

ISSUES IN FOOD SECURITY AND DOMESTIC FOOD PRODUCTION IN SRI LANKA

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INTRODUCTION

The food insecurity relating to rice and vegetable consumption has become a critical problem in Sri Lanka in the recent past. Though the prolonged drought in main paddy growing areas and lack of appropriate coping strategies were recognized as the main causes, the lack of a strategic agricultural plan could be regarded as the root cause for the issue. Hence domestic rice production has dropped by nearly 40 percent in the recent past and consequent reliance on rice imports has increased drastically leading to increase in the deficit of balance of payment. The effect of the drought caused higher poverty levels through reduced farming income. Thus, nearly 520,000 families were affected in 20 districts, obliging the government to implement relief programs. Similarly domestic vegetable production has also suffered from frequent price volatility causing declines in farm income and consumer welfare.

Food insecurity in terms of food availability, accessibility and affordability is a greater setback for sustainable economic development of a country. The World Food and Agricultural Organization (FAO) recognized that hunger and malnutrition are main outcomes of the food insecurity and it measured by two indicators such as Global Hunger Index (GHI) and global Food security Index (FAO, 2016). Accordingly it was estimated nearly 795 million people in the world are suffered from lacked food or inability to access nutritious food. Stunting and chronic nutritional deficiencies were recognized as common symptoms of food insecurity.

According to National Nutrient and Micro Nutrient Survey in 2012, lack of food security in Sri Lanka has led to high prevalence of developmental issues i.e. stunting, wasting and weight. So assuring food security becomes the sole responsibility of the government of Sri Lanka which takes every actions to avoid food insecurity.

This article provides an overview of food security in terms of food availability, access, use, stability and prospects of domestic food production in Sri Lanka.

KEY MEASURES AND EVOLUTION

Food security is defined as physical, social and economic access to sufficient, safe and nutritious food to meet human dietary needs and food preferences for an active and healthy life. It also considers the total food requirement fulfilled by imports (https://en.wikipedia.org/wiki/Food_security). Four basic pillars of food security have been identified: food availability, food access, food use, and food stability (FAO, 2009). The World Health Organization (WHO) recognized the first three pillars and the fourth was added by the FAO at the World Summit on Food Security in 2009.

Food availability

Food availability means supply of food through production, distribution, and exchange (Gregory et al, 2005). Thus food production is determined by various factors such as land distribution and use, soil management, crop selection, breeding, and management, livestock and management. Food production is changed often by physical and climatic factors. The opportunity cost of growing food or agricultural land utilization is high when it compared with other alternatives such as urbanization or non-agricultural purposes. Environmental impact of agricultural land utilization such as desertification, salinization, soil erosion and sedimentation has badly affected sustainable food production. All these factors greatly influence domestic food production in Sri Lanka. Food distribution is also an important activity that relates to food storage, processing, transport, packaging, and the marketing of food (FAO, 1997). Similarly market infrastructure and storage technologies and facilities may influence the amount of food wasted in the distribution process. Food exchange is also an important concept which relates to domestic and international trading.

The food availability is determined by valuing local food production and imports of main food items required consumption for the nation. According to estimates of the Department of Census and Statistics (2012), though domestic rice production has fulfilled more than 90 percent of domestic food requirements, it was able to fulfill only 84% of domestic availability of total cereal requirements. The balance cereal requirement is fulfilled from imports of wheat and wheat flour. However, the domestic availability of other food items such as roots and tubers, vegetables, fruits, meat, fish, eggs and milk is adequate (Ekanayaka, 2011, 347). According to estimates of the Hector Kobbekaduwa Agrarian Research & Training Institute, the country is able to produce 79% of roots and tuber, 30% of pulses and nuts, 82% of vegetables, 83% of fruits, 98% of meat, 100% eggs, 90% of fish, 81% milk, 98% of oil and fats and 7% of sugar required by the country. The Department of Census and Statistics (2015) indicates that 13.3% of total imports were allocated for food and beverages including items such as rice, flour, sugar, milk and milk products, and fish. Though

imports of rice have declined time to time, imports of wheat flour, sugar, milk and milk products have increased annually with increased demand.

Food Production

With regard to food production in Sri Lanka, successive governments have implemented two policies to increase domestic food production (Henegedara, 2004).

