully vaccinated	82	72	Urban	AIS	2015-16
Household with at least 1 ITN [3] for every 2 persons	63	54	Urban	Tanzania HIV/AIDS and Malaria Indicator Survey (THMIS)	2012
Household with at least 1 ITN	87	93	Rural	THMIS	2012
Diarrhoea treatment in facility/health provider	67	67	No/small Difference	AIS	2015-16
Children under 5 with fever who sought treatment	76	62	Urban	AIS	2015-16

Key:

- urban areas doing better than rural
- neutral
- rural areas doing better than urban

Notes: 1 Sources are nationally representative surveys. However, these results need to be interpreted with caution, due to methodological issues discussed earlier.

- 2 Ante-natal care
- 3 Insecticide-treated nets
- 4 AIDS Indicators Survey
- 5 Demographic and Health Survey

HEALTH OUTCOMES

Higher health service coverage in cities has not been translated into improved health outcomes in a number of areas.

Table 4 shows a number of health outcomes that are key issues across all of Tanzania, and compares rural and urban prevalence.

TABLE 4: SUMMARY OF KEY HEALTH OUTCOMES, BY AREA OF RESIDENCE

Outcome	Definition	Urban (%) [1]	Rural (%) [1]	Advantage	Source [2]	Year
<i>Women's health and risk factors</i>						
Nutritional status in women of reproductive age	Body Mass Index (BMI)					
Thin	< 18.5	8	13	Urban	AIS [3]	2011-12
Normal	18.5-24.9	56	72	Rural	AIS	2011-12
Overweight or obese	> 25	36	15	Rural	AIS	2011-12
Anaemia in women of reproductive age	Haemoglobin (g/dl)					
Mild	10.0-11.9	32	33	No/small difference	AIS	2015-16
Moderate	7.0-9.9	11	11		AIS	2015-16
Severe	<7	1	1		AIS	2015-16
Any anaemia	<12	45	45		AIS	2015-16
Vitamin A consumption	% of children age 6-59 months who received vitamin A supplements in the 6 months preceding the survey	62	62	No/small difference	DHS	2010
Begin childbearing in teenage years		19	32	Urban	AIS	2015-16
Maternal mortality ratio	Annual no. of female deaths per 100,000 live births (not %)	432	336	Rural	National census	2012
<i>Children's health and risk factors</i>						
Birth weight						

Low birth weight	< 2.5kg	9.1	5.8	Rural	AIS	2011-12
Birth weight very small	3.7	1.3			AIS	2011-12
Birth weight smaller than average	7.7	6.2			AIS	2011-12
Nutritional status of children < 5 years						
Stunting	< -2 SD (height-for-age)	25	38	Urban	AIS	2015-16
Wasting	< -2 SD (weight-for-height)	4	5	No/small difference	AIS	2015-16
Overweight	< +2 SD (weight-for-height)	4	4	No/small difference	AIS	2015-16
Infectious diseases						
Prevalence of diarrhoea in children	% of children under 5 with diarrhoea in the past 2 weeks	18	15	Rural	AIS	2011-12

Key:

- urban areas doing better than rural
- neutral
- rural areas doing better than urban

Notes:

- 1 Figures represent percentage except where stated for maternal mortality, under-5 mortality and life expectancy.
- 2 Sources are nationally representative surveys. However, these results need to be interpreted with caution, due to methodological issues discussed earlier.
- 3 At the time of writing (August 2016), AIDS Indicators Survey (AIS) datasets were still being released and not all data was available; AIS 2011-12 has been used when more up-to-date data was not available.
- 4 SD = Standard deviation

Further work to understand why increased health service coverage is not matched by improved outcomes is required.

Malaria prevalence in children	% of children age 6-59 months tested using a rapid diagnostic test (RDT) who are positive for malaria	3.3	10	Urban
Under 5-mortality per 1,000 live births		71.2	65.9	Rural
General health trends				
Life expectancy at birth (years)		60	62	Rural
Men who smoke cigarettes		19.2	19	No/small difference
HIV prevalence		7.2	4.3	Rural

OTHER HEALTH OUTCOMES IN URBAN AREAS

Further to Table 4 above which provides data from surveys, below we report on other health outcomes found by a variety of studies to

be prevalent across Tanzania, but to be potentially of greater significance in urban areas than in the countryside.

INFECTIOUS DISEASES

- **HIV/AIDS** is more common in urban areas (7 per cent prevalence) than rural areas (4 per cent prevalence). [33]
- **Cholera** is particularly prevalent in urban slum areas. The most common route of cholera contraction is the ingestion of water or food contaminated with faecal matter. This means that risk factors include lack of safe drinking water, poor sanitation, high population density, crowding, all of which are found in urban slum areas; lack of previous exposure is a further risk factor. [34] In 2015 and 2016 Tanzania faced a major outbreak of 24,108 cases, including 378 deaths. [35] As with previous outbreaks, the majority of cases were in urban areas, particularly Dar es Salaam. For example, during a major outbreak in 2006, Dar es Salaam accounted for 63 per cent of all cases and 40

AIS	2011-12	per cent of all deaths in the country. [36] A study of the 2006 outbreak found informal occupancy, high population density, and low income level having significant effect on cholera incidence. However, no association was found between cholera incidence and access to improved water sources or improved sanitation at the ward level. [5]
National Census	2012	
National Census	2012	
DHS	2010	
THMIS	2012	

Data on the prevalence of non-communicable diseases (NCDs) is severely lacking in Tanzania. There is, however, a high prevalence

of diabetes and cardiovascular disease (CVD) across all of Tanzania [37, 38] and an even higher lifestyle-related risk profile in urban areas. [38] There is a need for more data on the relationship between city living and lifestyle for both men and women to inform effective prevention policies and programmes.

MENTAL HEALTH DISORDERS

The Global Burden of Disease study ranks depressive disorders as a leading cause of ill health in Tanzania. [39] It is, however, important to note that the health data used to compose these figures contain many gaps, particularly for low-income countries, including Tanzania. As a result, complex estimation techniques are used and the resultant figures should be interpreted with caution. While figures on mental health disorders are not known in terms of area residence, international evidence suggests that urbanisation and urban poverty increase the risk of mental illness. [40]

TRANSPORT-RELATED HEALTH OUTCOMES

The Tanzania Revenue Authority has estimated that 70 per cent of registered vehicles are located within cities, with the number of vehicles increasing by 10 per cent a year, [16] emphasising the growing 'car culture' in cities. This brings a number of negative effects, including traffic congestion, longer commuting times, parking difficulties and loss of public space. In economic terms, traffic congestion causes an estimated loss of TZS 4bn every day (approximately US\$ 1.8m). [16] There are also many public health problems associated with an increase in cars, particularly:

EVIDENCE GAP

Health issues that are likely to have a greater impact in urban than rural areas, such as non-communicable diseases and road traffic accidents, are not regularly measured in Tanzania. There is an urgent need to measure urban health issues accurately and consistently.

- **Road traffic accidents (RTAs):** Evidence suggests that deaths from RTAs have been increasing over the past 10 years in a number of cities. [122-124] Pedestrians are the most likely to be killed, estimated at 31 per cent of road traffic deaths, followed by passengers (28 per cent) and motorcycle drivers (22 per cent). RTAs are one of the leading causes of death for young people, particularly males. [109] Information of how this is broken down by city has not been published. Recently there have been attempts to improve road safety by targeting groups perceived to be a danger on the road, such as commercial motorcycle taxis, or boda bodas. [41] A very small study in Morogoro suggests that boda boda drivers are perceived to be dangerous and that accidents are the result of driving without formal training, substandard motorcycles and motorcycle defects such as brake failure, as well as non-observance of traffic laws and drinking alcohol before driving. [42] Further work on the causes

5 USING THE SOCIAL DETERMINANTS OF HEALTH FRAMEWORK

of RTAs in cities and preventative measures would be helpful for policy-makers.

- **Air pollution:** It is estimated that between 2000 and 2012, 86,000 tons of carbon dioxide were produced by Tanzania's transportation sector, with urban centres consuming more petroleum for transportation than rural areas, and thus polluting more. [43] Air pollution, has negative health impacts, increasing the likelihood of respiratory conditions in particular. A number of small-scale studies have aimed to monitor urban air quality, [128] but as far as we are aware, these have not been conducted consistently over time. Investment on consistent measurements of air pollution are urgently needed in Tanzanian cities, as well as steps to address the issue such as car and factory emission policies and the management of congestion.

The relationship between urbanisation and health is complex. However, by applying the social determinants of health (SDH) framework we can begin to understand this relationship, and importantly, highlight key areas in which to intervene to ensure progress



A LIFE COURSE

is achieved towards SDG 11 ('make cities and human settlements inclusive, safe, resilient and sustainable') as well as towards others of the SDGs, including SDG 3 ('ensure healthy lives and promote wellbeing for all at all ages').

