



Friedensreich Hundertwasser, (738) Grass for those who cry, 1975, © 2013 NAMIDA AG, Glarus/Switzerland

HEALTHY PEOPLE DEPEND ON HEALTHY FOOD SYSTEMS

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Malnutrition today imposes high costs on society, and comes in many different forms:

One out of every four children in the world under the age of five is **stunted**. This means 165 million children who are so malnourished they will never reach their full physical and cognitive potential.

About 2 billion people in the world **lack vitamins and minerals** that are essential for good health.

Some 1.4 billion people are **overweight**. Of these, about one-third are **obese** and at risk of coronary heart disease, diabetes or other health problems.

What's more, different types of malnutrition can coexist within a country, a household or even an individual.

Malnourished women are more likely to give birth to smaller babies, who start life with a higher risk of physical and cognitive impairment. In fact, maternal malnutrition is one of the main ways that poverty is transmitted from generation to generation.

At the same time, obese parents may suffer from vitamin deficiencies themselves and their children may be stunted because of low birth weight and poor care and feeding practices. Stunted children may even have a greater risk of developing obesity and related diseases in adulthood. Most countries in the world face many types of malnutrition.

The cost to the global economy caused by malnutrition – as a result of lost productivity and direct health care costs – could account for as much as 5 percent of global income. That is equivalent to US\$3.5 trillion per year or US\$500 per person.

Wiping out malnutrition worldwide is a daunting challenge, but the return on investment would be high. If the global community invested US\$1.2 billion per year for five years on reducing micronutrient deficiencies, for example, the results would be better health, fewer child deaths and increased future earnings. It would generate annual gains worth US\$15.3 billion – a benefit-to-cost ratio of almost 13 to 1.

THE IMPORTANCE OF 'FOOD SYSTEMS'

A food system is made up of the environment, people, institutions and processes by which agricultural products are produced, processed and brought to consumers. Every aspect of the food system has an effect on the final availability and accessibility of diverse, nutritious foods – and therefore on consumers' ability to choose healthy diets.

Of course, there are other factors, too: household income, prices, and consumer knowledge, for example.

What is more, policies and interventions on food systems are rarely designed with nutrition as their primary objective. Even when they are, impacts are difficult to attribute and researchers sometimes conclude that food system interventions are ineffective in reducing malnutrition. In contrast, the effectiveness of medical actions – such as giving vitamin supplements, which address specific nutrient deficiencies – is more easily observed.

But medical interventions cannot substitute in the long term for the broader nutritional benefits offered by healthy, balanced diets from a well-functioning food system.

Healthy diets are balanced in quality and quantity

All over the world, the first recommendation of nutritionists is “eat a variety of foods”. This simple slogan represents one of the key principles for ensuring dietary quality. Quantity – the amount of food and its energy content – is still important. Dietary energy needs to be enough, but not too much, and must be balanced by activity level. A diverse diet containing balanced amounts and combinations of fresh fruits and vegetables, cereals, fats and oils, legumes, and animal-source foods, is likely to provide the full range of nutrients needed by most people to lead healthy and active lives.



IMPACT OF ENVIRONMENTAL DEGRADATION

Agriculture depends heavily on natural resources. It can cause environmental harm, but it can also provide environmental benefits.

Agriculture is a dominant force behind many environmental threats, including climate change, land scarcity and degradation, freshwater scarcity, biodiversity loss, degradation of forest and fishery resources, and contamination from agricultural chemicals. The crop and livestock sectors use 70 percent of freshwater resources and, together with forestry, occupy 60 percent of the Earth's land surface. Livestock alone uses 80 percent of global crop and pasture area.

Oceans cover 70 percent of the planet's surface and sustain fisheries and aquaculture, and aquaculture accounts for a growing share of land and freshwater use.

Approximately 60 percent of the world's ecosystems are degraded or used unsustainably, which poses serious threats to food security and nutrition.

