

Preventing Malnutrition in Tanzania: A Focused Strategy to Improve Nutrition in Young Children

By Valerie Leach and Blandina Kilama

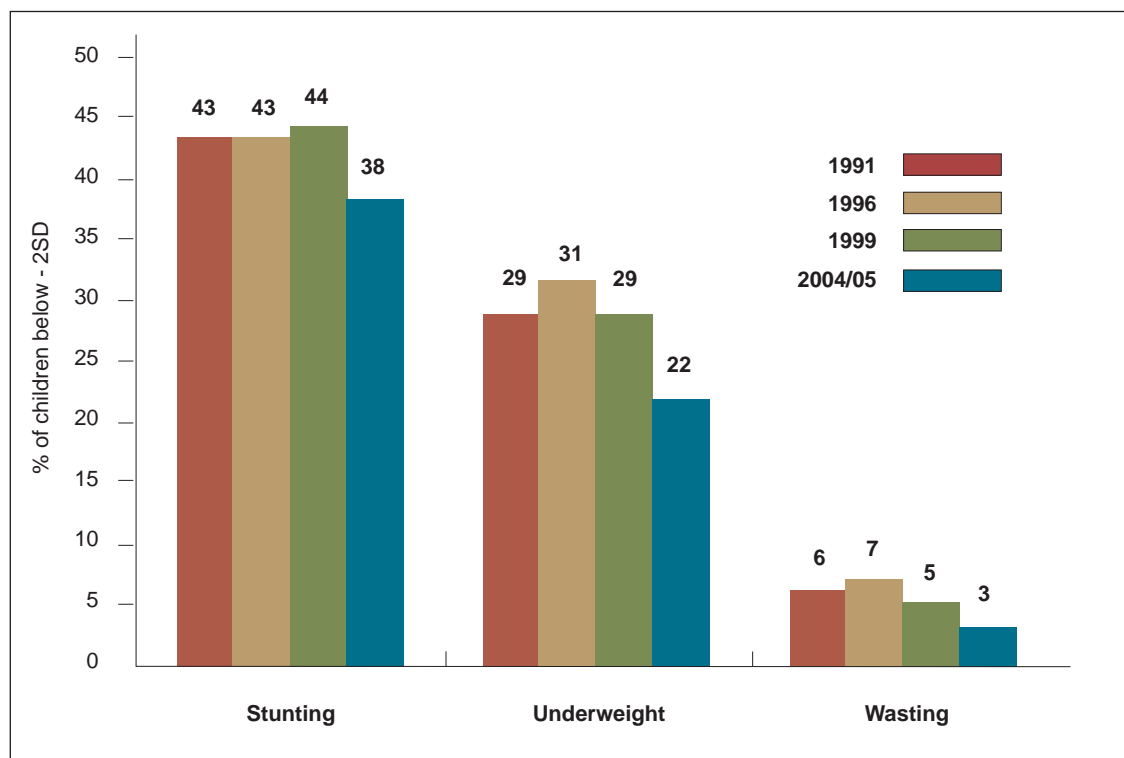
This brief examines the status of nutrition in Tanzania. Despite improvements between 1999 and 2004/05, data clearly show that the prevalence of child undernutrition remains high in Tanzania and malnutrition begins at an early age. Based on the evidence presented, the brief concludes that a national strategy to prevent malnutrition must focus upon protecting, promoting and sustaining improved nutrition in children under two years of age. Strong advocacy for nutrition and effective coordination of interventions under national leadership are urgently required to raise the profile of nutrition and improve nutritional outcomes in Tanzania.

Introduction

Tanzania has been at the forefront internationally in promoting a conceptual framework for nutrition through its national institution, the Tanzania Food and Nutrition Centre (TFNC). Good nutrition is both a desired outcome for ensuring optimal human health, as well as a key determinant of development, for the individual and for society in general. Half of all child deaths are attributable to malnutrition (Caulfield, 2004). Malnourished children do not have the same attention in school as well-nourished peers and will not gain the same education; and malnourished adults cannot work as productively with consequences for their incomes and, in turn, the national income (Mkenda, 2004; Alderman, Hoogeveen & Rossi, 2005). There is increasing recognition that targets and goals for development will not be achieved if those for nutrition are not met.