In considering application of the SDH framework below, first we look at the life course, highlighting key areas where work is needed both generally across Tanzania and specifically in its cities. We then examine how aspects of the wider society, systems and the macro-level context affect cities in Tanzania. Finally, we return to the SDH framework to provide an overview of key action areas in the context of urban Tanzania.

Taking a life course approach is crucial for identifying areas for action throughout

the stages of life in order to improve overall population health and reduce health inequities. In Tanzania young people account for a large proportion of the population: 47 per cent were aged under 15 in 2012. [3] Generally, urban areas in Tanzania have a higher percentage of young people than rural areas, including those at working age (between 15 and 64 years), and a lower percentage of individuals under the age of 14 and over the age of 65. [3] Evidence of higher rates of under-5 mortality in urban areas, as discussed earlier, suggests that the early years are a particularly vulnerable period and therefore a key area in which to focus intervention.

EARLY YEARS AND CHILDHOOD DEVELOPMENT

Deprivation in early life is associated with deficits in the physical, social, emotional, cognitive and language domains of child development and contributes to poor health and social outcomes in later life. [2] The WHO European Review recommended that ensuring a good start in life is key to tackling health inequality, and highlighted evidence of the effectiveness of high-quality early years services on later development. The following characteristics of mothers and babies were highlighted as providing a good start in life:

a mother is in a position to make reproductive choices, is healthy during pregnancy, gives birth to a baby of healthy weight, the baby experiences warm and responsive relationships in infancy, the baby has access to high-quality child care and early education and lives in a stimulating environment that allows safe access to outdoor play. [44]

URBAN ISSUES IN MOTHERS' HEALTH DURING PREGNANCY AND SHORTLY AFTER GIVING BIRTH

The Tanzanian national census conducted in 2012 showed that maternal mortality rates in urban areas were significantly higher than those reported in rural areas (432 versus 336 deaths per 100,000 live

EVIDENCE GAP

More evidence is needed to understand under-five mortality, including mapping of the different causes of mortality by area of residence and an investigation into maternal health, health service quality and usage.

EVIDENCE GAP

There is a need to understand how the urban environment affects childhood development, particularly social and emotional development - and for interventions that support socio-emotional development in the early years.

EVIDENCE GAP

Further analysis is required of why maternal mortality is significantly higher in urban areas despite better access to health services there than in rural areas.

“The figures for Tanzania for sexual, physical and emotional violence are higher than global averages. Unacceptably high. This is a key public health concern”

births in urban and rural areas respectively). Local estimates of maternal mortality in Ifakara show a similar picture of higher urban maternal mortality despite higher coverage of ante-natal care and facility delivery. [45] Most maternal deaths occur during pregnancy and the few days post-delivery. Major causes of maternal deaths are direct obstetric conditions, where haemorrhage and hypertensive disorders account for more than a third of maternal deaths.

Considering that access to health facilities is higher in urban areas, the reasons for the urban disadvantage are unclear but quality of services as well as wider social determinants of health could be contributing. Although a number of wider determinants, such as child-bearing in teenage years, demonstrate an urban advantage, we heard a number of other possible factors which could be further investigated. Commentators cited preferences among some groups for non-formal health services, abrupt and uncaring health service staff, congested facilities, and financial barriers to getting to and engaging with health centres, as potential reasons for higher mortality rates.

Ensuring that women have the ability to plan pregnancies, through utilisation of contraception is critical to empower women and optimise child outcomes - pregnancies are more likely to be explicitly wanted. Evidence from the latest family planning conference (FP2020) has shows a steep improvement in family planning (CPR) in rural areas and almost totally stagnant increase in CPR in urban areas. This has meant that rural and urban CPR is now almost the same.

URBAN ISSUES IN CHILDREN'S HEALTH

As shown in Tables 3 and 4, the relationship between urban environments and the health of young children is complex. There is a clear rural advantage in maternal mortality, low birth weight, and under-5 mortality [4]. Yet for children under age five urban areas have an advantage in several indicators including less risk of stunting and malaria.

TANZANIA-WIDE ISSUES IN CHILDHOOD DEVELOPMENT

Childhood development includes physical development, but social/emotional and language/cognitive development are also key to improving health outcomes in the early years and influence children's ability to learn, their school attainment, subsequent work and employment, and their social participation and health outcomes throughout later life. [44] When looking at physical development, indicators suggest an urban advantage compared with rural areas. According to the UNICEF Child Deprivation Index published in 2009, almost half of all children in rural Tanzania (48 per cent) suffered three or more severe deprivations of basic need compared with 10 per cent of children in urban areas. [30] However, a number of stakeholders highlighted the need for interventions focusing on social and emotional development, along with interventions to improve physical development (for example, tackling malnutrition) and an understanding of how urbanisation is affecting this in Tanzania, which is currently lacking. Case study 1 below highlights how health workers can intervene to improve social and emotional development by promoting secure attachment

between parents and children.

CHILD PROTECTION

Childhood sexual, physical and emotional violence have been described as ‘adverse childhood experiences’, or ACEs, and there is growing evidence (mostly from high-income countries such as the USA and the UK) of the long-term effects that ACEs have on later health and wellbeing outcomes. Those exposed to ACEs are more likely to die at a younger age and experience a range of illnesses – including cancer, heart disease, lung disease, liver disease, stroke, hypertension, diabetes, asthma and arthritis. [47] They also carry an increased risk of mental ill health and the WHO estimates that 30 per cent of adult mental illness in 21 countries could be attributed to ACEs. [48]

Child physical, sexual and emotional abuse is not often reported or documented in Tanzania. One national review found that abuse of all three types was very common (although information on how this impacts rural versus urban children is not available). [49] There is a government initiative to address child protection issues which has resulted in the development and implementation of a national plan of action on child protection. Action should be taken to ensure that progress follows.

Below we provide some figures on

prevalence rates of all three types of abuse:

- **Sexual violence:** Almost 30 per cent of females aged 13 to 24 reported experiencing at least one incident of sexual violence before turning age 18, in a 2009 survey. Among males the proportion was also significantly high, at 13 per cent. [49]
- **Physical violence:** For both genders the incidence of physical violence is high, with almost three-quarters reporting experiencing physical violence by a relative, authority figure (such as a teacher), or an intimate partner before the age of 18. [49] There is some evidence from small-scale studies that corporal punishment is common. [53]
- **Emotional violence:** Approximately one-quarter of females and nearly three in 10 males aged 13 to 24 years reported experiences of emotional abuse by an adult prior to turning 18. Between 4 and 5 per cent of females and males aged 13 to 24 years reported being threatened with abandonment by an adult prior to turning 18 years of age. [49]

URBAN ISSUES IN CHILD PROTECTION – STREET CHILDREN

Evidence from other African countries suggests that child abuse can be more common in urban areas where there is reduced family support and social capital than in rural areas. [54] However, evidence on Tanzanian cities is lacking.

That said, anecdotal evidence suggests that in urban areas, particularly in big cities, there is a rising number of street children,

or *watoto wa mitaani*, who face a variety of risks to their health and wellbeing. There is a serious lack of data on this vulnerable population, so little is known about them but some information is available: for example, in the charity Railway Children’s most recent headcount in 2014, a total of 1,548 children and youth were recorded as living or working on the streets of Mwanza during the day. [55] They were mostly aged between 15 and 18, and two-thirds were boys. These children are at an increased risk of developing a number of communicable illnesses including HIV and mental health disorders. In one study malaria, diarrhoea and respiratory illnesses were found in all children in the study. [56] Street children are also more vulnerable to physical and sexual abuse (increasing the risk of sexually-transmitted infections including HIV, and of unwanted pregnancies). [57] The 2014 headcount in Mwanza found an increase in the number of girls on the street at night (an 82 per cent increase on the 2012 headcount, although methodological changes could explain some of this increase), many of whom are engaged in sex work. Sex work is associated with a number of health risks as well as an increased risk of violence.

EDUCATION

Ensuring equitable access to high quality education has been highlighted in a number of international and national reviews as a key way to tackle health inequalities. [1, 8, 44] In Tanzania there is a clear relationship between education and health; in particular, mothers’ education and literacy levels are associated with children’s health outcomes (higher levels having a positive influence). [58] Lower educational level is also associated with a higher risk of household poverty and deprivation.

[59] Education is therefore key to tackling health inequality in Tanzania.

TANZANIA-WIDE ISSUES IN EARLY CHILDHOOD EDUCATION

The Tanzanian government recently announced that one

year of pre-primary school will become compulsory and pre-primary will be expanded for 3-, 4-, and 5-year-old children. [60] Considering the importance of the early years for children's development and later outcomes, this policy has the potential to have wide-ranging positive impacts on wider social determinants of health. However, we heard reports that schools were creaking under the pressure of higher numbers of eligible students across all age groups, and of poorly paid, poorly motivated and often

poorly trained staff. Pre-primary education was also cited to be of a lower priority to schools than teaching older children. A mapping of the numbers attending pre-primary school and the quality of that provision is warranted.

