

## WHY POPULATION MATTERS TO **FOOD SECURITY**



Almost one in seven people around the world are chronically hungry, lacking enough food to be healthy and lead active lives. This is despite the fact that enough food exists for all of the world's people.<sup>1</sup> Agricultural policies, the prices of certain food commodities such as meat and grain and economic development hugely impact food security, but demographic trends also play a role.

Increasing numbers of people often drive up demand for food, which typically results in additional use of arable land and water. This is especially true in the absence of adequate food production technology and integrated programs that simultaneously address community needs for food and reproductive health. The Food and Agriculture Organization (FAO) projects that by 2050, population and economic growth will result in a doubling of demand for food globally.<sup>2</sup> Addressing the health needs of families in the developing world, including through increased access to family planning, can help slow rapid population growth, improve the health of families and enhance their food security.

### **The State of Food Security**

The FAO defines food security as: "When all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life."<sup>3</sup> Nearly one billion people are undernourished, hungry, and living without adequate daily calories. The

people most severely affected by food crises are those already living in poverty.<sup>4</sup> The number of undernourished people in the world was projected to decline in 2010 as the global economy revived following the 2008 financial crisis, but 16 percent of the population in developing countries remains undernourished (Figure 1). Seven countries account for two-thirds of the world's undernourished population:

Bangladesh, China, the Democratic Republic of Congo, Ethiopia, India, Indonesia and Pakistan.<sup>5</sup>

Additionally, the impacts of climate change on temperature, precipitation, and agricultural productivity are likely to diminish food security in some places. Recent research suggests that climate change will have major

negative impacts on staple crops—especially in Asia and Africa, where widespread hunger is greatest.<sup>6</sup>

Overall demand for food is affected by population growth, while economic development and rising incomes tend to shift diets toward meat and animal products that are more expensive and resource-intensive to produce.<sup>7</sup> Meanwhile, food prices are driven by the prices of key agricultural commodities such as meat and grain, stocks of agricultural stores, energy prices, crop failures, demand for biofuels and agricultural trade policies.<sup>8</sup> Although prices for major agricultural commodities—including vegetable oils, grain, dairy products and rice—declined somewhat following peaks in 2008, they have risen quickly, compounding the challenges of chronic food insecurity.<sup>9</sup> The food supply is also affected by high prices for energy, such as petroleum, which raise prices throughout the supply chain and, in turn, increase consumers' costs.<sup>10</sup>

Fisheries are also important food sources, particularly for many poor people in developing countries. In some low-income countries, fish comprises 19 percent of animal

protein consumption overall.<sup>11</sup> Fisheries and aquaculture also contribute to economic growth and human welfare in many countries, since millions of people around the world depend on them for their livelihoods.

The 2009 World Summit on Food Security noted that low-income households, women, and farmers with small holdings can face unequal access to food supplies and markets.<sup>12</sup> Women and children, particularly pregnant and breastfeeding women and infants, are often the most severely affected by a lack of food. Pregnant and breastfeeding women require 300 to 500 extra calories each day, requirements that are difficult to meet in situations of food insecurity.<sup>13</sup> An estimated 17 million infants are born underweight each year, a risk factor that contributes to more than half of all newborn deaths.<sup>14</sup>

Further, when food is scarce, mothers often sacrifice food for their children. In some places male children receive a larger share of available food than their female siblings.<sup>15</sup> Children are also particularly vulnerable because they are still developing, and childhood malnutrition has lifelong implications in terms of productivity, premature death and disability.<sup>16</sup> While women are the primary guarantors of food security for their children, their agricultural work is often unpaid, and laws and customs can limit their rights to land ownership or access to credit.<sup>17</sup>

One of the targets of Millennium Development Goal 1 is to “halve, between 1990 and 2015, the proportion of people who suffer from hunger.”<sup>18</sup> The FAO Rome Declaration on World Food Security formulated at the 1996 World Food Summit aims to “eradicate hunger in all countries, with an immediate view to reducing the number of undernourished people to half their present level no later

than 2015.”<sup>19</sup> Progress towards the MDG1 target is slow, with the share of undernourished people in the developing world declining from 20 percent in 1990 to 16 percent in 2007.<sup>20</sup> However, the percent of official development assistance dedicated towards agriculture decreased dramatically from 18 percent in 1979 to 5.5 percent in 2004,<sup>21</sup> while the number of hungry people in the world has remained high.

**Links between Population and Food Security**

Most of the countries with the highest numbers of people facing food insecurity also have high fertility rates and rapid population growth. This increases the challenge of adequately meeting nutritional needs. Sub-Saharan Africa has the highest population growth rate in the world. By 2050, even if fertility rates decline, the population of the region is projected to more than double. This area also holds the largest proportion of food-insecure people, with one in four people undernourished.<sup>22</sup> Sub-Saharan Africa also has the lowest agricultural productivity in the world and the highest percentage of people living in poverty.<sup>23</sup>

Food production depends on croplands and water supply, which are under strain as human populations increase. Pressure on limited land resources, driven in part by population growth, can mean expansion of cropland. This often involves destruction of vital forest resources or overexploitation of arable land.