Extensive research has shown that loss of stature at an early age has long-lasting negative implications for a person's physical and cognitive development which are extremely difficult to overcome. Moreover, there is widespread misunderstanding of the causes of malnutrition in young children. This brief, therefore, examines the status of nutrition among Tanzanian children under five years of age and identifies key determinants of nutrition in young children. Based on these findings, a focused strategy for improving nutritional outcomes in Tanzania is outlined. The content of this brief is based on the special paper, *Institutional Analysis of Nutrition in Tanzania* (Leach & Kilama, 2009).

Figure 1: Malnutrition Among Tanzanian Children Under Five Years, 1991-2004/05
 (% of Children below -2 Standard Deviation (SD))



Source: TDHS 1991 and 1996, Tanzania Reproductive and Child Health Survey (TRCHS) 1999, TDHS 2004/05

The Status of Nutrition in Tanzania

Despite improvements over the last five years, rates of malnutrition among Tanzanian children remain high. According to data from the Tanzania Demographic and Health Survey (TDHS) 2004/05, about 40% of children under five years of age are stunted, i.e., they are short for their age, which is an indicator of chronic undernutrition. About 3% are wasted, i.e., they have low weight-for-height, which is an indicator of acute undernutrition (National Bureau of Statistics (NBS) [Tanzania] & ORC Macro, 2005). Approximately 22% of children are underweight (low weight-for-age), which is a composite measure of long- and short-term undernutrition (see Figure 1). This last indicator is one of the Millennium Development Goals (MDG) indicators. MDG1 aims to halve the prevalence of underweight children under

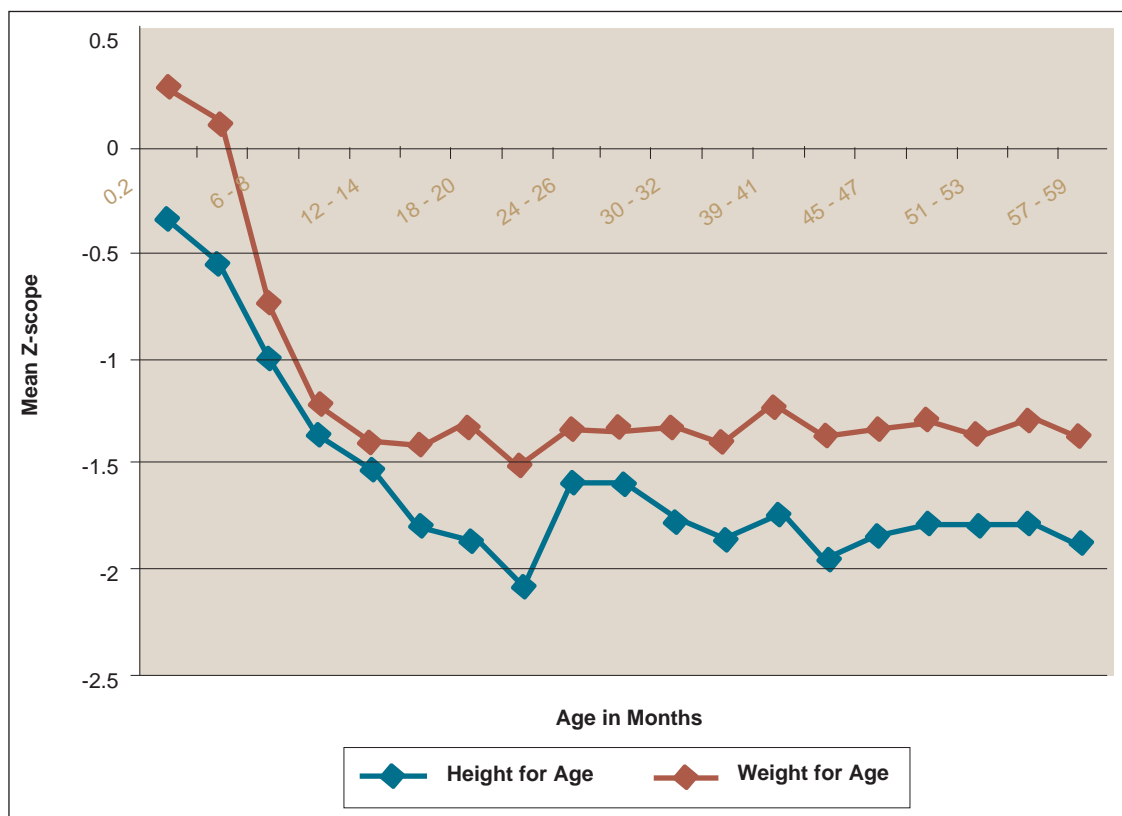
five years of age in Tanzania from 28.8% (1990 baseline) to 14.4% by 2015 (MPEE, 2006), which will only be achieved with much greater, focussed effort.

