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## Annex 2

# Long Routes to Improving Nutrition

### **Economic growth**

Economic growth is perhaps the most important long route to improved nutrition. Although nutrition is correlated with income, both across countries and over time in the same country, improvement takes a long time—time during which many children suffer irreparable damage to human capital. Haddad and others (2002) estimate that countries with 2.5 percent GDP growth per capita could expect a reduction of 27 percent in underweight in preschool children between 1990 and 2015.

### **Macroeconomic policies**

Macroeconomic policies, particularly trade policies, can profoundly affect both the supply of and the demand for food. Policy reforms can have a rapid effect on the income of the poor, but their effect on nutrition is less direct, and pro-poor reforms have often proven to be politically difficult to implement. As was shown in the Sahel in 1996 when the CFA franc was devalued, foreign exchange rates have an immediate and large effect on food consumption of the rich and poor alike. Unfortunately, government controls on food markets (tariffs, subsidies, price controls, ration shops, public ownership of mills, and parastatal food marketing boards) often fail to benefit the poor, while draining the public coffers.<sup>1</sup> Reforms of such programs can improve poor people's nutrition or food consumption and reduce public expenditures (usually by reducing benefits to wealthy and politically powerful populations, however). Careful food policy analysis on the effect of policy changes on food consumption of the poor can show which policy reforms make the most sense. A good example of this type of analysis is Romania's Agricultural Sector Adjustment Loan;<sup>2</sup> it identified the regressiveness of food subsidies and tariffs, and at the same time built local capacity to undertake food policy analysis.

## **Female education and enhanced women's status**

Female education and enhancing the status of women are important long routes to nutritional improvement.<sup>3</sup> In a large cross-country study, women's education was found to have a greater influence on child nutrition than food availability, women's status, and access to safe water.<sup>4</sup> Improving women's education and status is desirable for many reasons, of course, but the lag time between girls entering school and having their first child (hopefully delayed by additional schooling) and the slow pace of improvement in women's status make these long-term approaches to improving nutrition. In Ethiopia, analysis showed that increased schooling, food security, and income growth would take too long to affect preschool malnutrition, but that community-based growth promotion could accelerate and potentiate their effect on nutrition.<sup>5</sup> The nutritional effect of growth promotion among 25 percent of children is equivalent to primary schooling in one female adult per household. This had been shown previously in the Bank-supported Indonesian Nutrition Development Project, where growth promotion was shown to have the greatest effect on mothers with the least education.<sup>6</sup>

## **Women's workload**

Women's workload is also important for nutrition. Women are farmers and wage workers, and they carry out the bulk of family maintenance (cooking, washing, child care). Women's income can have an important positive effect on child nutrition, if child-care arrangements are adequate. Relieving this workload through labor-saving devices (food mills, wheelbarrows, improved stoves, water supply) can free both time and energy for attention to nutrition, both for the woman and her children. Many development programs expect women to "do more" for health when they have no time available. Attention to women's income, control of resources, energy expenditure, and time use is critical to improving the nutrition of women and children.

## **Food production**

Food production is also a long route to nutrition improvement. Countries with higher food availability tend to have better nutrition. Nonetheless, nutrition does not track food availability within countries over time. This is undoubtedly because those who need the food the most are unlikely to be able to increase production or purchasing power in the short term, unless explicit efforts are made to increase their economic access to food. Also, as shown in studies of agricultural commercialization by the International

Food Policy Research Institute,<sup>7</sup> the effect of income on nutrition is mediated by women's control of income and their time.<sup>8</sup>

### **Water supply and sanitation**

Diarrhea, a major cause of malnutrition, is strongly related to water access and quality,<sup>9</sup> so it is not surprising that water supply and sanitation have been shown to have an effect on nutrition.<sup>10</sup> Water supply programs not only reduce the waterborne transmission of disease, but also save women time and energy otherwise spent carrying water. This extra time can be devoted to child care and feeding or to income generation, and the extra energy benefits undernourished women. Water and sanitation programs might find that their cost-benefit increases if they measure their effect on improving nutrition.

### **Family planning**

The relationship between nutrition and fertility is complex. On the one hand, exclusive breastfeeding (arguably the most important nutrition intervention) reduces fertility. On the other hand, high parity and short birth intervals are associated with worse child nutrition and maternal nutritional depletion. Family planning affects nutrition both by enhancing maternal resources available to each child and by enhancing women's health. Such programs rarely measure nutrition as an outcome, but a successful family planning program is likely to have a substantial positive effect on nutrition. Thus maternal health and family planning programs provide another long route to nutritional improvement.

### **Notes**

1. Alderman and Lindert (1998); Adams (1998); Tuck and Lindert (1996); World Bank (2001c).

2. Esanu and Lindert (1996).

3. Smith and others (2003); women's status is proxied by whether women work for cash, age at first marriage, age difference between partners, and education difference between partners.

4. Smith and Haddad (2000).

5. Christiaensen and Alderman (2004).

6. Manoff International, Inc. (1984).

7. Von Braun (1995).

8. Haddad and others (1996).

9. Cairncross and Valdimanis (2004).

10. Anderson (1981); Burger and Esrey (1995).

11. Heaver (2002).
12. Monteiro and others (2004).
13. Panneth and Susser (1995).
14. Caballero (2005).