

Challenges of Food Security

Despite considerable efforts of national governments and the international community to reduce hunger and malnutrition in the context of the Millennium Development Goals (MDGs) and other initiatives, the proportion of undernourished people in developing countries has been largely constant since the mid-1990s (FAO 2010). While some progress in hunger reduction had been made until 2007, the 2008 global food price crisis and subsequent food price spikes in local markets have pushed or kept millions of people in food insecurity (Brinkman et al. 2010; FAO 2009a). The main causes of this rise in global and national food insecurity include trade restrictions imposed by major food exporters, biofuels policies, and increased food commodity speculation combined with poor national and local governance to cope with such shocks. Besides, longer-term dynamics such as climate change and mounting food demand through changing dietary patterns and growing populations have strained international food markets and are expected to lead to further rising food prices and increasing price volatility (Nelson et al. 2010; FAO 2011).

Facts about Food Security from around the globe

- 1)** The world population is predicted to grow **from 6.9 billion in 2010 to 8.3 billion in 2030 and to 9.1 billion in 2050**. By 2030, food demand is predicted to increase by 50% (70% by 2050). The main challenge facing the agricultural sector is not so much growing 70% more food in 40 years, but **making 70% more food available on the plate**.
- 2)** Producing 1 kilo of rice, for example, requires about 3,500 litres of water, 1 kilo of beef some 15,000 litres, and a cup of coffee about 140 litres. **This dietary shift is the greatest to impact on water consumption over the past 30 years**.
- 3)** In 2008, the surge of food prices has driven 110 million people into poverty and added 44 million more to the undernourished. **925 million people** go hungry because they cannot afford to pay for it. In developing countries, rising food prices form a major threat to food security, particularly because people spend **50-80% of their income on food**.
- 4)** In developing countries, **43 percent of the farmers are women**. Female farmers are considered as efficient as men; however, they do not perform as well because they do not have access to the same inputs, services and productive resources – including water.
- 5)** Agriculture contributes to climate change through its share of greenhouse gases emissions, which in turn affect the planet's water cycle, **adding another layer of uncertainties and risks to food production**. It is predicted that South Asia and Southern Africa will be the most vulnerable regions to climate change-related food shortages by 2030.

SOURCE: http://www.un.org/waterforlifedecade/food_security.shtml

The term food security has had a very long transition. With different circumstances and experiences each definition would find another element being added to it.

The initial focus, reflecting the global concerns of 1974, was on the volume and stability of food supplies. Food security was defined in the 1974 World Food Summit as the, “availability at all times of adequate world food supplies of basic foodstuffs to sustain a steady expansion of food consumption and to offset fluctuations in production and prices”. In 1983, FAO expanded its concept to include securing access by vulnerable people to available supplies, implying that attention should be balanced between the demand and supply side of the food security equation:

“Ensuring that all people at all times have both physical and economic access to the basic food that they need”.

In 1986, the World Bank report, “Poverty and Hunger”, focused on the temporal dynamics of food insecurity. It introduced the widely accepted distinction between chronic food insecurity, associated with problems of continuing or structural poverty and low incomes, and transitory food insecurity, which involved periods of intensified pressure caused by natural disasters, economic collapse or conflict. This concept of food security is further elaborated in terms of:

“Access of all people at all times to enough food for an active, healthy life”.

By the mid-1990s food security was recognized as a significant concern, spanning a spectrum from the individual to the global level. However, access now involved sufficient food, indicating continuing concern with protein-energy malnutrition. But the definition was broadened to incorporate food safety and also nutritional balance, reflecting concerns about food composition and minor nutrient requirements for an active and healthy life. Food preferences, socially or culturally determined, now became a consideration.

The 1996 World Food Summit adopted a still more complex definition:

“Food security, at the individual, household, national, regional and global levels [is achieved] when all people, at all times, have physical and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life”.

This definition is again refined in The State of Food Insecurity in the World 2001: “Food security [is] a situation that exists 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”.

Essentially, food security can be described as a phenomenon relating to individuals. It is the nutritional status of the individual household member that is the ultimate focus. So, food security exists when the definition above is met at the level of an individual, be that a child or an adult, male or female. Household food security is the application of this concept to the family level, with individuals within households as the focus of concern. The amount and quality of food available globally, nationally and locally can be affected temporarily or long-term by many factors including climate, disasters, war, civil unrest, population size and growth, agricultural practices, environment, social status and trade.

