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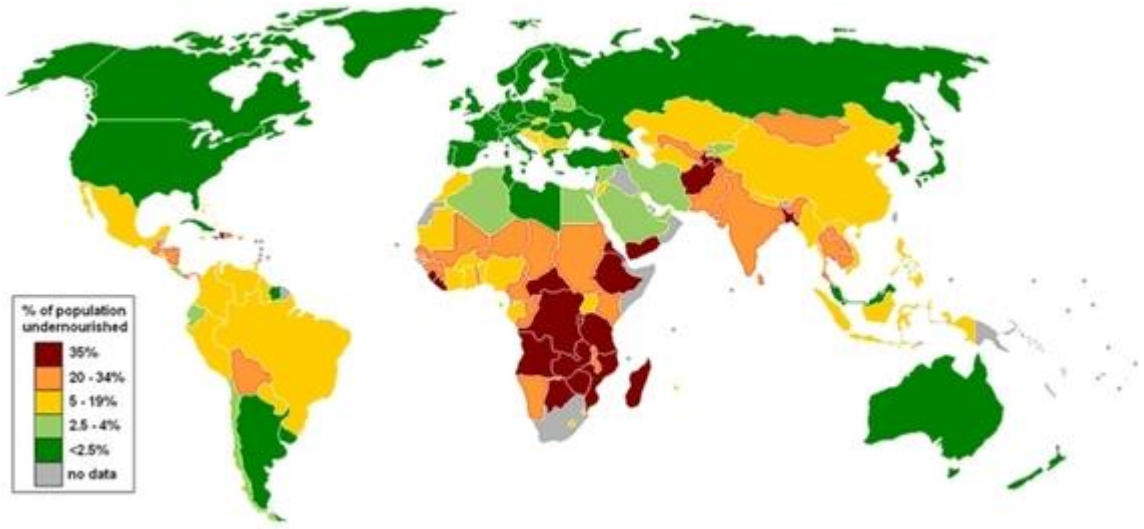
Kumasi, Ghana. This month I share with you what I expect *Rio2012* to achieve, focusing on Africa. I will consider the nutrition situation of Africa, its causes, and some challenges and solutions. Pictured above is the Volta lake located East of Ghana. The picture really looks serene and quiet, but beyond, I am told, are some dangers.

Translating policies into actions
My *Rio2012* vision

The theme for *Rio2012* is knowledge-policy-action. I have been asked to be one of the opening and closing plenary speakers at our conference, and this column develops some things that I will say. My vision is that the conference will end with every participant knowing clearly how to translate policies on nutrition into specific activities and actions. I hope that the presentations, debates and discussions will guide us to translate ideas, agreements and policies into programmes and activities to address our issues, which are everywhere unique in some ways, similar in others.

Africa's malnutrition situation

In this column I draw on the highly influential series of papers on global maternal and child undernutrition, prepared for and published in *The Lancet* in 2008. These have special application in Africa. In doing this I do not mean to imply that



Global map showing proportion of populations said to be undernourished. Dark red mostly in sub-Saharan countries denotes more than 35 per cent

everything in this authoritative *Lancet* series is beyond discussion and debate. Indeed,I am sure that some of my readers will disagree with some of its assumptions, analyses and conclusions. I have my own views, too! But as with other *Lancet* series on public health and nutrition, the series is a most valuable starting point, and we all need to digest what it says.

Here are some of the ominous facts. They need to be repeated. Malnutrition, as normally defined, is one major problem in many low-income parts of the world, including all sub-Sahara African countries. This is most intense in sub-Saharan Africa where as the map above shows, many countries have more than a third (35 per cent or more) undernourished, according to current generally accepted criteria. Orange denotes more than one-fifth to one-third (20-35 per cent). Yellow is a twentieth to a fifth (5-19 per cent). Green is under a twentieth.

Undernutrition encompasses stunting, wasting, and deficiencies of essential micronutrients. Hunger is a term also used to describe undernutrition, especially in situations of chronic food insecurity, where people do not have 'physical and economic access to sufficient, safe, nutritious, and culturally acceptable food to meet their dietary needs' (1). Now too, over-nutrition of calories resulting in obesity, once rare in Africa, has become a crisis in many African countries.

In all low-income countries taken together, according to the usual definitions, 178 million or nearly one-third (32 per cent of children under 5 years of age were in 2005 estimated to be moderately stunted (too short for age). Of the 40 countries with a child stunting prevalence of 40 per cent or more, 23 were in Africa. A total of 36 countries accounted for 90 per cent of all stunted children worldwide and 21 of these were in Africa. Globally, some 55 million or one-tenth of all children are wasted (low

weight for height). Of these, 16 per cent were in Asia, but middle Africa is the region with the highest burden of severe wasting.