- 1) Horizontal expansion; increasing extent cultivated by expanding to uncultivated lands in dry zone areas. Thus total paddy land extent has increased from 390,310 Hectares in 1951/52 to 1,114,000 Hectares in 2016.
- 2) Vertical Expansion; improving production efficiency and factor productivity by improving technology and cultivation practices. Thus, average paddy production per acre has increased from 2,929 kg in 1980 to 4,349 kg in 2016. Along with the massive irrigation infrastructure development and land settlements programs, the technology development programs introduced since the late 1960s catalyzed a 'green revolution' which doubled food production. These technological advancement programs were based on biological, chemical and mechanical innovations. It was revealed that food availability has increased mainly due to increased factor productivity associated with technological advancement programs, (Zoysa and Silva, 2007).

Per Capita Rice Consumption

Per capita rice consumption is an important measure to indicate availability and accessibility of the nation's staple food. The levels of income and income distribution are the main determinants of access to food at household level. According to the estimates of the Department of Census & Statistics (2012), per capita rice consumption has increased gradually from 73 kg 1973 to 108 kg in 2016. It was evidenced that per capita rice consumption has varied according to income categories and sector (whether persons under consideration were urban, rural or estate dwellers). Thus, the average per capita rice consumption of urban dwellers was 79.17 Kg while per capita rice consumption of rural and estate dwellers were 110.28kg and 109.72kg (Central bank of Sri Lanka, Consumer Finance Survey (2003/2004)).

Domestic Rice Self-Sufficiency ratio

Rice supply in the market is based on provision of domestic production and imports. Thus the total rice requirement of the country has increased from 1,187, 160 (000 Mt) in 1973 to 2,234,611 (000Mt) in 2012. Of the total rice requirement, domestic rice production has increased from 867,394 (000Mt) to 2,176,003 (000Mt) during the

respective period indicating that the domestic rice self-sufficiency ratio has also increased from 0.73 in 1973 to 0.95 in 2012. According to Central Bank of Sri Lanka and Department of Agriculture data, the self-sufficiency ratio has exceeded 100 percent in 2014 and arrangements were made to export the excess supply. However, domestic supply of rice has decreased in the recent past due to prolonged drought in paddy-growing areas. The total production of paddy in 2017 was estimated 2.7 million MT, 40% less than previous year's paddy production and a 35% lower than the average for the previous five years. Consequently, the Government had to import 300,000-500,000 MT of rice in view of the sharp decline in production. (Sunday times, 25.06.17)

FOOD ACCESS

Food access which indicates the food use and affordability is viewed as an important aspect of food security analysis. Availability of adequate food at national level doesn't necessarily ensure food security at household level. Therefore, it is important to assure that national food availability has adequately ensures access to food at the household level. (Thibbotuwawa, M, 2016). Household food access is measured by three indicators: i.e. household income, food expenditure and poverty level.

Household Income

According to the monthly Household Income and Expenditure Survey of the Department of Census and Statistics, nominal and real mean monthly per capita income of the country has increased during 2002-2009/10 period. Thus nominal mean per capita income has increased from Rs. 12,803 in 2002 to Rs. 36,451 in 2012 and the real mean values have changed from Rs. 12,803 to Rs. 17,129 during the same period. Similarly nominal mean household expenditure also increased from Rs. 12,083 to Rs. 31,331 during this period. According to monthly income and expenditure gaps, it appears that households were able to save around 20 percent of their monthly income. However, these savings have been diverted according to estate, rural and urban sectors of dwelling as well as income deciles: indicating monthly mean income is inadequate among the lowest deciles to balance expenditure.

Household Food Expenditure

Access to food and drink is measured by the food ratio, which indicates the value of food expenditure as the percentage value of total expenditure. It measures both in terms of nominal and real values. Thus nominal mean food expenditure in 2010 was Rs. 13,267 and accounts for 42% of total expenditure. However the real mean food expenditure in 2010 is Rs. 14,723 which accounts for 32% of total income. Though the value of food expenditure in Sri Lanka is higher than in developed nations, the

real value of food expenditure as a percentage of total expenditure has declined from 50% in 2002 to 32% in 2009/10. Since demand elasticity for essential food items is high, food ratio also remains somewhat high. It evidenced that real mean monthly food expenditure is higher than nominal food expenditure values.

Food Access and Poverty Level

The poverty line, which demarcates the minimum food requirement for survival, is used as an appropriate indicator to measure access to food. Thus poor households were defined as households which spend more than 50 percent of expenditure on foods and the adult's equivalent food expenditure is below the minimum required adult equivalent food expenditure (MRAEFE).

