



## Fighting hunger – and obesity

### **A growing number of developing countries must shoulder a "double burden" of malnutrition: the persistence of undernutrition along with a rapid rise in overweight, obesity and diet-related chronic diseases**

Galloping economic growth in China over the past 20 years has led to dramatic improvements in the nation's nutrition and health status. Parallel with rising consumption of meat, poultry, eggs and other animal products, China has achieved a sharp decline in all indicators of undernutrition and a similar drop in deaths from infectious diseases, such as hepatitis, diarrhoea and malaria.

But a new report by FAO's Nutrition and Consumer Protection Division (AGN) finds that the Chinese have a major new public health problem: overnutrition is increasing to the point where 23% of the adult population is overweight or obese, and diet-related chronic diseases have become the leading cause of death.

China is one of a growing number of developing countries facing what has been dubbed "the double burden of malnutrition": the persistence of undernutrition - almost 8 percent of China's pre-school children remain underweight - along with the rapid rise of overnutrition and diseases such as diabetes, hypertension and coronary heart disease.

**Dietary changes.** The growing burden of non-communicable diseases (NCDs) in both developed and developing countries, and the associated rise in public health and social expenditures, were reviewed at a special session of FAO's intergovernmental Committee on Agriculture (COAG) in February 2004. COAG members called on FAO to provide governments with policy advice on nutrition and healthy diet to prevent NCDs, and requested a thorough assessment of the linkages between the diseases and changing food consumption patterns.

AGN's report, *Assessment of the double burden of malnutrition in six case study countries*, was commissioned from national researchers in China, Egypt, India, Mexico, the Philippines and South Africa. While it found, as expected, a marked shift over the past 20 years



to diets high in saturated fat, sugar and refined foods, trends in the countries' nutritional and disease status differ from the classic nutrition and health transitions that occurred in Europe and North America during the 19th century. "Traditionally, overnutrition appears as undernutrition and infectious disease become 'problems of the past'," says AGN's Gina Kennedy. "What we are seeing in developing countries undergoing rapid economic transition is undernutrition, overnutrition and infectious and chronic diseases coexisting over long periods of time."

The report says this "double burden" is the result of various factors. Progress in improving water and sanitation systems and development of sound public health systems has been slow, thwarting efforts to reduce undernutrition. At the same time, changing dietary patterns and lifestyles - spurred by urbanization, the liberalization of markets, demographic shifts and declining levels of physical activity - have contributed to overweight and chronic diseases.

In all of the countries studied, per capita energy supply has increased since 1970 and most have experienced a rapid movement away from plant-based diets. While the share of cereals,

legumes, pulses and nuts in people's diets has remained stable or declined, the consumption of sugar, oils, fats and animal products has generally increased. One consistent trend is the increased "energy density" of diets: the percentage of energy derived from fat. In China, it has risen by nearly 10 percent over the past decade, although the highest proportion - more than 30 percent - is in Mexico.

Urban populations are typically the first to begin incorporating more fats, animal source foods and processed products into their diet. But the report says the dietary changes observed are not limited to urban areas, or to wealthier strata of the population. Research in China has found increasing intakes of animal foods and oils in large rural centres, while in Brazil processed bakery and meat products, sweets and soft drinks were among the most commonly consumed foods in low-income areas. Falling prices are another stimulus for dietary changes: in China, for example, the real prices of fish, pork and oil all fell during the 1990s.

**"Some progress."** The effects of these dietary changes are not necessarily negative. "Transition from a predominantly cereal-based diet to one that includes more meat and dairy products should have a positive impact on the intakes of high-quality protein and several micronutrients," AGN says. In fact, the report sees "some progress" in reducing child undernutrition in all of the case study countries. Between 1992 and 2000, China made the most rapid progress, with rates of stunting in children under five falling from 32 to 14 percent. In the same period, underweight declined from 18 to 7.8 percent.

Nevertheless, stunting and underweight remain high in India and the Philippines, and nationally aggregated data hide disparities within regions and among different ethnic and socio-economic groups. For example, stunting affects more than 30 percent of children aged one to four years in rural areas of Mexico's southern region. Even so, overweight in children is an emerging concern. In Egypt, more children are now overweight than underweight. "Increasing rates of overweight and obesity in children signal a very alarming trend," AGN says, "since early onset of obesity means higher risk of developing obesity-related chronic diseases."

The report finds that the nutrition status of adults in the countries studied is "strikingly different" to that of children: adult underweight is declining and overweight is now more prevalent than underweight in China, Egypt, Mexico and the Philippines. There are also "striking discrepancies" in anthropometric outcomes between children and adults. In the Philippines, recent studies show 32 percent of children under five are underweight, while 27 percent of women are overweight or obese.

"It seems that there are environmental and biological factors leading to such extreme outcomes," AGN says. "There is also evidence of increased risk of adult obesity when undernutrition occurs during childhood. While poverty is a main driver of stunting, in many countries, the urban poor and undereducated have high rates of overweight."

**Diabetes, hypertension.** The extent of the public health threat posed by overnutrition is revealed in data on the incidence of diet-related chronic diseases. In four countries where data are available, high blood pressure - linked to high salt intake - affects more than 20 percent of adults, and in Egypt and Mexico the prevalence of diabetes, related to high dietary energy and dietary fat, is nearly 10 percent. Among people aged 18 years and over in China, the prevalence of hypertension increased from less than 12 percent in 1991 to 19 percent (or some 160 million people) in 2002.

The report concludes that, given current economic and social trends, observed changes in dietary patterns are likely to continue and - combined with changes in lifestyle, particularly the decrease in physical activity - will exacerbate emerging problems of overnutrition and diet-related chronic disease. The report cautions, however, that the need to address diseases among adults should not overshadow national and regional efforts to improve child growth and alleviate micronutrient deficiencies.

"The challenge," Gina Kennedy says, "is to develop effective programmes and policies aimed at preventing and controlling both aspects of the 'double burden'. That is a task not only for nutritionists but for everyone working in food production, processing and marketing, as well as food safety and education."

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