In Africa one in every seven (14.3 per cent) of children are born with low birth-weight (less than 2.5 kilograms). Almost one in ten (9 per cent) of babies born at term have low birth-weight. This adds up to 27 million and 280,000 babies born with weights below 2.5 kilograms and 2.0 kilograms respectively. The main causes of neonatal mortality are sepsis, pneumonia and diarrhoea. Poor foetal growth, which is associated with poor maternal nutritional status contributes indirectly to all these causes, which together account for three-fifths (60 per cent) of neonatal deaths.

Globally over two-fifths (42 per cent) of pregnant women and almost a half (47 per cent) of preschool children are by the conventional criteria, identified as anaemic. An important reason for iron-deficiency anaemia is low consumption of animal foods – such as meat, fish, or poultry, especially among impoverished communities. In young children the peak prevalence of iron deficiency anaemia is around 18 months of age. Zinc deficiency is also common; one of its manifestations is childhood stunting. Deficiencies in iodine, folate, vitamin D and calcium are also of concern (1).

Undernutrition, overnutrition, HIV/AIDS
Africa's triple disease burden

This boy from an African fishing community has survived his first 5 years, but for many sub-Saharan people the present is tough, the future uncertain

Africa suffers a triple burden of disease, from shortage of food and yet also obesity and chronic diseases co-existing even in the same community or family, and also from the African part of the pandemic of HIV-AIDS.

Africa hardest hit by undernutrition

Undernutrition is an important determinant of maternal and child ill-health and disease. Children like the boy from an African fishing community pictured above can be permanently maimed by repeated episodes of malnutrition and infections in the first two years of life. Maternal and child undernutrition is estimated to be the underlying cause of 3.5 million deaths, and over one-third (35 per cent) of the disease burden in children younger than 5, and over a tenth (11 per cent) of total lost global disability-adjusted life years (DALY).

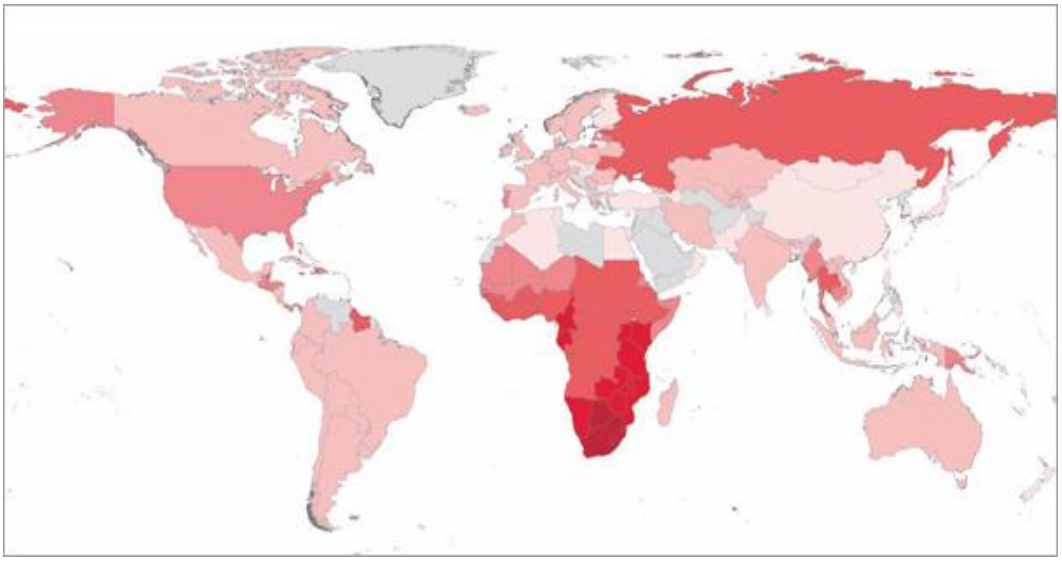
The number of global deaths and lost DALYs in children less than 5 years old attributed to stunting, severe wasting, and intrauterine growth restriction, constitutes the largest percentage of any risk factor in this age group. Poor breastfeeding practice, notably non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths and a tenth (10 per cent) of the disease burden in children younger than 5. Maternal short stature and iron deficiency anaemia increase the risk of death of the mother at delivery, accounting for at least a fifth (20 per cent) of maternal mortality (1)

In sub-Sahara Africa where a fifth (20 per cent) of women are too thin (with a body mass index of less than 18.5), being short and also thin have adverse effects on pregnancy outcomes. Good nutritional status of women before and during pregnancy is crucial for a healthy pregnancy outcome. Mothers who are short are more likely to need caesarean delivery, usually because their babies' heads are too big for natural delivery. Where facilities for operations are poor this puts the lives of the baby and the mother at risk.