Poverty: Poor people lack access to sufficient resources to produce or buy quality food. Poor farmers may have very small farms, use less effective farming techniques, and/or be unable to afford fertilizers and labour-saving equipment, as of which limit food production.

Health: Without sufficient calories and nutrients, the body slows down making it difficult to undertake the work needed to produce food. Without good health, the body is less able to make use of the food that is available. It is also said some nutrients are known to specifically affect cognitive development and brain function, including fat, DHA, iron, and iodine.

Water and Environment: Food production requires massive amounts of water. It takes one cubic metre (1000 litres) of water to produce one kilogram of wheat and 5,000 litres of water for one kilogram of rice. Producing sufficient food is directly related to having sufficient water.

Gender Equity: Women play a vital role in providing food and nutrition for their families through their roles as food producers, processors, traders and income earners. Yet their lower social and economic status limits their access to education, training, land ownership, decision making and credit and consequently their ability to improve their access to and use of food.

Disasters and Conflicts: Droughts, floods, cyclones and pests can quickly wipe out large quantities of food as it grows or is stored for later use or planting. Conflicts can also reduce or destroy food in production or storage. Farmers flee their fields for safety or become involved in the fighting.

Population and Urbanization: Population growth increases the demand for food. Expanding cities spread out across productive land, reduces the agricultural production including food production.

Trade: Many poor countries can produce staples more cheaply than rich nations but barriers to trade, such as distance from markets, quarantine regulations and tariffs make it difficult for them to compete in export markets against highly subsidised farmers in rich countries.

Challenges of Food Security in Pakistan

Pakistan, like much of the developing world, was a victim of the global food crisis in 2008. Food insecurity has become one of the major national problems in Pakistan. According to FAO, there were 35 million malnourished people in Pakistan during 2010-11.

Food Prices

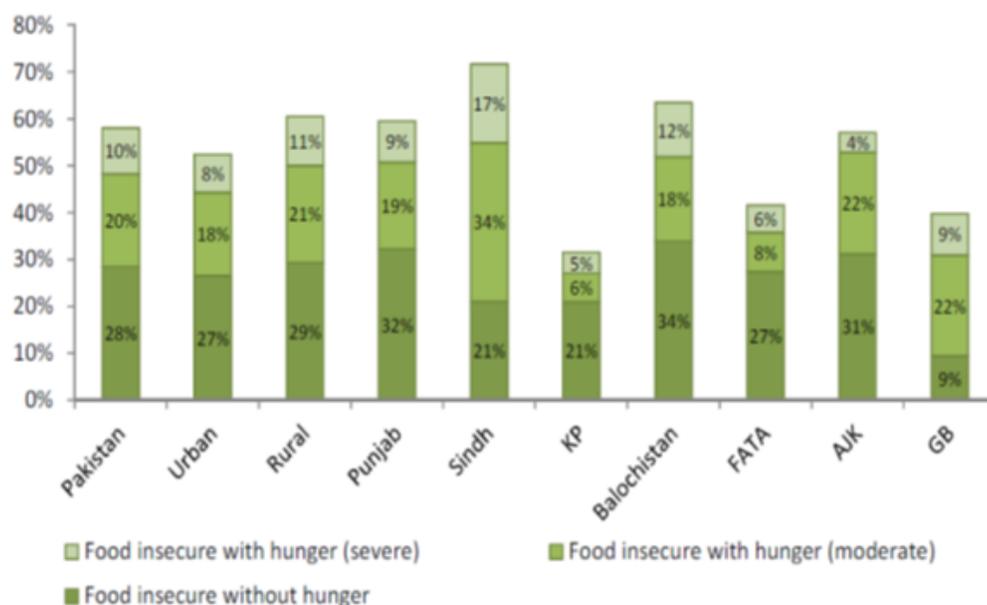
From 2005 to the end of 2008, the domestic wheat price rose by 106 percent. Prices of other staple foods rose between 20 and 120 percent, while non-food prices rose only 17 percent on average. The price of wheat in Pakistan was affected not only by the global food crisis but by domestic hoarding and smuggling of wheat, caused by the relatively low wheat price in Pakistan compared to neighboring countries during 2007.