To roll out improved and better coordinated early childhood education services, the government would need to mobilise financial, human and technical resources, including an expanded teaching workforce, which, at present, is largely informal, untrained and costly. A number of low-cost innovations to support teachers and education are already present in Tanzania and could be expanded. For example, case study 2 below demonstrates a low-cost support for teachers to guide their planning.

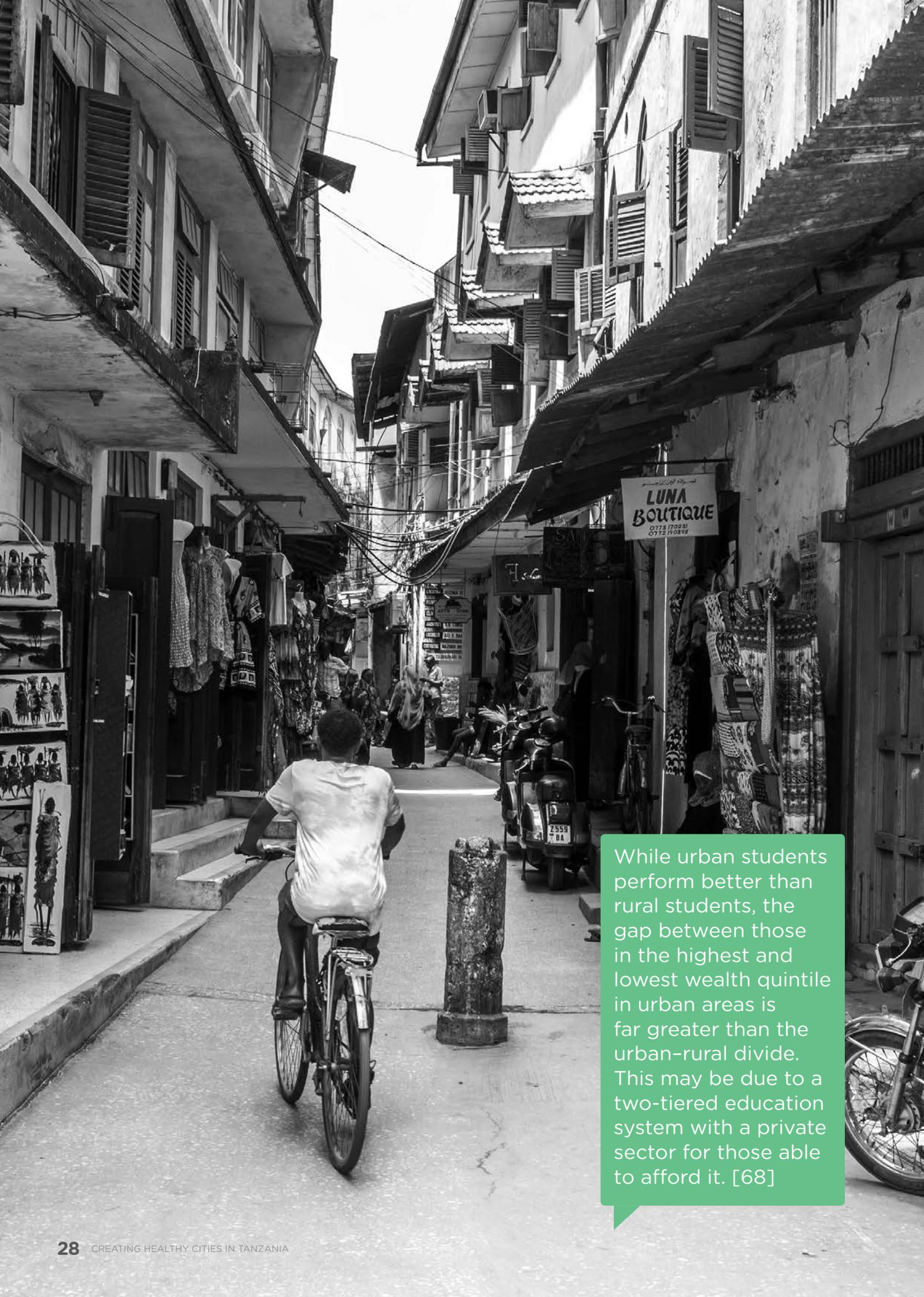
However, in Tanzania, as in many other countries, pre-primary education is largely regarded as a preparation for primary education and the curriculum focuses on the development of literacy and numeracy skills while social skills and emotional development tend to be neglected. [62] It is therefore important for interventions to include broader aspects of child development. DFID is piloting a school readiness programme across 7 regions in Tanzania and it will be important to learn from and develop this sort of programme.

UNIVERSAL FREE EDUCATION

Tanzania's decision in 2002, and then again in 2016 to offer free primary education led to a surge in school enrolment: in 2000 only 59 per cent of primary school-aged students were enrolled and by 2010 this had jumped to 96 per cent on the mainland and nearly 80 per cent on Zanzibar. [63] While the larger numbers attending schools initially resulted in increased class sizes and a reduction in examination pass rates: with primary school leaving examinations pass rates falling dramatically from 57 per cent in 2011 to 30 per cent in 2012, [64] pass rates have been rising since, and now only 2 areas have pass rates below 40% [65].

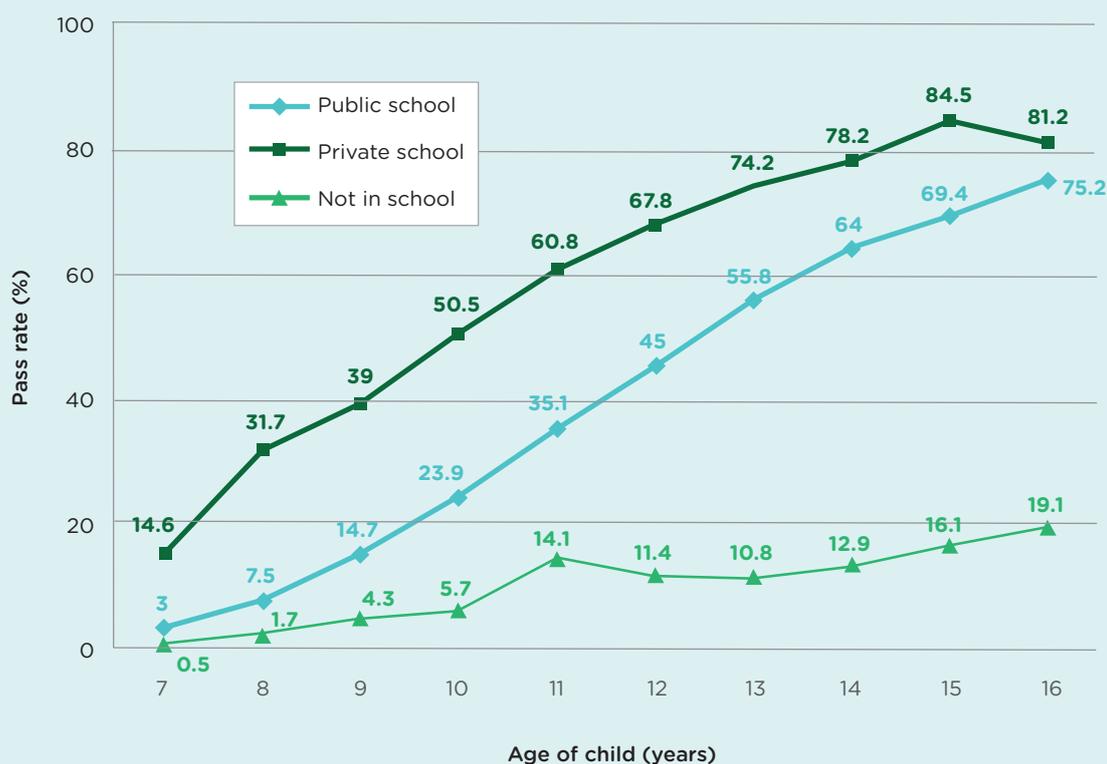
It is very encouraging that a large number of children are now able to access free education who were not able to in the past. To replace revenue lost by schools due to the abolition of school fees and contributions, the government introduced the capitation grant, which aimed to provide schools with finances, dependent on the number of pupils attending. However, not all of this money reached schools, and irregular disbursement of the grant made it very difficult for schools to plan their spending. [66] In response, since January 2016, the Government has started to disburse funds directly to schools on a monthly basis and determined by the number of pupils enrolled. Payments are therefore becoming more timely and regular.

