**Food Security and Economic Growth**

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This study aimed to examine the relationship between food security, health and economic growth. These three components together form the vertices of a triangle. How much does food security strategies in a country bring more health to its people? Is the healthy population richer? What is the impact of health on income, and to what extent are income variation among countries characterized by variation in health? Does better nutritional status contribute to faster economic growth?

Food and Agriculture Organization (FAO) has defined food security as: when all people in any 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 (Food and Agriculture Organization, 2008). At the household level, food security refers to the ability of the household to secure, either from its own production or through purchases, adequate food for meeting the dietary needs of all members of the household (Food and Agriculture Organization, 2008). Therefore, Food security has four interrelated elements: availability, access, utilization and stability (Dilley and Boudreau, 2001). Availability is about food supply and trade, not just quantity but also the quality and diversity of food. Access covers economic and physical access to food. Utilization is about how the body uses the various nutrients in food. Stability is about having food security at all times. Improving availability requires sustainable productive farming systems, well managed natural resources, and policies to enhance productivity. Improving access requires better market access for smallholders allowing them to generate more income from cash crops, livestock products and other enterprises (Dilley and Boudreau, 2001). To achieve food access and availability in low and high-income societies, a detailed distinction is...
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made between technological and institutional aspects. In the case of low-income economies, the emphasis is placed on the socio-economic situation
and performance of small-scale farmers while in
high-income economies the focus is shifted
towards issues of price volatility, market stability
and food waste. In both cases, productivity and
efficiency in the use of resources are also
considered (International Food Policy Research
Institute, 2010).

Food is a fundamental human right. Health is
also valued in its own right. Furthermore, health is
known as the measure of the body's efficiency and
overall well-being. Health improvement can affect
on utility, efficiency, productivity, income and
ultimately affects on economic growth. Therefore,
good health has a positive, sizable, and statistically
significant effect on economic growth. Food
security not only carries significant benefits for
human health, but also serves as the basis to
achieve sustained economic growth.

On the other hand, food insecurity is a
household-level economic and social condition of
limited or uncertain access to adequate food
(Bindraban et al., 2003). The United States
Department of Agriculture (USDA) defines food
insecurity as a state in which “consistent access to
adequate food is limited by a lack of money and
other resources at times during the year.”
Therefore, food insecurity offers an accepted
method for measuring food deprivation (Sen,
1983). Hunger is an individual-level physiological
condition that may result from food insecurity
(Massett, 2010). One in nine people around the
world (805 million) get hungry every day (Food
and Agriculture Organization, 2008). They are at
risk of mental impairment, poor health, low
productivity and even death. Countries with very
high levels of poverty and chronic malnutrition
face limitations in human capital development,
which is required to achieve sustainable growth.
High rates of malnutrition can lead to a loss in
gross domestic product (GDP) of as much as 4 to 5
percent (Food and Agriculture Organization et al.,
2015). The economic costs of micronutrient
deficiencies are also considerable, reducing the
GDP to 0.7-2% in most developing countries.
Global losses in economic productivity due to
macronutrient and micronutrient deficiencies reach
more than 2-3% of the GDP (Klaus von et al.,
2014). The GDP growth generated by agriculture is
up to four times more effective in reducing poverty
than growth generated by other sectors
(International Fund for Agricultural Development,
2012). It has to be noted that women and men
must be equal partners in improving global food
security. If women had the same access to
productive resources as men, they could increase
yields in their fields by 20-30%. This alone would
raise total agricultural output in developing
countries to 2.5-4%, which could reduce the
number of hungry people in the world to 12-17%
or 100-150 million people (Food and Agriculture
Organization et al., 2015).

Better nutrition enhances economic growth. On
the other hand economic growth also has a direct
and positive impact on reducing hunger. It has
proved that an increase of 10 percent in economic
growth reduces chronic malnutrition to only 6
percent (Oxford Poverty & Human Development
Initiative et al., 2010, Stamoulis and Zezza, 2003).
However, economic growth by itself will not
resolve the problem of hunger and malnutrition.
Moreover economic growth can have negative
effects, too. For example, a 10 percent increase in
economic growth is correlated with an increase of
7 percent in obesity among women.

Some factors including population growth,
changing tastes, climate change, water scarcity,
troubled farmers have caused food security as a
priority for all countries, whether developing or
developed (Food and Agriculture Organization,
2008). The issue of food security is not just about
food and feeding people but also about practically
all aspects of an economy and society. Food
insecurity traces to poverty. Poverty must be
addressed by economic development. The
challenge of food security is for economists to
work with others regarding socioinstitutional
changes essential for proven policies and practices
to supply adequate diets. Implications of economic
policy for food security is to provide the world
growing population with a sustainable, secure supply of safe, nutritious, and affordable high-quality food, using less land with lower inputs and in the context of global climate change as well as other environmental changes and declining resources. Without a country-owned food security strategy, there will be a continued negative effect on human capital that results in negative consequences on government expenditures. This will lead to stagnated economic growth in the long term. Thus a proper food security strategy is an essential for all countries. It requires a combination of coordinated actions in various sectors including finance, agriculture, health and nutrition, infrastructure, and other sectors. Fighting against hunger and achieving food security is a universal goal which requires additional multi-sectoral policies aimed at reducing inequalities and targeting efficiency and productivity in the use of resources. Innovation programmes and policies which integrate institutional coordination and technical support have to put forward as strategic tools in the achievement of food security goals at regional and global levels.

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