To prevent farmers from hoarding and smuggling, Pakistan increased the procurement price of wheat. However, by 2009 this practice had caused the domestic price of wheat to rise beyond the international wheat price (Ministry of Finance 2008). The floods that coursed through Pakistan in 2010, reduced wheat production and further raised prices. For Pakistanis, high wheat prices are particularly critical because wheat accounts for nearly 50 percent of the mean daily calorie intake. A large relative change in the wheat price has substantial implications for levels of poverty and human development in Pakistan.

As per a report published by World Bank, “The impact of the food price crisis on consumption and caloric availability in Pakistan”, rising global food prices affected Pakistani households throughout 2008. Overtime, the food price crisis expanded the gap between Pakistan’s poor and non-poor populations, indicating that the effects of such a crisis on income distribution can be underestimated if compensating variations are measured at only one point in time. Second, while differences in welfare effects between rural and urban households were minor, the compensating variation from the food crisis in Pakistan differed greatly across provinces. The large regional difference in welfare effects arising from the food crisis is greater than the mean gap between the poor and non-poor in Pakistan.

Nutrition and Food Security

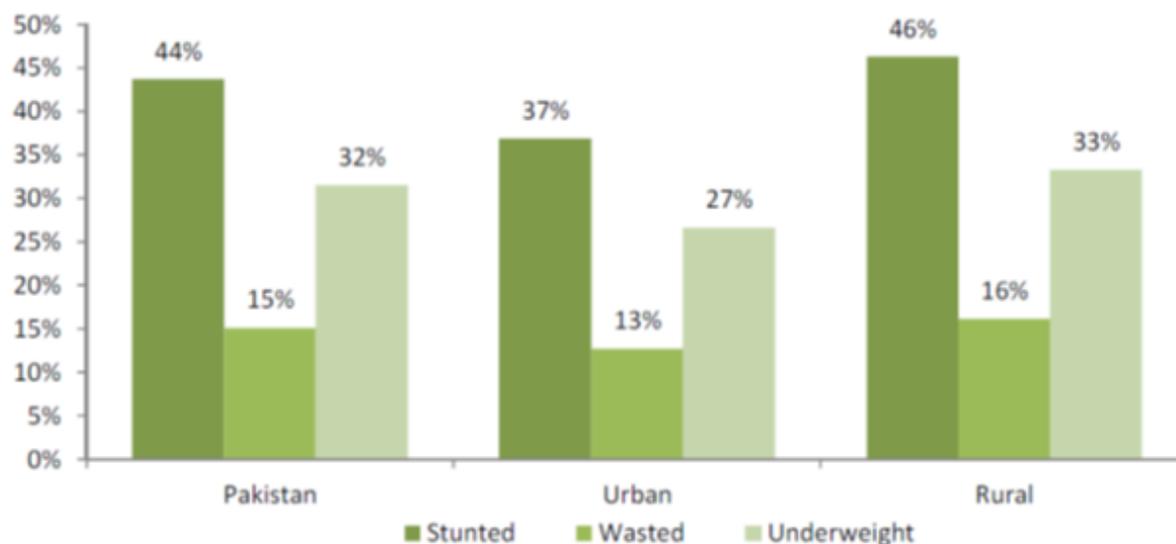
According to the National Nutrition Survey 2011, four categories were considered to account for the food security situation across the country: food secure, food insecure without hunger, food insecure with hunger (moderate) and food insecure with hunger (severe). From the survey it was found that Sindh appeared as the most food-deprived province of Pakistan, with 16.8% of the people to be food insecure with severe hunger. Following Sindh, Balochistan was found to be the second most deprived province, which accounted for 11.5% who were food insecure with severe hunger.



As per the Economic Survey of 2012-2013 it is observed that the availability of essential food items has been at adequate level to meet national food needs. The average calories estimation through food balance sheets during last five years remained above 2400 calories and protein 70gm per capita per day. During the fiscal year 2012-13 it has been around 2450 calories per capita per day.

The head count poverty (caloric plus basic needs) in Pakistan, though decreasing from 34% in 200-01 to 22.3% in 2005-06, is lagging behind the target of 13%. One of the indicators where situation has really worsened in the past 4 years is the proportion of population below minimum level of dietary energy consumption which stood at 58% in 2010/11, owing to two digit inflation (and an even higher food inflation) over the last 4 years which has significantly decreased the purchasing power of the poor. (UNDP)

Despite the availability of essential food items, it is disturbing to see that 43.7% of children were stunted. In rural areas stunting in children was higher (46.3 %) than in urban areas (36.9%). The wasting rate was 15.1% and the proportion of wasted children was lower in urban areas (12.7%) than in rural areas (16.1%). About 31.5% of the children were underweight, with higher rates in rural areas (33.3%). The indicators of malnutrition appeared to be worse in rural areas than in urban areas across country. This reveals that although there is adequate food availability, there is no improvement in children's health, revealing greater issues like lack of awareness or access.