In 2015 Tanzania cancelled education fees at secondary level, which will likely lead to more enrolment at this level too, increasing the number of years in schooling for Tanzanian children. [67] However, despite the



While urban students perform better than rural students, the gap between those in the highest and lowest wealth quintile in urban areas is far greater than the urban-rural divide. This may be due to a two-tiered education system with a private sector for those able to afford it. [68]

FIGURE 4: Percentage of children aged 7-16 years who passed the Kiswahili and numeracy tests expected at standard 2 level, by school status, 2012



Source: Uwezo 2012

abolition of formal fees, families may still be required to pay significant amounts for their children's education, for instance on school uniforms, transport, examination papers, school lunch and extra tuition. [67]

INEQUALITY IN EDUCATION

There remains high inequality in attainment according to level of wealth in Tanzania.

Uwezo monitors educational standards. Through a large survey of children, they assess children's competencies in English and Kiswahili literacy and numeracy using tools developed through a rigorous process. These studies are conducted across East Africa. The literacy and numeracy tools are based on the national Standard 2 curricula. Uwezo pegged the literacy and numeracy levels to Standard 2 to align with the majority of countries across the world that specify that all children should have developed basic literacy and numeracy skills by the end of second year in primary schools. The last report was in 2012 for Tanzania and illustrated that only 4 in 10 standard 3 pupils could read a basic story in Kiswahili and only 3 in 10 can add, subtract and multiply. This level of literacy and numeracy should be achieved at standard 2. Figure 4 shows how private school students are more likely than public school students to be meeting the Standard 2 proficiency .at all ages, but the gap is largest in the younger years, after which public school students begin to catch up.[69]

URBAN ISSUES IN EDUCATION

Evidence from Service Delivery Indicator (SDI) data demonstrates a number of issues that are more pronounced in urban than in rural areas:

- **Larger class sizes:** Class sizes in Tanzania are generally big (on average 74 students per classroom) and the average urban primary school class has more than 20 more students (92) than its rural counterpart. [71]
- **Teacher absence:** Teachers in urban areas are far more likely to be absent than their rural colleagues (20 per cent of rural teachers are not in school at any given time compared with 36 per cent in urban areas).

- **Less teaching time:** On average the actual teaching time for students is less in urban than in rural areas (1 hour 24 minutes per day in urban areas compared with 2 hours 11 minutes in rural areas). [70]

EMPLOYMENT AND UNEMPLOYMENT

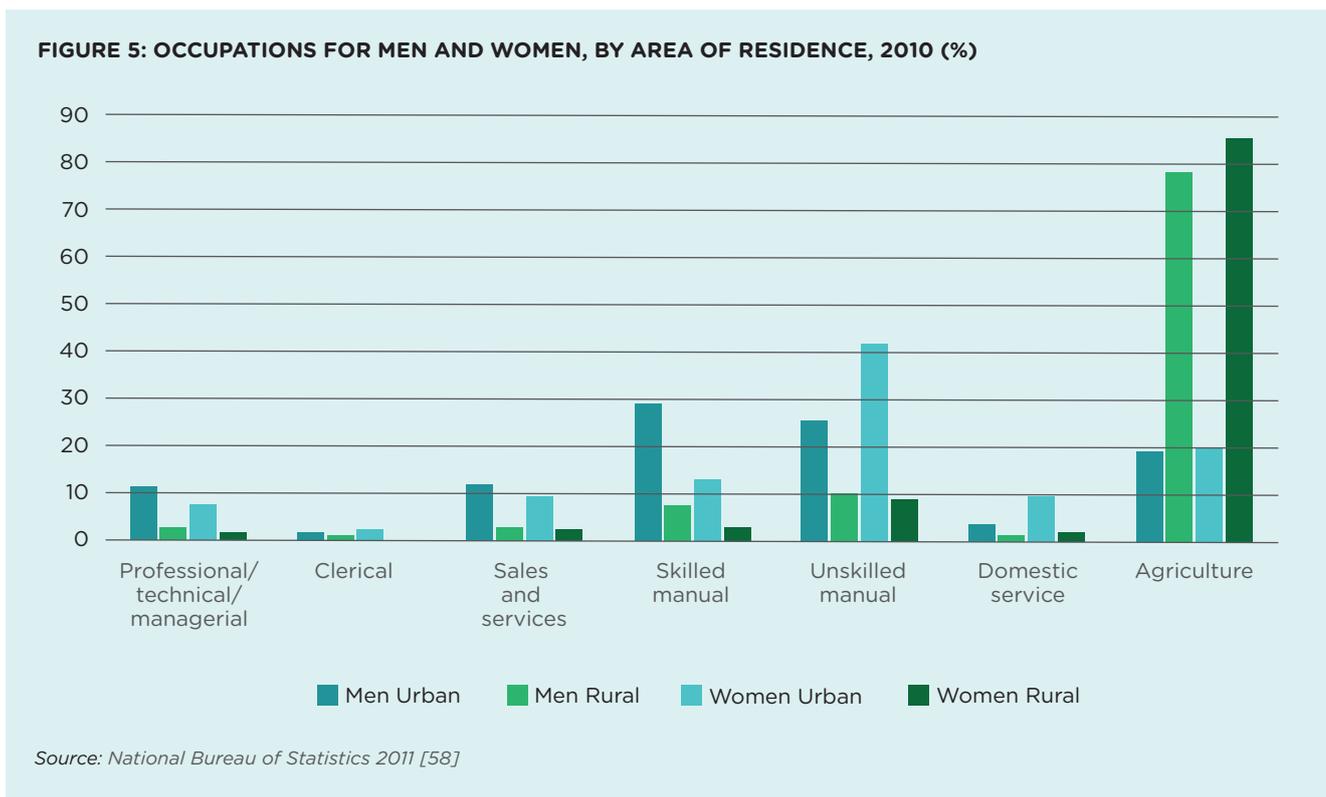
Tackling adverse physical and psychosocial working conditions is increasingly recognised as key to human development. [10] While there is no universally accepted definition of what constitutes ‘good work’, many of the available definitions share common features. For example, the International Labour Organization, the Trades Union Congress (UK), and the international Employment Conditions Knowledge Network all highlight the following conditions to be associated with good work:

- sustains the worker financially
- provides security
- enriches the worker’s life through a good work-life balance
- promotes good physical and mental health. [71] [72] [73]

Tanzania in fact has one of the highest proportions of populations employed in Africa, estimated at 85.4 per cent. [74] However, employment in Tanzania is complex.

TANZANIA-WIDE ISSUES IN EMPLOYMENT

IN-WORK POVERTY AND INSECURITY



There are a number of people working but earning below the national poverty line. [75] [74] [4] Agricultural work is often unpaid and is inconsistent throughout the year: 82 per cent is seasonal compared with just 26 per cent of non-agricultural work. The National Panel Survey found that those heading households that were never poor were significantly less likely to work in agriculture, livestock or fishery and considerably more likely to work in non-agricultural jobs. [59] While the majority of people in Tanzania are employed in the agriculture sector (69 per cent of women and 62 per cent of men), in urban areas the figures are lower. Low agricultural pay will affect just under 20 per cent of men and women who are engaged with this sector in urban areas.

YOUTH UNEMPLOYMENT

A high percentage of young people are without formal employment and a large number live below the poverty line. [75] A survey by the non-governmental organisation Restless Development found that out of more than 1,000 young people across Tanzania, only 14 per cent reported working in a formal, wage-earning job. [76]

GENDER INEQUALITY

Men are more likely to be in formal employment than women. [58] Men, particularly urban men, are also more likely to work in professional roles, sales and services, and skilled manual professions, as Figure 5 demonstrates. Men also earn significantly more than women regardless of type of employment or amount of education. The labour survey 2014 states that the average salary for a man is TZS 278,748, while for women it is TZS 165,920. [75]

URBAN ISSUES IN EMPLOYMENT - NON-SKILLED MANUAL JOBS

As Figure 5 illustrates, the most common jobs in cities are unskilled manual jobs, followed by skilled manual jobs. Data from more developed countries has illustrated that there is a social gradient in health whereby those in unskilled manual work have the worst health outcomes, followed by those in skilled manual jobs. Some of this will be related to income levels which are typically lower for these jobs, which require none or little education or training; however, in addition these jobs are typically physical in nature, putting more strain on the body, and are more hazardous. Efforts to regulate for safety, job security, and wage levels will go some way to protecting these workers from negative health and social

consequences.[77]

INFORMAL SECTOR

The 'informal economy' has received multiple definitions over time but generally is taken to include both self-employment and waged employment in unregistered businesses. Informal employment is associated with lower wages, is more precarious and provides much lesser access to social protection and healthcare than do formal jobs. [74] Urbanisation, along with globalisation and economic liberalisation, has been associated with a rise in informal work in Tanzania. [78] Between 2006 and 2014 the proportion of households with at least one member engaged in informal business increased from an average of 40 to 43 per cent. This rise was mainly found in Dar es Salaam (where it increased from 57 to 65 per cent) and in other urban areas (a rise from 54 to 57 per cent). [75] As urbanisation continues it is important that those working in the informal sector are protected and efforts should be

made both to support those in the informal sector and to increase access to the formal sector.