By residence, the nutritional status of rural children is significantly poorer than urban children. TDHS 2004/05 data show that 41% of rural children under five years of age were stunted, compared with 26% of urban children.

Data reveal a consistent pattern in nutritional status among Tanzanian children: growth falters at a very early age, and then stabilises when children are 18-24 months of age. This early onset of malnutrition is clearly illustrated in Figure 2, which charts the mean Z-scores¹ for height-for-age and weight-for-age.

¹ The Z-score or standard score is a statistical measure that quantifies the distance (measured in standard deviations) that a data point is above or below the mean of a sample's distribution. Z-scores are especially useful when comparing sample distributions with different means and/or different standard deviations, for example, in international comparisons of child malnutrition.

Figure 2: Trends in Malnutrition Indicators for Children Under Five Years, 2004/05

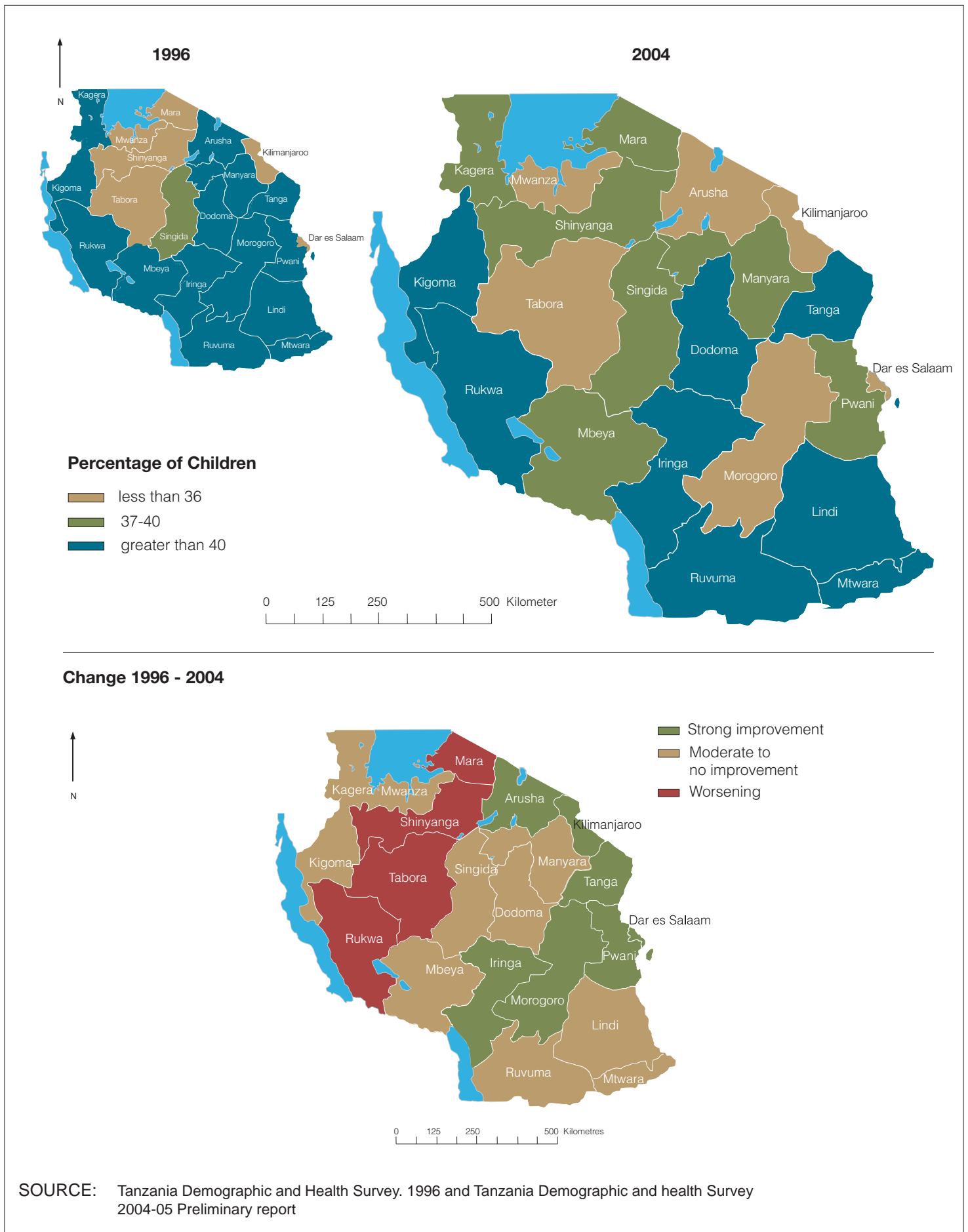


Source: Ifakara Health Institute calculations from TDHS 2004/05

Micronutrient disorders are also prevalent in Tanzania, particularly iron deficiency (anaemia), and vitamin A and iodine deficiencies. According to the TDHS 2004/05, approximately half of children (aged 6-59 months) and 16% of women (aged 15-49 years) are moderately or severely anaemic. Anaemia is associated with high prevalence of malaria and parasitic infestations. The TDHS 2004/05 also reported that 26% of households did not consume iodated salt and a further 30% consumed inadequately iodated salt. Consumption of adequately iodated salt was much higher among urban households (73%) compared with rural households (34%). There has been a substantial increase in the availability of vitamin A supplementation. An assessment by TFNC in July 2004, shortly after the Vitamin A Supplementation Campaign, indicated that 85% of children aged 6-59 months received vitamin A supplements (Helen Keller International (HKI) and TFNC, 2005).

Low birth weight (below 2.5 kg) has changed little in the past few years. The TRCHS 1999 recorded that 9% of babies who had been weighed at birth had weights under 2.5 kg. In the TDHS 2004/05, the corresponding figure was 7%. Of note, about half of all births take place at home, hence, birth weights are recorded for only about half of all births. Low birth weight is a reflection of poor maternal health and nutritional status. There is evidence from a survey of low birth weight that adolescent mothers are more likely to be anaemic and undernourished than their older peers (TFNC, UNICEF (Tanzania) and Centre for International Child Health, 2002).