Globally, the world is becoming more urban. Although urban residents have access to a wider array of foods, without land to farm, their food security is dependent on their income and ability to purchase food products.<sup>24</sup> Poor families in urban areas spend up to 60 percent of their budget on food,



*Fisheries are an important food source for many communities and are increasingly susceptible to the pressure of population growth.*

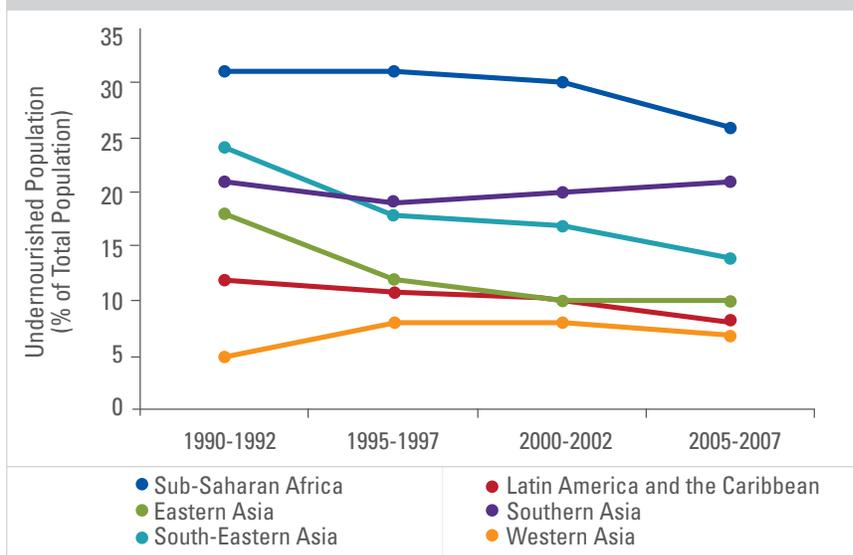
and low incomes combined with high prices can increase their risk of hunger and malnutrition.<sup>25</sup>

Population pressures in coastal areas are also affecting food security in countries where there is a high dependence on fisheries for protein. In the Philippines, for example, recent research has shown that human pressures, including population growth, have adversely affected the productivity of municipal fisheries. These fisheries had previously provided up to 80 percent of dietary protein for inhabitants in rural coastal areas, and are now on the decline.<sup>26</sup> At the same time, global fish consumption has been increasing, both in aggregate and per capita terms. According to fishery experts, consumption of fish has doubled since 1973, with the developing world accounting for nearly all of this growth.<sup>27</sup> Globally, the rates of growth in fish capture and aquaculture have slowed, raising concerns about the future supply of fish for human consumption.<sup>28</sup>

### Policy Considerations

Short term solutions to food insecurity include social protection programs such as food aid, both in emergencies and long-term provision of supplies to those hardest hit by hunger. However, food aid without simultaneous developments in local agriculture sectors does not provide a sustainable solution to food insecurity. Increasing agricultural productivity in developing countries, for example through the development of drought-resistant crops and soils, will be a key factor in meeting food demands. Investment in rural infrastructure such as roads, irrigation, and storage facilities could support efforts towards increased agricultural productivity. These investments, if made, could also have serious environmental consequences. Thus, investment in sustainable technologies able to support

**FIGURE 1: Hunger Rates Have Declined in Many Regions But Stagnated in Others**



Source: Food and Agriculture Organization of the United Nations (FAO). 2010. "Food Security Statistics: Prevalence of Undernourishment in Total Population." FAO. <http://www.fao.org/economic/ess/food-security-statistics/en/>. Accessed January 6, 2011.

increased agricultural intensity will be crucial for both meeting the demands of a growing population and adapting to environments increasingly affected by climate change.<sup>29</sup>

Increased production of food alone will not solve the world's food security problem.<sup>30</sup> Projections from the International Food Policy and Research Institute (IFPRI) suggest that slower population growth could significantly lower malnutrition along with increased agricultural productivity, economic growth and investment in health and education.<sup>31</sup> Because population trends will continue to affect the demand for food for decades to come, it is important that demographic projections be incorporated into plans to improve agricultural production and achieve greater food security.

Mid-term solutions include developing integrated development approaches that could simultaneously address both population factors and food security. Programs in the Philippines,

for example, have demonstrated that it is possible to improve food security by increasing access to contraception while providing opportunities for women to be community leaders and stewards of fishery resources.<sup>32</sup> These projects are increasing fisheries production and improving the lives of women at a higher rate—and at a lower cost—than if these programs addressed these issues separately.

An estimated 215 million women in the developing world want to avoid pregnancy but lack modern contraception. Increasing access to voluntary family planning would improve women's and children's health. It would also allow couples to plan and space childbearing, enhancing their ability to provide enough food for their families. Investments in international family planning and reproductive health can improve families' well-being at the household level, while helping to slow population growth in areas most affected by food insecurity.

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