National efforts are being introduced to formalise the informal sector (via the MKURABITA/Property and Business Formalisation Programme) and to create jobs, [79] for example through the National Employment Creation Program (2007). The size of the labour force has risen from 15.5 million people in 2001 to 24.1 million people in 2012, with between 650,000 and 750,000 new labour force entrants annually. The total labour force is growing at around 2.3% per annum. It is estimated that the agricultural labour force is growing at a maximum of 2.1% per annum due to rural-urban migration and the growth of non-agricultural informal rural activities. Since 2001, formal and informal employment in the private sector, along with government and parastatal employment, have all increased. [80]

However, the reality remains that small businesses are restricted from transitioning into the formal market due to excessive and bureaucratic regulations. There is only one location where businesses can be legally registered: at the Business Registrations and Licensing Agency (BRELA) in Dar es Salaam (although efforts are being made to allow businesses to register online). [81] It remains a costly and time-consuming procedure for entrepreneurs to gain formal registration. Additionally, taxation imposed in the formal sector remains high, meaning these efforts have been largely unsuccessful.

Case study 3 below highlights how Brazil has successfully increased formalisation by supporting those in the informal sector and reducing administrative barriers, and could provide a model for Tanzania.



EVIDENCE GAP

More research on older people is needed, including the effect of urbanisation for this vulnerable group.



B WIDER SOCIETY

OLDER AGES

Tanzania is expected to see a large increase in the absolute number of older people (those aged 60 and above), from 1.95 million in 2005 to 7.16 million in 2050: an increase of 270 per cent over this time period. [83]

TANZANIA-WIDE ISSUES IN OLDER AGE

While national policies such as the National Ageing Policy state that persons aged 60 years and above are entitled to free health care services, a number of barriers prevent this from happening in every district. [84] These barriers

include poor administrative structures and procedures, bureaucratic hindrances, unavailability of proper medical services and medication, and a reluctance of health care staff and local government officials to adequately deliver older people their entitled services. There is also low awareness among the population of older people's rights and entitlements.

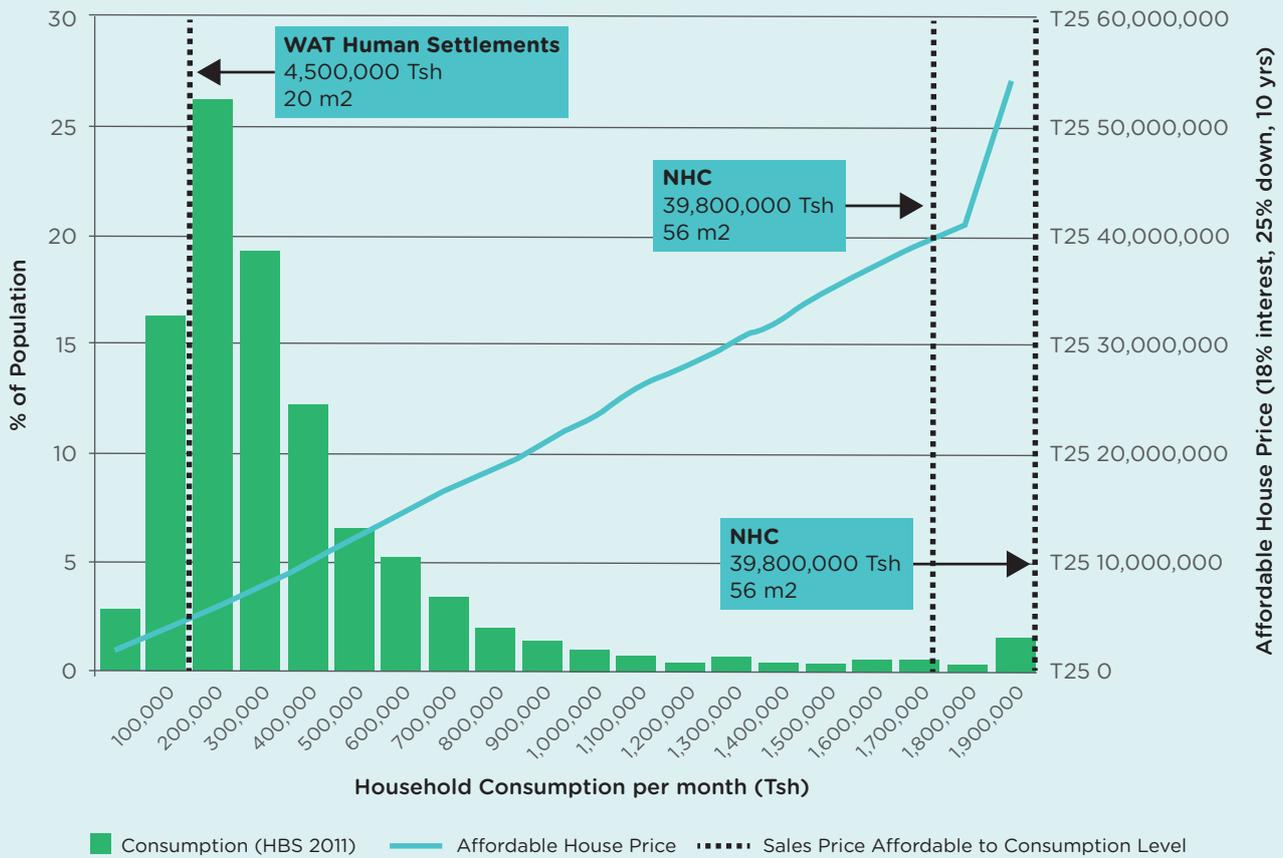
URBAN ISSUES IN OLDER AGE

Evidence from various Sub-Saharan African locations suggests that many older people, particularly older women, are negatively affected by urbanisation as they are left behind in rural areas taking care of children while young people migrate to cities for work. This group is left with little family support and little or no access to formal support and social protection. [85] This issue was discussed by a number of stakeholders in Tanzania during the course of our study, but documented evidence of these problems was not found. Tanzanian cities should, in their planning, consider how to support older people to ensure that they have access to social networks and sufficient resources.

This section focuses on how wider society – the urban built, natural and social environment – can impact on the risk of a number of health outcomes.

The urban built environment, which in Tanzania typically includes high proportions of poorer residents living in high-density informal settlements, increases the risk of developing a number of infectious diseases such as cholera, [5] diarrhoea and HIV. [58] The urban lifestyle and social environment are associated with a number of damaging health outcomes including high body mass index (BMI), not eating a healthy diet, smoking, and lack of physical activity, which have led to a high prevalence of non-communicable diseases such as diabetes and hypertension. [38] [6] The natural environment also impacts on the urban population's mental health and wellbeing. [48] Furthermore, there is an increased risk of crime and violence in urban areas, which can lead

FIGURE 6: AFFORDABILITY OF HOUSES BASED ON HOUSEHOLD CONSUMPTION



Source: Bald 2016 [89]

EVIDENCE GAP

There is a need for better neighbourhood data on service provision and housing quality.

to injury, increase stress and damage social relations. [86]

BUILT ENVIRONMENT AND HOUSING

Approximately 70 per cent of urban residents live in informal settlements. However, the degree of ‘informality’ is debatable, and further segregation of this group to identify those living specifically in poor informal housing would be helpful. For example, slums can be defined by physical, environmental and socio-political characteristics along five key deprivations: water, sanitation, overcrowding, poor housing quality, and insecurity of tenure. [87] A global systematic review in 2013 of studies on the relationship between housing improvements and improved health outcomes found that improved health is most likely when the housing improvements are targeted at those with poor health and inadequate housing conditions, as opposed to general area-based improvements made regardless of need. [88]

A number of actions have been taken over the years to improve the conditions of people living in informal environments in Tanzania. These include building formal settlements, increasing land rights and improving housing and service quality in informal areas. All of these interventions have the potential to improve the built environment and reduce health inequality, but there is a need to ensure that equality is central to each of these interventions, as discussed below.

ACTIONS TO IMPROVE INFORMAL HOUSING

BUILDING FORMAL SETTLEMENTS

The National Housing Corporation (NHC) was formed in 1990 to build and provide affordable accommodation throughout Tanzania. However, research from the World Bank demonstrates that the NHC only provides housing for the upper 2 per cent income market (see Figure 6). [89] This suggests that there is a need to provide housing that is targeted at lower income groups. A number of countries have developed schemes such as social housing, rent control and rent assistance, targeted at vulnerable populations.