Sustainable food systems are efficient

By definition, sustainable food systems produce nutritious diets for all people today while also protecting the capacity of future generations to feed themselves. Sustainable food systems use resources efficiently at every stage along the way from farm to fork. Getting the most food from every drop of water, plot of land, speck of fertilizer and minute of labour saves resources for the future and makes systems more sustainable. Turning waste products like manure and food scraps into valuable fertilizer or energy can improve sustainability. Pests and diseases damage crops and animals, and reduce the quantity and quality of food available for humans. Using safe and effective methods to control these losses in production, processing and storage helps make food systems more sustainable. Consumers can do their part by choosing balanced diets and minimizing food waste.



ADDRESSING MALNUTRITION TAKES INTEGRATED ACTION

The immediate causes of malnutrition are complex. They include:

- **inadequate availability of (and access to) safe, diverse, nutritious food;**
- **lack of access to clean water, sanitation and health care; and**
- **inappropriate child feeding and adult dietary choices.**

The root causes of malnutrition are even more complex and encompass the broader economic, social, political, cultural and physical environment. Addressing malnutrition, therefore, requires integrated action and complementary interventions in agriculture and the food system, in natural resource management, in public health and education, and in broader policy domains. Because the necessary actions typically involve several government institutions, high-level political support is needed to motivate a coordinated effort.

PRODUCING MORE FOOD: GOOD, BUT NOT ENOUGH

Higher productivity in agriculture contributes to better nutrition by raising incomes – especially in countries where agriculture accounts for a large share of the economy and employment – and by reducing the cost of food for all consumers. It is important to realize, though, that the impact of agricultural growth is slow and may not be enough to bring about a rapid reduction in malnutrition.

Steady increases in agricultural productivity will continue to be crucial in the coming decades: production of basic staple foods will need to increase by 60 percent to meet the expected growth in demand.

But healthy diets are more than staple foods. They are diverse, containing a balanced and adequate combination of energy and nutrients.

For these reasons, the priorities for agricultural research and development must become more nutrition-sensitive, with a stronger focus on nutrient-dense foods such as fruits, vegetables, legumes and animal-source foods. Greater efforts must be directed towards interventions that diversify what small-scale farmers produce – with integrated farming systems, for example.

Another promising area of work involves raising the micronutrient content of staple foods – either through “biofortification”, or by encouraging the use of varieties with higher nutrient content, or by taking a second look at underutilized, nutrient-rich staple crop species.

Interventions involving agriculture are generally more effective when combined with nutrition education and implemented with sensitivity to the different gender roles.

CONSUMER CHOICE AND BEHAVIOUR CHANGE

Making systems more nutrition-enhancing so that food is available, accessible, diverse and nutritious is key, but so is the need to help consumers make healthy dietary choices.

Promoting behaviour change through nutrition education and information campaigns – while also addressing household sanitation and ensuring appropriate foods for all ages and life stages, particularly the first 1000 days – has proved effective. Even in locations where undernutrition and micronutrient deficiencies persist as the primary problems, it is important to also act to prevent a rise in overweight and obesity, especially in the long run. Behaviour change can also reduce waste and contribute to the sustainable use of resources.

SUPPLY CHAIN PROS AND CONS

Traditional and modern food systems coexist and evolve as economies grow and urbanization increases.

Modern supply chains integrate storage, distribution and retailing – and offer efficiency gains that can lead to lower prices for consumers and higher incomes for farmers.

Processing and packaging of nutrient-dense but highly perishable foods like milk, vegetables and fruit can make a variety of nutritious foods more available and affordable to consumers year-round. On the other hand, highly processed, energy-dense foods may contribute to overweight and obesity when consumed in excess.

Modern food processing and distribution also offer opportunities for the use of fortified foods, which can make important contributions to nutrition.

Although supermarkets are spreading rapidly in low-income countries, most poor consumers in rural and urban areas still buy most of their food through traditional food distribution networks. These traditional outlets are the primary channel for nutrient-rich foods such as fresh fruits and vegetables and livestock products, although they increasingly carry processed and packaged foods, too. The use of traditional retail outlets for distributing fortified foods such as iodized salt is another proven strategy for improving nutritional outcomes.