According to Household Income and Expenditure Surveys, the monthly value of MRAEFE was equivalent to Rs. 1,294 in 2002 and has increased to Rs. 3,808 in 2013 (Central Bank of Sri Lanka, 2016). At the same time, the percentage of poor households based on the official poverty line has gradually decreased over the years from 26.1 percent in 1990/91 to 6.7 percent in 2012/13 (Central Bank of Sri Lanka, 2016). Nevertheless the official poverty line based on the head count ratio has changed according to rural and estate sectors (ibid).

FOOD USE

It is vital to know the nutritional adequacy of basic food requirements that include calories, protein, energy fats etc. So the nutritional value of food is a combined effect of a food basket which includes grains, meat, fish, milk, vegetables, fruits and other vitamins. According to Statistical Abstracts (2013) of the Department of Census and Statistics, the average monthly per capita availability of nutrition per day has increased during the 2007-2013 period indicating that kilo calorie and protein gram requirements per day have increased while fat gram requirements have decreased. However, according to FAO statistics, the calories deficit in Sri Lanka in 2014-2016 was 192: the highest in South Asia (<http://www.fao.org/faostat/en#data/Fs>).

Food Stability

Food stability means there is no food insecurity. Thus households should be able to access enough food for an active healthy life or there wouldn't be hunger or famine at household level. Food stability could be assured by setting up granaries and storage facilities. Though sufficient food stocks have been maintained by rural farmers in the past, food stability has declined. This is in spite of the buffer stocks maintained by the public and private sectors. Insufficient domestic food production due to prolonged drought were greatly influential in this regard.

CAUSAL FACTORS

The overview of food security of Sri Lanka showed that availability of rice and other food crops had increased. Though increasing food availability either in terms of domestic production or imports is a crucial factor, danger of food scarcity and possible famine is expected under global warming and climatic changes. It implied the fact that increasing food availability is not sufficient unless it satisfies other conditions such as food access, affordability and stability.

Empirically it was proved by Global Hungry Index (GHI) prepared by that International Food Policy Research Institute (IFPRI) ranking that Sri Lanka 65th among 113 countries in 2017. Accordingly the relative food security in Sri Lanka is higher than in other South Asian countries. Sri Lanka's absolute position has also improved compared to year 1990 (Thibbotuwawa, M., 2016). In summary, Sri Lanka's food security issues are attributed to several factors:

1. Heavy fluctuation of domestic production beyond seasonality of crop-cultivation pattern and technology development. Production fluctuation has badly affected food demand and supply functions.
2. The recent trend of high reliance on importing rice, grains, fruits and beverages indicate two important factors: first it indicates the comparative disadvantage for producing some food items such as millets, moon bean, potatoes and even rice in wet zone areas and secondly it shows the need to secure the foreign exchange required for imports. Though both issues are two sides of the same coin, they are important factors affecting macroeconomic stability, with a crucial impact on balance of payment.
3. Increasing food production through chemical and biological innovation has given rise to negative externalities such as labour displacements, environmental pollution and health hazards. For instance, it was found that kidney troubles in dry zone areas in Sri Lanka occurred mainly due to polluted water from extensive use of agro chemicals. When negative externalities are high in a country it has to compensate with high social cost and economic sustainability.
4. Despite the fact that the national poverty line has decreased to 6.7 percent in 2012/13, food accessibility in the rural and estate sectors is lower than in urban areas. This has occurred mainly due to disparities in land ownership, the vicious circle of poverty in remote areas and institutional barriers to marketing and distribution. Tendency for spatial and seasonal poverty is high due to uncertainty in climatic factors and marketing.
5. The global food production and supply has exceeded global demand resulting in a decline in world food prices (Somaratne, 2011). Though global climate

changes has threatened changes to world food production time to time (Ekanayake, 2011), increase in global food production is a crucial factor in determining comparative advantages in producing food crops among major producers. Regional integration through trade blocs has created greater trade restrictions than free and fair trade (Cherunilm, 2008, 216).

6. Increased costs of production and decreased net returns in paddy and vegetable farming have led younger generations to depart from domestic food agriculture (HARTI, 2007).