INCREASING ACCESS TO LAND RIGHTS

Currently the land titling process is expensive and involves a lot of bureaucracy. One study found that when these obstacles are removed, there is a large uptake from people claiming land rights. [90] However, the underlying assumptions on the benefits of land rights are not always evident in Tanzania. Residents with land rights do not always have greater security of tenure, do not always invest more, and are not always able to use their rights and access financial credit. Informal settlements need to be better integrated into public land management, and the rights of those living in both formal and informal areas need to be reinforced. There is also a need to address gender inequality in access to land rights, particularly in relation to inheritance and marriage. Better policy is required to ensure equality and for these policies to be enforced in land operations. In 2013, the Tanzania Gender Networking Programme (TGNP) advocated for a new gender-responsive constitution, and for gender equality. [91]

IMPROVING SERVICES AND HOUSING QUALITY IN INFORMAL AREAS

A number of examples can be found of plans and programmes to improve access to basic services for urban residents. For example, in Dar es Salaam a Citywide Action Plan was developed, implemented by the Citywide Slum Upgrading and Prevention Program Unit (CSUPPU), to improve service access in informal settlements. [92] By working with communities, with the CSUPPU acting as technical support, the Citywide Action Plan aims to increase waste and sanitation services from covering 30 to 60 per cent of the population by 2020. [92] There are also a number of community-led upgrading programmes such as environmental management for malaria control [93] and community mapping. [94] These schemes demonstrate that when local communities are involved in service upgrading, it is more likely to be maintained over time, and has the potential to improve local employment opportunities.

EVIDENCE GAP

There is a need to better understand how city life is affecting social relations, norms, support and trust in Tanzania.

SOCIAL ENVIRONMENT

Social capital has often been used to understand the relationship between the social environment and health. [2] Social capital concerns social norms, the levels of social and civic trust, and of social support and networks that lead to coordination and cooperation for mutual benefit. [95] A larger amount of social capital is associated with better self-rated health [96] and healthier behaviours, [97] and persons who are socially engaged with others and actively involved in their communities tend to live longer and be healthier, physically and mentally. [98]

THE URBAN SOCIAL ENVIRONMENT

SOCIAL CAPITAL AND FAMILY SUPPORT

Evidence globally suggests that urbanisation can negatively impact on social capital as it leads to a reduction of support from extended family, [54] an increase of distrust and crime in the community, [99] and increased social isolation. [100] However, while anecdotal evidence from our interviews with a range of experts suggested that this may be happening in Tanzanian cities, with examples given of young children being left alone while parents go to work due to a lack of childcare or extended family, it is not clear how urbanisation is affecting social capital in Tanzania.

CRIME

Urban populations are more likely to feel that crime has increased in the three years prior to being surveyed (50 per cent in urban

areas compared with 28 per cent of rural populations). [86] Many people change their behaviour due to feelings of insecurity. [101] This insecurity can affect human development as it can lead to isolation of groups, stigmatisation of neighbourhoods and reduces social cohesion. However, surveys reveal that less than half of urban crimes are reported to police. [86] One of the main reasons for not reporting is due to a feeling that police are unavailable or inaccessible.

The UNDP suggests a multi-dimensional approach to crime prevention that works with communities, such as the Safer Cities approach: [102] this is a global strategy to reduce crime in urban areas by building capacities at city and municipal level to address crime and insecurity and to establish a crime prevention culture. It was applied to Dar es Salaam in 1997 and included sensitisation and awareness campaigns with the community, income-generating activities, and creating a youth centre. [103] The programme led to a change in perception among police and authorities of the urban poor and youth, who were then increasingly incorporated as part of the solution and considered a resource. Overall, the approach led to citizens being more engaged with the police than before. [103]

CHANGING GENDER ROLES

Cities can provide an opportunity to transform gender identities, and patriarchal structures can often be diminished. This can result in increased gender equity and improve human development on a number of indicators such as reduced gender-based violence, improved equality in education and employment and improved women's health outcomes. However, these associated benefits are not always found in Tanzanian cities, as the following examples show:

- **Gender-based violence:** The urban environment can actually increase the risk of gender-based violence for women, especially for violence perpetrated by a non-partner. A recent report, (2015) illustrated that in Tanzania, 56 per cent of women in rural areas experienced violence at the hands of an intimate partner compared with 41 per cent in cities. Conversely, 19 per cent of women in rural areas experienced violence by a non-partner compared with 34 per cent of women in urban areas. [104] These findings are similar to those from research from other countries which suggests that violence against women by male partners is less prevalent in cities than in rural areas, while gender-based violence by a non-partner is higher in urban areas. [11] Urban married women also face greater marital control by their husbands and are less likely to seek help to stop violence than their rural counterparts. [58]



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C SYSTEMS

- **Gender equality in education:** Data from 2010 illustrated that the poor, girls, and those living in rural areas were more likely not to go to school and spent significantly less time in education than their male counterparts, although in cities, the gender gap in years of education was much smaller (6.2 years for females and 6.4 years for males), compared with just 2.8 years and 3.7 years for rural females and males.. Given the introduction of free education, we would expect that the attendance and years spent in education would increase for all groups. However, it should be noted that a review found that despite fee-free primary schools, a quarter of public primary education costs are covered by households. This could be a major obstacle for poorer households trying to send their female children to schools, especially if education is not associated with increased employment prospects for women later in life. [105]
- **Gender equality in employment:** See the discussion in the Employment section above.
- **Women's health:** As discussed in the early years section above, maternal mortality is significantly higher in urban than in rural areas. HIV/AIDS is also significantly higher for urban women. [4] Incidence of other women's health issues such as female cancers and heart disease are not known by area of residence, but certainly there is a general need to monitor and treat these illnesses more successfully.

NATURAL ENVIRONMENT

There is a lack of green spaces across urban Africa. [106] Marine areas, described as 'blue spaces', have also been highlighted as increasingly being privatised in Tanzania, reducing access to the general public. [107] The National Environmental Policy (NEP) (1997) recognises the importance of sustainable development and the effect the environment has on wellbeing. [108] City master plans often include the presence of green parks and public open spaces, such as the Arusha city plan (discussed in section C below). However, such spaces continue to be neglected and side-lined in Tanzania, despite recognition that they improve the liveability of cities and wellbeing of city dwellers. [109] There is a need to ensure that the green and blue spaces set out in city master plans are protected.

Governance for health requires a whole-of-society and whole-of-government approach. [44] It requires the development and implementation of policies, practices and frameworks to improve health and

wellbeing through action on the drivers of good outcomes. Many of these drivers lie outside of the health sector and require a cross-sectoral human development approach at all levels – transnational, national and local. Informal and formal systems of social protection can positively impact on health inequality by providing support to vulnerable families. Key to effective governance for health is civic trust and engagement.

TANZANIA-WIDE SYSTEMS ISSUES

CIVIC TRUST AND ENGAGEMENT AT THE NATIONAL LEVEL

The Tanzanian government performs poorly on a number of

indicators:

- **Corruption:** In 2015 Tanzania scored 30/100 in Transparency International's Corruption Perceptions Index, giving it a global ranking of 117/168. [110]
- **Civic engagement:** A governance survey carried out in Dar es Salaam (2009) found that many citizens were unaware of how government finances were spent. [111]
- **Health sector perceptions:** The Tanzanian government uses data from Sauti za Wananchi, Africa's first nationally representative high-frequency mobile phone survey, to analyse the public's perception

of health facilities. [84] The 2016 survey demonstrates a number of improvements to previous years. For example, the number of Tanzanians seeking treatment in government facilities if they are ill increased substantially, from 47 per cent in 2015 to 61 per cent in 2016. 70 per cent received medication from the facility, and improvements were seen in treatment from staff, cleanliness of facilities, and availability of health professionals. However, 40 per cent of Tanzanians who were in a hospital in the past year had to share beds, 60 per cent complained of a lack of medicine or other supplies, and 40 per cent knew of an elderly citizen, pregnant woman or child under five having to pay (all of these groups should be entitled to free health care).

CIVIC TRUST AND ENGAGEMENT AT THE LOCAL LEVEL

People surveyed in a 2012 study viewed ward executive officers, village executive officers and council staff positively. [112] However, another study found that men and the elderly are more active in local government leadership than women and youth, suggesting that

work needs to be done to encourage participation of these groups. [113] In terms of policy implications, there are a number of social protection initiatives that utilise local leadership in targeting vulnerable groups. Internationally, there is debate about the effectiveness of using local leadership to target vulnerable populations as there is potential for 'elite capture', whereby powerful local actors take control of these funds. [114] In Tanzania a number of organisations have been created to address the issue of civic engagement, and particularly youth engagement in decision-making, such as Femina HIP, a youth-oriented communication initiative. [115]

SOCIAL PROTECTION

The Tanzanian government, faith-based organisations and NGOs have made huge strides in creating formal social protection mechanisms. 'Social security' in Tanzania has three domains: mandatory schemes, social assistance, and voluntary market-based schemes that aim to support the vulnerable and poor. [116] A large number of schemes have been developed to support vulnerable Tanzanians at different stages of their lives. A key programme to reduce poverty is the donor-funded Tanzania Social Action Fund (TASAF). However, as highlighted in the section on defining poverty above, these programmes require adequate mechanisms to identify vulnerable groups; this is further outlined in case study 4 below.