Food Security and its Impact on Socio-Economic Variables

It is interesting to see that food prices not only influence the income or consumption but have repercussions on child school enrolment and labor. From a research paper published by the World Bank, "The Heterogeneous Effects of a Food Price Crisis on Child School Enrollment and Labor Evidence from Pakistan", it was found that the food price crisis in 2008–2010 in Pakistan indeed had a negative impact on children's schooling. Furthermore, there was a profound variation in the impact based on gender and economic status. For girls in the poorest quartile, the food crisis impacts on school enrollment were limited due to low pre-crisis enrollment rates. Instead, most of the girls who were called to work in response to the crisis had previously been idle. In the second quartile, however, the food price crisis had a significant negative impact on schooling for girls; those girls were more likely to be pulled from school and thereafter likely remained idle.

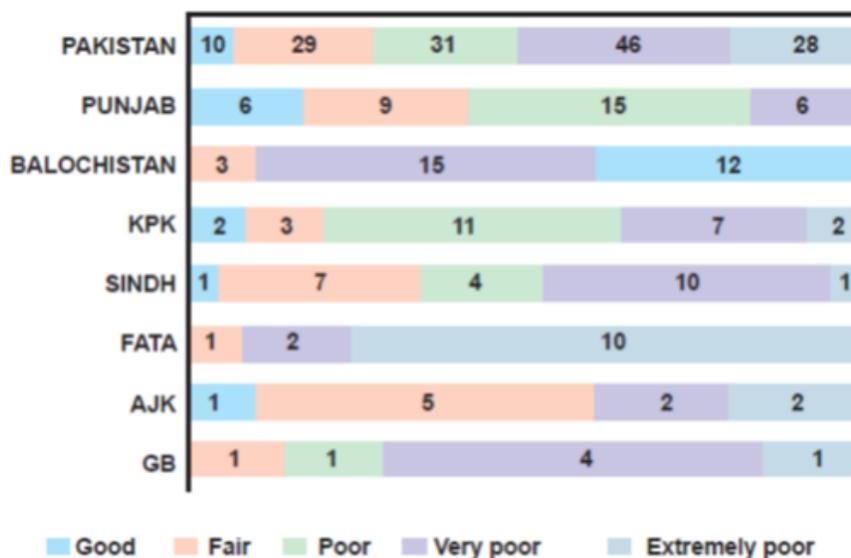
The wheat price increase decreased poor boys' school enrollment. Rather than engaging in economic activities, however, these boys were more likely to be idle. The results also show that children in households with access to agricultural lands were not affected by large increases in the wheat price, suggesting that access to agricultural lands helps to protect children's education and to prevent child labor during a high food price period. The sibling effects indicate that in the presence of older sisters, younger children are less likely to be pulled from school. However, the presence of older brothers seems only to worsen the negative effects of a wheat price increase on children's school attendance.

It is also found according to the National Nutrition Survey 2011, that the employment status and education level of a mother is directly associated with the nutritional status of her children. The findings revealed that a mother's higher education level led to lower malnutrition in children in terms of stunting, wasting and underweight status.



Utilization or absorption of food basically depends on the drinking water and sanitation along with the female literacy rate and immunization of children. Water is a necessary element for proper utilization/absorption of food. Quality of drinking water, availability of water for sanitation and sanitation facilities plays a critical role in determining the state of food security at individual level.

Indicators of quality water availability for drinking and sanitation, female literacy and immunization are worrying, which are clear from the poor state of utilization ranking as shown in the figure below:



SOURCE: SDPI policy review, "Food Security Special"

With 2015 approaching, and the pledge to achieve the MDGs becoming a bigger onus by each passing year, there is a pressing need to address policies which accelerate efforts to achieve these goals especially the ones off track. MDG goal 1 which aims to eradicate poverty and hunger is behind the target especially when it comes to the proportion of population below minimum level of dietary energy consumption. What is required to step up the progress towards this goal is formulation of a comprehensive policy which not only covers a nutrition policy but suggests incorporating a component of effective social change communication in various programs to reach and change behaviors in the society at large.

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