Figure 3: Percentage of Children Stunted, by Region, 2004 and 1996



Key Determinants of Nutrition

Generally, nutritional status among children is affected by food intake, health, and caring practices.

Food intake is determined by the amount and quality of food available. For young children, the amount of food they eat is critically dependent on the number of times they eat each day. From birth to six months, exclusive breastfeeding is recommended. Until they are six months of age, babies need no other food or liquid, including plain water – infant health and development will be better if only breastmilk is consumed (World Health Assembly, 2001). Data from recent demographic and health surveys indicate that the percentage of babies under six months who are exclusively breastfed has been increasing, from 29% in 1996 to 32% in 1999 to 41% in 2004. However, exclusive breastfeeding is not common after a baby has reached two months of age; the practice tapers off quickly, and by the age of four to five months only 13.5% of babies are still being exclusively breastfed. (NBS et al., 2005).

Moreover, during the most critical nutritional period for children – when they are under two years of age – they consume little compared to older children and adults in the household. For young children, when their stomach capacity is small and cannot absorb large quantities of food at one time, adequate nutrition depends on the number of times per day they are able to eat together with the energy and nutrient density of their diets. The predominant diet in Tanzania is cereal-based with low energy and nutrient density. The geographic pattern of malnutrition in Tanzania suggests that areas of the country which are the source of cereal surpluses, mainly in the south and west, are also the areas with relatively high rates of malnutrition (see Figure 3). Food security, therefore, in the limited sense of cereal crop production, does not seem to be strongly associated with nutrition security. It is areas in

the central-North-Eastern parts of the country which have relatively lower rates of child malnutrition, though improvements from 1999 to 2004/05 were recorded in regions in an arc from Arusha through to Iringa.