FUTURE PERSPECTIVES

The prospects of improving food security and domestic food production would enable Sri Lanka to achieve goals that aim at becoming a developed country by 2025. Along with the efforts made over the past 70 years since independence, ongoing economic policies and programs such as “*Balagathu Sri Lankawak*” need to be expedited with clear targets and plans similar to those adopted by newly industrial nations.

Thus, a large extent of newly irrigated areas in Moragahakanda and Uma Oya multi-functional projects could be added to total land extent used for domestic food production (i.e. paddy, subsidiary foods, vegetables and livestock).

Efficiency in domestic food production could be improved through technology development, innovations and improving factor productivity. Crop diversification and product development are also important in this regard.

It is important to establish sustainable and efficient commercial farming systems so as to achieve two primary goals (i.e., ensuring food security and employing rural labour force by improving farming capacity and income level).

Therefore, the attention of policy makers should be focused on developing a comprehensive policy framework based on clear ends and means along with sustainable development goals, nutrition policies and global challenges. It also important to predict food production in view of future population growth forecasting too.

REFERENCES

- Central Bank of bank of Sri Lanka. (2008, 2010.) Annual reports, Central Bank: Colombo
- Central Bank of bank of Sri Lanka. (2013) .Annual reports, Central Bank: Colombo
- Cherunilam, F. (2008). International Economics, Tata MaGraw-Hill Company, New Delhi

- Department of Agriculture. (2008). Cost production Survey, Department of Agriculture, Colombo
- Department of Census and Statistics. (2008). Consumer Finance Survey, Department of Census and Statistics, Colombo
- Department of Census and Statistics. (2014). Statistical Abstract, Department of Census and Statistics, Colombo
- Ekanayake, A. (2011.) "Domestic Agriculture Food Security" in Agriculture and Rural Development in Sri Lanka, edited by Wijithapure, Wimalaratana, Colombo: University, 119-141
- FAO. (1997). "The food system and factors affecting household food security and nutrition". Agriculture, food and nutrition for Africa: a resource book for teachers of agriculture. Rome: Agriculture and Consumer Protection Department. Retrieved 15 October 2014.
- FAO. (2003). "The State of Food Security in the World 2003" (PDF). FAO. Retrieved 31 October 2014.
- FAO. (2006.) Agricultural and Development Economics Division (June 2006). "Food Security".
- FAO. (2012). Agricultural and Development Economics Division (June 2006). "Food Security" (PDF) (2). Retrieved June 8, 2012
- Gregory et al, (2005). "Climate change and food security". Philosophical Transactions of the Royal Society B: Biological Sciences 360 (1463): 2139–2148. Doi:10.1098/rstb.2005.1745.
- Hector Kobbekaduwa Agrarian Research and Training Institute. (2008). HARTI Commodity Review, HARTI, Colombo
- Henegedara, G. M. (2006). Globalization and Agriculture Development: A Review of Agricultural Policy Reforms in Sri Lanka, PhD dissertation, HUST Website, PR China <http://en.wikipedia.org/wiki/food-security#mw-head> , retrieved 16 April 2015 <http://www.fao.org/faostat/en#data/Fs>)
- Patel, R. (2014). "Food Sovereignty is Next big Idea" Financial Times, <http://www.ft.com/cms/s/0/584-ed992=4216-11e3-93c-00144feabdc0.html>
- Somarathne, W.G. (2011). "The Global Food Crisis and Food Insecurity in Sri Lanka" in Agriculture and Rural Development in Sri Lanka, edited by Wijithapure, Wimalaratana, and Colombo: University, 177-202

Silva, R. P. De (2006) Food Security and Vulnerability Assessment for Sri Lanka, FAO Regional office, Bangkok

Sunday times, 25.06.17, Wijeya Newspapers Ltd, Colombo

Thibbotuwawa, M. (2016.) "Food Security: Does it Matter for Sri Lanka? come to 'Talking Economics', the blog of the Institute of Policy Studies of Sri Lanka (IPS), Sri Lanka's apex socio-economic policy think tank.

United Nations (UN). (2013). "Sustainable food systems vital to end hunger, malnutrition, UN says on World Food Day". Retrieved 2 November 2013

USAID – Food Security

World Health Organization (WHO). (2014). "Food Security". Retrieved 15 October 2014.

Zoysa, M and Silva, N (2008) "Technological Innovations and Rural development: Dynamics and New perspectives in Agriculture sector in Sri Lanka", A paper presented at the Rural Development Workshop at HARTI, Colombo, November 2008