

Food Security and Sustainable Agriculture

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Abstract

Food security is a complex interplay of forces and is more than just an issue of supply and demand. Various definitions have been proposed but in general most consider access to safe food which is nutritious at all times to all people. Four dimensions of food security have been proposed in a conceptual model by RSIS/CNTS, namely food availability, physical access, economic access and utilization. While each dimension is necessary for overall food security, they likely have different weightings in a rural setting as compared with an urban setting and also across countries with different incomes and net food trade balances. Food availability, the first dimension of food security, addresses the 'supply side' and is determined by the level of food production, stock levels, food aid and net trade. Raising farm productivity is a core issue; whether by accessing or increasing inputs, improving seed varieties, or employing better farm management practices. Herein also lays the interplay with sustainable agriculture, as raising farm productivity has the potential to clash with sustainable agriculture goals. Food security implies surplus production over demand so that the excess may be sold or traded with food deficit households. If Sustainable Agriculture is taken to mean agriculture which is "environmentally friendly, economically sound and socially just", then ensuring food availability means ensuring that there is sustainable agriculture. A key debate is the use of appropriate technology and the modality in which it is practiced, whether in a conventional manner or through organic and subsistence farming. The debate is further complicated by the fast uptake of biotechnology crops. Food availability is often the focus of much of the debate on food security but raising farm productivity alone is not sufficient to ensure household food security. The second dimension is the physical access to food. This means an adequate amount of food must be within the physical reach of vulnerable households, whether through their own production or through the marketplace, to assure food security. Common threats to physical access to food are war, civil strife, poor infrastructure, inadequate logistics for food distribution and market imperfections. The third dimension is economic access to food or the ability of the household to purchase the food it requires. As the most recent food crisis demonstrated, urban households were among the hardest hit as they saw their purchasing power decline drastically and they had very limited capacity to produce their own food. Additional factors that will influence economic access include employment and income security, macroeconomic policies and social security programmes. The fourth dimension in food security is food utilization, typically reflected in the nutritional status of an individual and is determined by the quantity and quality of dietary intake, food safety and human health factors. Strategies to combat food insecurity arising from this dimension include bio-fortification of common staples through conventional or bio-technology. In the longer term, food security considered as a four-dimensional complex, is inextricably linked to sustainable agriculture,

which in an Asian context, must take into account the millions of smallholder farmers and the millions of urban poor.

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