Improved sanitation, food handling, and storage technologies in traditional food systems could boost efficiency and improve the safety and nutritional quality of foods. Reducing food and nutrient losses and waste throughout food systems could make important contributions to better nutrition and relieve pressure on productive resources.

INTERNATIONAL NUTRITION CONFERENCE

The “International Conference on Nutrition 2” will take place in Rome from 19 to 21 November 2014. The Conference will review progress made since the previous nutrition conference in 1992, and tackle the challenges and opportunities for improving nutrition in a new global environment. ICN2 will explore how governments and others can better work together to address the multiple burdens of malnutrition, and offer a forum for sharing practical tools, guidelines and experiences in improving nutritional outcomes. Organized by FAO and WHO, this high-level ministerial conference will seek to propose a flexible policy framework to meet the major nutrition challenges of the next decades.

INSTITUTIONAL AND POLICY ENVIRONMENT FOR NUTRITION

Some countries have achieved significant reductions in malnutrition in recent decades. But progress has been uneven and there is a pressing need to make better use of the food system for improved nutrition.

Malnutrition and its underlying causes are complex. This means that the most effective approaches will involve multiple sectors and a range of different actors. Such an approach – with effective planning, coordination and collaboration – requires better governance, based on sound data, a common vision and, above all, political leadership.



Three key messages

1

Good nutrition depends on healthy diets.

2

Healthy diets require healthy food systems – along with education, health, sanitation and other factors.

3

Healthy food systems are made possible by appropriate policies, incentives and governance.

Example 1: Viet Nam's VAC system

In Viet Nam, the VAC (Vuon, Ao, Chuong – Crop farming, Aquaculture, Animal husbandry) system is an integrated approach that has produced positive effects on nutrition. The VAC system typically includes: a pond stocked with fish placed close to the home; livestock or poultry pens situated near or over the pond to provide an immediate source of organic fertilization; and gardens that include both annual and perennial crops for year-round food provision and products for market. Viet Nam's national nutrition survey 2000 showed marked improvements from 1987 in terms of animal-source foods and fruit and vegetable consumption. Although this progress was due to multiple factors, VAC played an important role. As a result, the prevalence of child malnutrition and chronic energy deficiency in women of child-bearing age decreased, and there was a substantial increase in the incomes and the health and nutrition of Vietnamese rural populations.

Example 2: Boosting soil fertility in India

Soils in many parts of the world are severely degraded. Improving the fertility of soils can enhance both the sustainability of agricultural production and the nutritional content of crops. The use of organic or inorganic fertilizers containing balanced concentrations of nitrogen, potassium and phosphorus can enhance crop yields and improve micronutrient concentrations in crops. Adding specific nutrient elements to fertilizers or irrigation water can further enhance yields and mineral concentrations in crops. In the Indian states of Andhra Pradesh, Madhya Pradesh and Rajasthan, yields improved by 20 to 80 percent and a further 70 to 120 percent when other nutrient elements were added in conjunction with nitrogen and phosphorus. These results were found for a number of crops – including maize, sorghum, greengram, pigeonpea, castor, chickpea, soybean and wheat. Yield increases achieved through balanced crop fertilization can reduce the land area needed to grow staple crops and thus add to the sustainability of the farming system.

Example 3: Making the most of goats in Ethiopia

In some communities, micronutrient intakes can be enhanced more sustainably and effectively by strengthening animal husbandry. For example, in Ethiopia, the important role of goats in the mixed farming systems of the high- and mid-altitude areas led to development of the FARM-Africa dairy Goat Development Project. The project focused on increasing milk consumption and incomes by raising the productivity of local goats managed by women, through a combination of better management techniques and genetic improvements. The intervention led to an increase in the per capita availability of milk by 119 percent, energy from animal sources by 39 percent, protein by 39 percent and fat by 63 percent. Analysis of data on households in the project area demonstrated a considerable improvement in nutritional status and family welfare. As with many such projects, integrating nutritional, environmental and gender considerations led to improved outcomes.

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