URBAN SYSTEMS ISSUES - INCREASED PRESSURE FOR FUNCTIONING SYSTEMS SUCH AS SANITATION

Densely populated urban areas have a greater need for functioning systems, and rapid urbanisation puts increased pressure on these systems. Sanitation in Tanzania provides a good example: access is notably low for everyone (total access to improved sanitation was just 13 per cent in 2011/12 – nowhere near the Millennium Development Goal of 62 per cent). [118] Despite there being more access to improved sanitation in urban than rural areas, urban areas

have higher incidences of environmental diseases associated with poor sanitation (cholera, diarrhoea, dysentery and lymphatic filariasis). [112]

Some researchers have argued that current definitions of 'improved' toilet technology are less appropriate in rapidly growing areas, where usage of an improved toilet does not factor in the number of users, or whether it is actually functioning. Safety and sustainability of sanitation facilities, particularly in urban areas, are at least as dependent on the emptying, removal, treatment and disposal or reuse of waste and maintenance of the facility as on access to an 'improved' toilet. [119] A study in 35 unplanned, high-density sub-wards of Dar es Salaam that applied more rigorous indicators of access found access to be much lower than the official figure – only 13 per cent of properties had both a safe and sustainable facility and access to a safe emptying service. [120] There were also marked inequalities in access to these services. Access to safe and sustainable facilities and emptying services is particularly difficult in areas of informal settlement.

SUPPORTING SYSTEMS USING THE SDH APPROACH

Currently there are a number of plans and programmes in Tanzania that could positively impact on the most vulnerable people in urban areas if the social determinants of health approach were applied.

COMMUNITY-LEVEL ACTION

Within Tanzania, informal social support mechanisms such as self-help groups, Village Community Banks (Vicoba), women's groups, farmers' associations, trade unions, paying cash in kind, and drawing on social capital, remain prevalent and indeed of greater importance than formal support programmes in the country. There is a need to support community initiatives to develop appropriate responses to the needs of their areas.

DECENTRALISATION BY DEVOLUTION

The Tanzanian government is working towards the Decentralisation by Devolution Programme ('D by D') with the objective of improving overall service delivery by devolving roles and responsibilities from central to local government. While critics have suggested that the programme is incomplete and not necessarily enabling redistribution of more political, administrative and financial power to the local level, [121] [32] [122] it does present an opportunity to ensure that urban population health is incorporated into city planning and governance. [122]

CITY MASTER PLANS

There has been a push for cities to develop master plans; Dar es Salaam has completed such a plan although it has not been approved, Arusha and Mwanza are constructing theirs. Master plans provide an opportunity to embed initiatives to reduce inequalities and to improve the overall

health and wellbeing of the urban population. However, previous master plans have not necessarily been enacted and so delivery plans to operationalise them need to be agreed and financed.

CIVIL REGISTRATION

Civil registration of births and deaths is of vital importance to individuals and societies. For individuals, birth registration is essential to ensuring a child's legal status and, thus, basic rights and access to services. It proves legal identity and citizenship, allowing access to state services and/or entitlements and protection against exploitation. [123]

Tanzania currently has a weak central civil vital registration system (CVRS) and the second-lowest rate of birth registration in the Eastern and Southern Africa region. [124] On average only 15 per cent of the population are registered with birth certificates and there is wide variation in registration by residence: [3] 44 per cent of children in urban areas are registered compared with only 10 per cent in rural areas. Reasons for this are varied. The low birth registration has been linked to the high number of home births (making registration in a health facility

D MACRO-LEVEL CONTEXT

difficult), the lack of immediate benefits provided from receiving formal registration (for example, failure to register does not exclude a child from health or education services) and the timely (and expensive) process of registration. [125]

A number of projects have attempted to increase registration: for example, a new collaborative project has been set up to enable birth registration using mobile phones. [126] In pilot areas there was an increase of 29 per cent in the number of under-5s registered, seeing a rise from only 15 per cent possessing birth certificates to 44 per cent. The programme is now being rolled out nationwide. The aim is to register about a million children under the age of 5 before the end of 2016, and 90 per cent of all new-borns within the next five years. [124, 127]

INVESTMENT IN INFRASTRUCTURE AND SYSTEMS

Currently a number of investments in infrastructure and systems are being developed in Tanzanian cities. These have the potential to improve the social determinants of health, if adequate attention is placed on improving equity in access to and quality of services, access to good quality work and schools, and improving the natural environment Dar es Salaam's Bus Rapid Transit (BRT) is an example of efforts to reduce congestion which could potentially lead to improvements in air quality, although other measures such as ensuring space for pedestrians, cyclists and parks should be considered. (Case study 5).

The macro-level context influencing the health of individuals in Tanzania includes a large number of national and transnational economic, social and environmental factors such as trade, global policies, aid and development, migration and climate change. Urbanisation itself is a key macro-level factor in the country.

The rapid rate of urbanisation and increased population density have not been associated with comparable increases in economic activity, in contrast to other regions and countries (such as South America, China and India). It is

important that public health actors are aware of macro-level factors that will have an effect on the health of the urban population; the impacts of the economy, foreign aid, trade and climate change are outlined below.

ECONOMY

The World Bank's African Economic Outlook 2016 determined that the continent is performing well with regard to economic, social and governance issues, which is expected to continue over the next few years. GDP rose on average by 3.6 per cent in 2015, more than double the increase in the Euro area, and helped Africa maintain its position as the second-fastest-growing economy globally.

Tanzania is one of the countries that is leading this growth, and on its own has one of the world's fastest-growing economies. In 2015 its GDP growth rate was 7 per cent. [132] Efforts to ensure effective distribution across the whole of society of the gains from development are required, in order to combat inequalities in incomes and outcomes.

FOREIGN AID

A large amount of financial and government support is provided by international aid. However, this aid is insecure: governments and international aid organisations can withdraw funding for a variety of reasons, for example when they

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believe there is less need or if they disagree with domestic policy. For example, the US government aid agency has recently retracted US\$ 472m of funding for a Tanzanian electricity project after criticising election procedures in Zanzibar. [133] Aid is therefore unpredictable and can affect country planning. Tanzania is still currently a leading recipient of official development assistance (ODA), however the government is working to reduce its reliance on foreign aid. [134] There has been a gradual decline in dependency: by 2010/11 rising domestic revenues reduced the share of aid to around 28 per cent of the national budget, down from 42 per cent in 2007/08. [135] Excluding debt relief, in 2007/08 59 per cent of this aid was in the form of grants. [136] Tanzania is still currently a leading recipient of official development assistance (ODA), but this may change in the coming years

TRADE

Since the mid-1980s, Tanzania has followed an economic policy of liberalisation and deregulation which has led it to become a more open economy with an increase in imports and exports. Exports grew by over 20 per cent per annum between 2000 and 2009, with exports' share of GDP rising by 20.8 per cent and the share of imports in GDP by 18 per cent. [74] There has also been a rise in foreign direct investment in areas such as mining, tourism and financial services. This brings opportunities for development, and could impact positively on population health, but there are also some associated risks. According to the WHO Commission on the Social Determinants of Health, ministries of health need to be aware of the wide-ranging effects of trade negotiations and export zones on health, especially in relation to policy and resources for health. Inclusion of health and health services as part of trade agreements are likely to impact positively on health governance and health inequality. [44]

CLIMATE CHANGE

As irregular climate events become more common, Tanzania needs to be able to respond.

Urban areas are increasingly

at risk from climate-related hazards, which in Tanzania include droughts and floods. A collaborative study by DFID (2011) estimated the economic cost of natural disasters and climate change for the country, showing that drought and flooding events result in around 1 per cent of GDP costs, and impact livelihoods and long-term growth prosperities. Models indicate that climate change could lead to economic costs that are equivalent to a loss of almost 2% of GDP each year by 2030 in Tanzania. [137] In the case of Dar es Salaam, a risk assessment conducted by the World Bank identified the vulnerability of the urban poor and informal settlement residents to flooding. [138] Planning to reduce risk needs to be incorporated into urban planning and should involve coordination among local stakeholders. The World Bank assessment calls for the better allocation and zoning of land use - understanding the role of wetlands in cities and planning safe spaces for housing.

Broad themes emphasised in the social determinants of health approach (developed by the Institute for Health Equity for the WHO) include the macro-level transnational and national context; governance, delivery and monitoring systems; aspects of the wider society in which people live; and the conditions experienced at different stages of the life course. As we have shown, across Tanzania, and in its cities specifically, there are a number of factors from each of these themes that are impacting on health and health inequality, as well as affecting other sustainable development indicators. These are highlighted in Figure 7.