Obesity and chronic diseases soaring

In spite of the persistence of undernutrition, a review of 57 studies from more than 20 African countries commissioned by the World Health Organization has found that chronic diseases like heart disease and diabetes are rising fast. Across Africa, hypertension is at levels from one-thirtieth (3 per cent) in rural areas to more than one-third (30 per cent) in some cities. (2). Up to the middle of the last century diabetes was rare in Africa, but now around one-fifth (20 per cent) of Africans are pre-diabetic or actually suffer from diabetes.

Increased deaths from chronic diseases are projected to rise in low and middle countries, including all African countries (3).. The estimated number of chronic disease-related deaths such as from cardiovascular diseases, cancers and diabetes in



Global map showing HIV-AIDS prevalence. The darker the red, the higher the proportion. (Grey means data not available) Again, Africa is hard hit

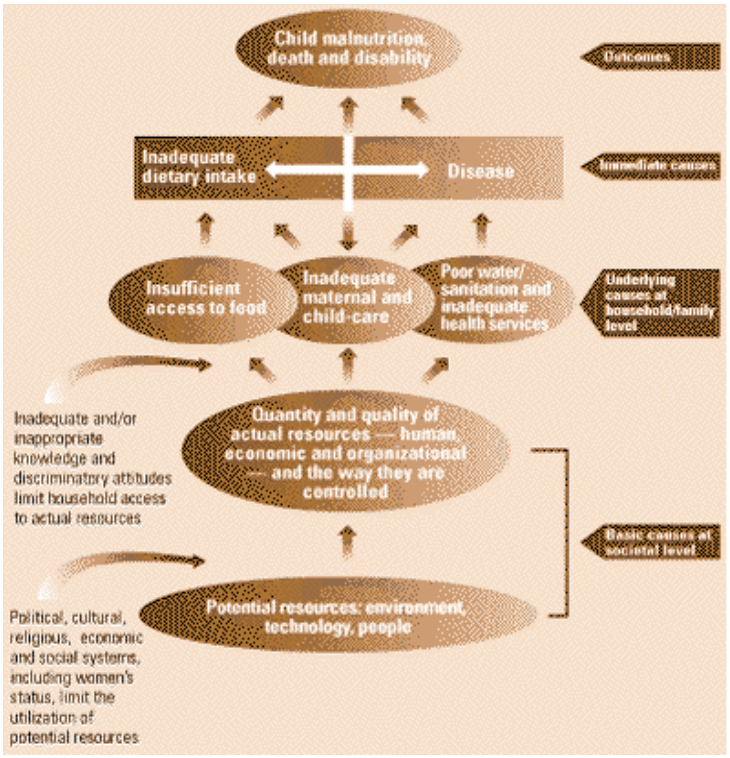
the WHO African Region was almost two and a half million in 2005. It is projected that 28 million African people will die from a chronic disease during the next 10 years. The rate of increase of deaths from chronic diseases will outstrip that from infectious diseases, maternal and perinatal conditions and nutritional deficiencies more than four-fold.

HIV/AIDS still ravages Africa

The third disease burden in Africa is HIV/AIDS. Malnutrition is aggravated by HIV/AIDS and by tuberculosis. Over 33 million people globally are HIV-positive, and about two thirds of these are from sub-Saharan Africa, as indicated in the global map above. The double burden of undernutrition and infection. Together with obesity and chronic diseases is made a triple burden by the HIV-AIDS pandemic as this afflicts Africa.

Childhood undernutrition
Watch out for underlying, basic causes

Inadequate food intake, together with repeated disease, are the two immediate causes of undernutrition, as shown in the conceptual framework on causes of malnutrition below. This framework was devised by Association Council member Urban Jonsson when he was at UNICEF, with colleagues. (Apologies for the graphic being blurred). The underlying causes of these immediate factors include food insecurity, poor health care access and delivery, poor infant and young child care and feeding, and poor environmental sanitation and health. The chief cause of food insecurity is



This graphic devised by UNICEF shows the underlying and basic social, economic and environmental causes of food and nutrition inadequacy

poverty itself, which is interlinked with many basic factors including unstable social and political environments that frustrate sustainable economic growth, war and civil strife, unfair trade policies, natural resource constraints, poor human resource bases,gender inequality, inadequate education, disasters such as floods and locust infestation, and bad governance. Poor education or illiteracy; lack of employment, remittances, income generation; lack of human, financial, social and natural resources are basic determinants of poverty.