Health factors are critical for nutrition. Fevers, diarrhoeal diseases and acute respiratory infections (ARIs) are all common among children in Tanzania, and they affect appetite – hence, food intake – as well as the body's use of energy and other nutrients. During the two weeks before the 2004/05 TDHS, 24% of all children under five years had fever, 13% had diarrhoea, and 8% had symptoms of acute respiratory infection (coughing accompanied by short rapid breathing). Children aged 6-23 months old were most affected. In this age bracket, 35% had a fever, one-quarter had diarrhoea, and 11% had symptoms of acute respiratory infection. Appropriate and prompt access to healthcare is a key aspect of care for children, and the improvements in prevention and treatment of malaria may explain in part the reduction in child malnutrition between 1999 and 2004/05. More children are sleeping under mosquito nets and more effective drug treatment has been introduced.

Caring practices also affect patterns of breastfeeding and the number of times a child is given anything to drink or eat during the day. Caregivers who must spend most of their time provisioning the households – farming, and fetching water and fuel for cooking, washing, etc. – have little time to devote solely to caring for young children. Care for the youngest children is, therefore, commonly provided by older siblings, especially girls. And cooking is usually done only once per day. Snack foods could provide additional intake to reduce malnutrition, but such foods are not commonly given to young children, especially in rural communities and poor households.

In addition to feeding practices, care also includes hygiene practices and psychosocial stimulation. Sound hygiene practices are hampered by shortages of water and soap, unsanitary latrines, and inadequate waste disposal systems. As a result young children suffer frequent bouts of diarrhoeal diseases. Psychosocial stimulation is limited by the amount of time carers are able to devote to their children.

Preventing Malnutrition in Tanzania

Key Interventions

The nutrition data detailed above strongly indicates that a strategy to prevent malnutrition in Tanzania needs to focus upon protecting, promoting and sustaining improved nutrition in children under two years of age. The following priority interventions are highlighted:

- Improvement of health and care of pregnant and lactating women, especially young women and girls;
- Promotion and support of exclusive breastfeeding of babies for six months, and extended breastfeeding with complementary foods for children up to two years;
- Helminth control through the regular deworming of children;
- Rehydration for diarrhoea – carers of children must know to increase, or at least maintain, regular fluid and food intake;
- Malaria alleviation – provision of impregnated mosquito nets for pregnant women and young children, and early treatment of malaria with artemisin-based combination therapy;
- Immunisation – sustained high vaccination rates, especially against measles; and
- Micronutrient supplementation, particularly vitamin A supplementation and sustained iodation of salt.

These interventions are not new – indeed some are already bearing fruit, as recent evidence about malaria attests. This strategy, however, does imply the need to strengthen care and services, especially maternal and child health services, and particularly antenatal and post-natal care. In particular, TDHS 2004/05 data show that 94% of Tanzanian women received antenatal care from a health professional at least once. ANC visits, therefore, represent critical opportunities for health workers to provide pregnant women with information and skills on infant nutrition and feeding, and to encourage increased access to delivery and post-natal care, which are much less frequently accessed.

Key Actors

There needs to be a deeper understanding by all key actors in nutrition – parents, communities and service providers – of the underlying and basic causes for inadequate care and feeding of young children. Research, improved information systems, and training will be needed. Especially in areas of the country with high rates of child malnutrition, it is likely that additional staffing and financing for local authorities will be needed. Each council's integrated development plan should specifically incorporate nutrition concerns with implementation coordinated by a designated focal point for nutrition.

The national institution for nutrition, the Tanzanian Food and Nutrition Centre, needs to drive this focused strategy forward, in conjunction with emphasis upon the Centre's own strategic plan, including strengthened analytic work, increased technical support for sound information systems, and improved communication networks with national and community-based nutrition interventions. Above all, strong advocacy for nutrition and effective coordination of interventions under national leadership are urgently required to raise the profile of nutrition and improve nutritional outcomes in Tanzania.

Conclusion

The “silent” emergency of chronic malnutrition which so negatively affects the growth and development of nearly half the child population of Tanzania – and, in turn, the development of the country – should command much greater attention, at the very least the same levels of attention and resources which are accorded emergency response to alleviate temporary food shortages caused by drought or flooding.

Child nutrition, particularly for young children under two years of age, needs to be given much greater priority in national planning and monitoring systems, with strong emphasis on promoting the importance of nutrition for the achievement of national development goals, which are mirrored in the international Millennium Development Goals, and on ensuring regular monitoring within strong institutionalised monitoring systems.

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