MOVING FORWARD

We have identified issues, gaps in knowledge and data, and opportunities for improving health, wellbeing and living conditions. This has revealed a need to:

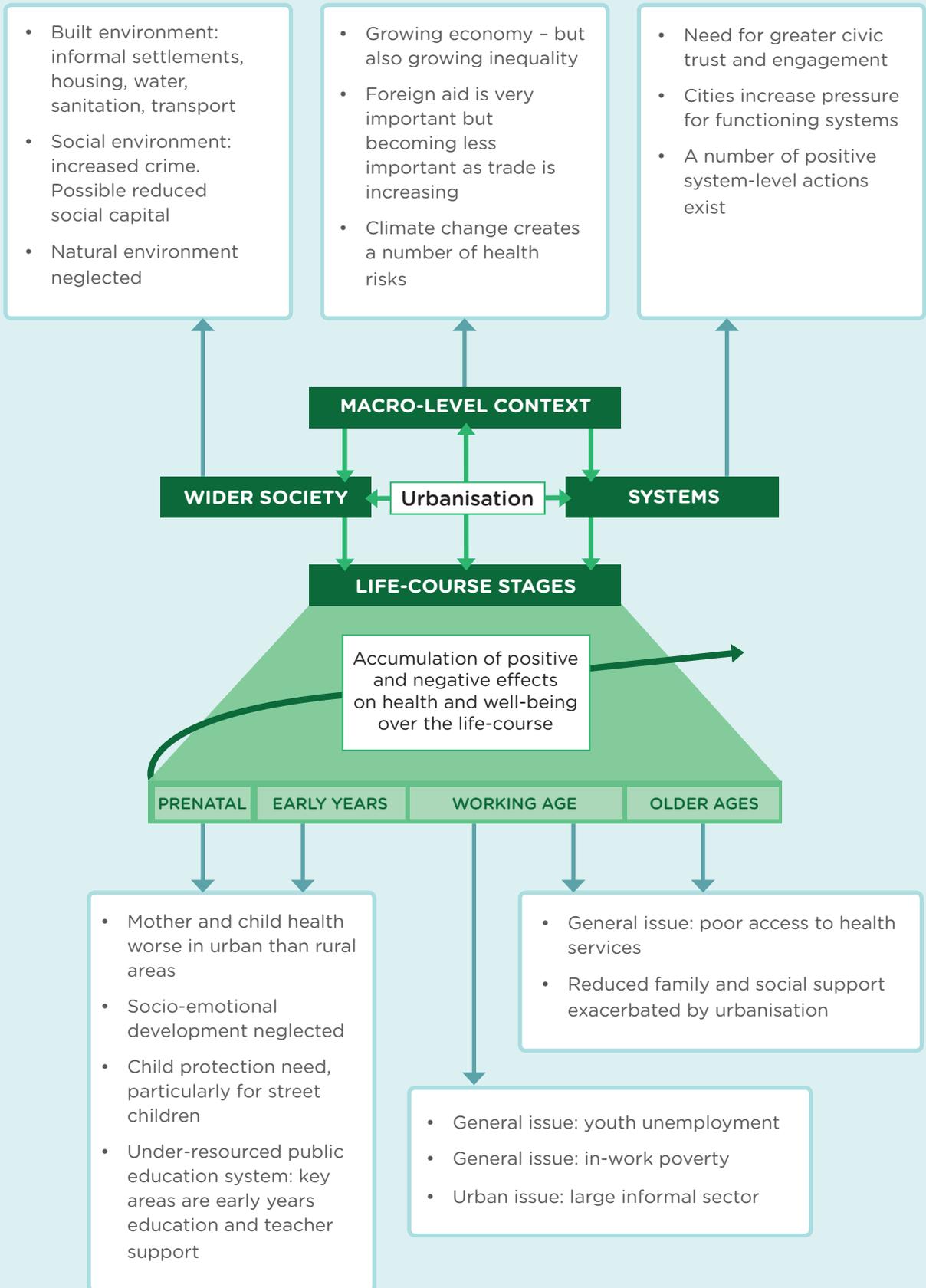
1. **improve and expand data systems to support understanding and implementation of action** (see Table 5 for a summary of the key gaps in knowledge highlighted throughout the report)
2. **tackle the key areas within the SDH framework that are applicable**

to Tanzania generally and to Tanzanian cities specifically (see Table 6 and Figure 7)

3. **promote multi-sectoral action:** there are a number of actions in Tanzania that are positively impacting on the lives of Tanzanians generally and on the lives of urban residents specifically. These include a large amount of community-level action; decentralisation by devolution; drawing up of city plans; and civil registration of births and deaths. There is a need for different sectors to work together better and to support areas that are working well.

TABLE 5: KEY KNOWLEDGE AND RESEARCH GAPS AT A GLANCE

Report section	Gaps
Is there an urban advantage? Defining poverty and urbanisation	There is a need to redefine both 'poverty' and 'urban' in order to adequately address the needs of the population.
	Tanzania's urban disadvantage in life expectancy and under-5 mortality requires a greater understanding of what makes Tanzania different from other countries in the region.
	Due to sample sizes of surveys, it is not possible to meaningfully disaggregate multi-dimensional poverty indices down to city level. Greater city-level understanding of multi-dimensional poverty is needed.
	Urbanisation is happening off the radar of government agencies, particularly for informal settings outside of official definitions of city limits. The urban poor are more likely to reside in these areas. This has important implications for resource distribution to local authorities.
	A methodology that ensures the urban poor are accurately measured is needed, and the use of city-level data would illuminate urban opportunities and barriers to success.





Is there an urban advantage?	Health issues that are likely to have a greater impact in urban than rural areas, such as non-communicable diseases and road traffic accidents, are not regularly measured in Tanzania. IMPACTS ON THE SOCIAL DETERMINANTS OF HEALTH measure urban health issues accurately and consistently.
Healthier cities?	
Using the SDH framework	More evidence is needed including mapping of the different causes of mortality by area of residence.
Life course	Further analysis is required of why maternal mortality is significantly higher in urban areas despite better access to health services there than in rural areas. REFERENCES There is a need to understand how the urban environment affects child development, particularly social and emotional development and for interventions that support socio-emotional development in the early years. WHO Conclusions WHO Conclusions on Social Determinants of Health, Closing the Gap in a Generation: Health Equity Through Action on the Social Determinants of Health. WHO Conclusions WHO Conclusions on Social Determinants of Health Final Report, 2008: World Health Organization.
Using the SDH framework	There is a need to better understand how city life is affecting social relations, norms, support and trust in Tanzania
Wider society	There is a need for better high quality data for service provision, and housing quality.

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TABLE 6: KEY ISSUES IN TANZANIA AT A GLANCE

SDH area	General issue	Urban-specific issue
Life course stages: early years	<ul style="list-style-type: none"> • Socio-emotional development neglected • Under-resourced public education system: key areas are early years education and teacher support 	<ul style="list-style-type: none"> • Early years due to the large variations in under-5 mortality • Mother and child health worse in urban than rural areas • Child protection needs, particularly for street children
Life course stages: working age	<ul style="list-style-type: none"> • Youth unemployment • In-work poverty 	<ul style="list-style-type: none"> • Large informal sector
Life course stage: older ages	<ul style="list-style-type: none"> • Poor access to health services 	<ul style="list-style-type: none"> • Reduced family and social support exacerbated by urbanisation
Wider society		<ul style="list-style-type: none"> • Built environment in informal settlements posing water, sanitation transport • Social environment: increased crime, possible reduced social capital • Natural environment neglected
Macro-level context	<ul style="list-style-type: none"> • Growing economy, but also growing inequality • Foreign aid is very important but becoming less important as trade is increasing • Climate change creates a number of health risks 	<ul style="list-style-type: none"> • Income inequality is higher in urban areas • Climate change increases the risk of drought and flooding in cities
Systems	<ul style="list-style-type: none"> • Need for greater civic trust and engagement 	<ul style="list-style-type: none"> • A number of positive system-level actions exist

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FIGURE 7: HOW URBANISATION

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APPENDIX 2: LIST OF ABBREVIATIONS

ANC	ante-natal care
CVD	cardiovascular disease
DFID	Department for International Development (UK)
IHE	Institute of Health Equity (at University College London)
IHI	Ifakara Health Institute
ITN	insecticide treated net
NBS	National Bureau of Statistics (Tanzania)
NCD	non-communicable diseases
NHC	national housing corporation
PO-RALG	President's Office, Regional Administration and Local Government (Tanzania)
REPOA	Research on Poverty Alleviation
SDH	social determinants of health
SDG	Sustainable Development Goals (UN)
TASAF	Tanzania Social Action Fund
WHO	World Health Organisation