Failure to breastfeed exclusively, insufficient quantity and inadequate quality of complementary foods, general poor child feeding practices, and high rates of infections, all increase the risk of undernutrition, and damage health and impede growth. All these factors and practices persist in sub-Saharan Africa.

Tackling malnutrition
Actions that can work now

Effective interventions to reduce stunting and micronutrient deficiencies are well-known. It is estimated that these will reduce young child deaths by a quarter in the short term (4). They have the potential to reduce by a quarter these deaths in the short term. They include:

Exclusive breastfeeding: how to give a baby the best start in life. The first priority is to make extended exclusive breastfeeding easy, accepted, safe

- Making it easier, more acceptable and safe for mothers to breastfeed exclusively for six months or more, together with counselling.
- Improvement of complementary feeding with supplements, conditional cash transfers, or a combination of these.
- Supplementation with vitamin A, iron, zinc, folic acid, calcium and multiple micronutrients, and balanced energy and protein.

The simple and natural practice of exclusive breastfeeding for the first six months and more of a child's life, as pictured above, can work wonders. At the national level, a summary of recommended key interventions to address malnutrition, also from *The Lancet's* 2008 series (5) are as follows:

- Intensify nutrition action in countries with the highest malnutrition burden Rapidly scale up interventions with proven effectiveness.
- Make nutrition a priority at national and sub-national levels, as central for human, social, and economic development.
- Programme efforts, as well as monitoring and assessment, should focus on the first 24 months window of opportunity
- Sharing of experiences of programmes which have worked should be used as the basis for setting priorities.

- Nutrition resources should not be used to support actions unlikely to be effective in the context of national or local realities
- Economic and social policies addressing poverty, trade, and agriculture that improve nutritional status should be agreed and implemented.

These interventions are proven to work. They would have significant impact only if implemented on a large scale.

Moving from knowledge to action
Overcoming the hurdles

How can such interventions move from policy recommendations to effective actions? I believe the issues raised below are of significance right across Africa.

First, have policies

For a start, effective actions depend on rational policies. There should be national nutrition policies that spell out the what, why, when and how of moving into action. There should be clear policies for prevention and also treatment of undernutrition, and also for prevention and management of diet-related chronic diseases. Policies guide programme implementation and also bind the policy-makers. Governments can be held to account. But in some African countries there are no policies. In others policies 'gather dust' – they are agreed but not acted on.

Nutrition to be a top priority

Nutrition should be high on the agenda of African governments. When nutrition is not a priority, governments give it little or no money and cut budgets when times are tough. As things are, many including highly educated people still see nutrition as catering or just eating and drinking. They do not respect it as a science or art. For this same reason, medical students may not find it necessary to learn about managing children with severe malnutrition. When one talks about malnutrition, people make statements like 'just give them food'.

Money from Africa itself

Opportunities for external funding abound. But external support may well not always be available, usually comes with strings attached, and creates dependency and loss of independence. Having said that, our own governments can and should provide much more support than what they currently do. We all know that a lot more is spent on arms and conflicts than on health and nutrition.

All-government action.

Most African countries have established departments and ministries for agriculture, education, health, and water and sanitation. All of these relate to nutrition, and nutrition relates to all of these areas – and more. Nutrition programmes should be integrated into existing programmes. This means that nutritionists need to work with other disciplines because in actual fact, nutrition is directly or indirectly linked with many disciplines.

Scale up nutrition

For instance, programmes to reduce deaths during childbirth need to ensure access to trained birth attendants. For maternal mortality to reduce substantially, so that such reductions affect the national levels, access to trained attendants should be at all health centres, rural as well as urban. .

Make workers competent

Health workers such as physicians and nurses, and also assistants, should have core competencies. Nutritionists in every country should address nutritional issues by providing, supporting and improving programmes and their implementation, training medical and public health professionals and volunteers,, and working with them.

Start young

We need to build up the competence and confidence of young people, most of all. In many African countries, younger people don't get involved much in decision-making until their elders retire, move or die. The younger generation needs mentoring so that there are no leadership gaps. We young people have the energy to create synergy! The wisdom of the old will be complemented by the strength of the young.

I can give examples of many programmes implemented around a decade ago in my own country of Ghana that are now no more. The challenge has always been to ensure that programmes continue when external support ceases. We in Africa need to be careful not to rely too much on external support and when it is sought, to build in plans to sustain the programmes indefinitely.

Climate for change

Yes, Africa is affected by the climate change, as evident in changes in seasons, fewer rains and environmental degradation. We have to build climate change and other giant external challenges and threats into our work and plans. It will be no use if we just deal with what is in front of us today, while imagining that tomorrow never comes.

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