Sri Lanka: Immediate and short-term interventions proposed to mitigate impact of current economic crisis on food and nutritional security

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Agriculture currently occupies around 40% of the land and consumes over 80% of the fresh water resources of the country. There are about two million farmers, who account for 25% of the workforce of the country; yet, they contribute only around 6% of the GDP, which shows the low productivity of both land and labour and the poor value addition in agriculture. According to the last census of agriculture (2002), of the 3.3 million land holdings, 45% were less than 0.1 ha (quarter of an acre) and over 90% of the production units were less than 2 ha (5 acres). The situation may have been further exacerbated since, owing to fragmentation. Smallholder farmers who constitute the overwhelming majority of the farming population of the country are mainly engaged in primary production and contribute nearly 80% of the total annual crop production. Moreover, the bulk of land, over 80%, especially in rural areas, is owned by the government which has leased it in small lots to landless farmers. Owing to the scattered nature and small size of the holdings, they are difficult to consolidate, making it difficult to use machinery and achieve economies of scale. Besides, owing to non-ownership of land, farmers face difficulty in obtaining bank loans or investing in development, which constrains productivity improvement, value addition and the linking of rural agriculture to the global value chain.

In addition, the agriculture sector is beset with a myriad of other issues, including poor resource use efficiency, i.e., land, water and fertiliser, irregular use of pesticides, uncoordinated and unregulated production leading to unpredictable gluts and scarcities that cause drastic price fluctuations, unsatisfactory and inadequate extension service, lack of innovative business models and poor integration of agriculture with national, regional and global value chains. These issues have been exacerbated by the lack of a rational, coherent and consistent national policy with a clear sense of direction and depth, particularly in agriculture, land and trade. The recent abrupt ban of the import of chemical fertilisers, pesticides and weedicides in order to make Sri Lankan agriculture exclusively organic, is a poignant example.

Malnutrition and under-nutrition in children have already assumed alarming proportions with around 20% of children being underweight and about 15% suffering from chronic malnutrition and wasting disease. This will be further aggravated by the current food crisis, marked by scarcities, unavailability and/or price escalations of essential food items which will have far-reaching social, health economic and political implications. The crisis has led to growing unrest, tension and aggressiveness of the people affected. Therefore, while pursuing medium and long-term plans and programmes to develop robust sustainable agricultural systems, it is of prime importance to identify immediate and short-term actionable interventions to mitigate the impact of the economic crisis on food and nutritional security.

It is against this backdrop that the National Science Foundation, the premier national institution mandated to promote S&T for national development, assembled a galaxy of high-profile renowned scientists, professionals, academics and community leaders in agriculture, as well as representatives from leading agro-based enterprises and farmer organisations in the country, to identify immediate and short-term interventions to minimize the impact of the economic crisis on food security. Recommendations that emanated from the deliberations are given below for the attention of and early action by the relevant authorities:

Immediate and short-term interventions recommended to mitigate the impact of the economic crisis on food and nutritional security

1. Determination of the food and feed requirement, food production and food deficit/surplus in respect of the major food crops at district and national levels. This is required to understand the magnitude and gravity of food and nutritional insecurity and its spatial variation. For instance, only about 10% of the food requirement of the Western Province is produced within the Province and the deficit, i.e. 90%, is met by food produced in other areas and imports. On the other hand, the agriculturally active North-Central Province faces significantly far less food insecurity issues. Such information is vital to make effective interventions that will minimize the impact of the food crisis on the health and wellbeing of the people of the country and to ensure equitable distribution of the limited food supplies.

2. Identification of food crops and their varieties, i.e., cereals, pulses, yams, vegetables and fruits, that are most essential to food and nutritional security and import substitution.

Here, it becomes pertinent to identify crop varieties that are adaptable to low-external input sustainable agriculture (LEISA), and are relatively less affected by the shortage and/or prohibitive prices of inputs, i.e. planting material, fertilizers, pesticides, fuel for machinery (for land preparation, harvesting, etc.) based on past experience.

3.Determination of agro-climatically and edaphically most suitable areas for cultivation of the crops and their varieties identified under (2), to enable matching of crop and land for optimum yield. This can also be done based on the past experience and observations of farmers and officers of relevant institutions including Department of Agriculture and Department of Agrarian Development to meet the urgent need. Presently, farming is done in an unscientific and indiscriminate manner and many crops are grown under suboptimal and marginal conditions, thus producing far below their potential.

4. A rapid multiplication programme of high-quality planting material to meet the increased demand.

This is extremely important for paddy and due attention should be paid to collect adequate seed paddy from this Yala season harvest to meet the need in the coming Maha season which is about 80,000 metric tons. This should be done as an emergency programme to make sure that the seed paddy produced from this Yala harvest will not be consumed. As there is a Faculty of Agriculture in practically every province, and about a dozen Schools of Agriculture under the Department of Agriculture (DoA), their students can achieve rapid multiplication of other planting materials as part of their training programme under the guidance of the staff with little additional funding to meet provincial needs. Agrarian Service Centres, farmer organisations, Community-based organisations and such like should also be empowered and supported in this regard. The planting material produced must be sold at a fair price.

5. Cultivation of the 3rd season (between Yala and Maha) and 2022/23 Maha season to maximize production.

Production in high potential areas in the dry zone should be maximized as the wet zone has a lower yield potential and its farmers are predominantly part-time. Island-wide awareness programmes should also be conducted with the support of outstanding farmers and relevant institutions to achieve the highest yield potential with prudent use of inputs such as fertiliser, pesticides, water and fuel.

6. Identification of outstanding enterprising farmers in each AGA division who have consistently produced relatively high yields, particularly those who adopt good agricultural practices (GAPs), including integrated farming and integrated nutrient management.

The Dept. of Agrarian Development (DAD), DoA, Mahaweli Authority, SANASA, Sarvodaya, etc., can further assist in this regard. As there are 565 Agrarian Service Centres (ASCs) in the country, with links to farmers and institutions related to agriculture, ASCs may play a leading role in this connection. However, in order to avoid possible conflicts, the whole process should be conducted transparently and credibly with the participation of key stakeholders, i.e. representatives from the divisional secretariat, DoA , DAD/ASC, farmer organisations etc.

7. Making available the expensive limited inputs, i.e. chemical fertilisers, pesticides, weedicides, fuel for machinery etc., to the most outstanding selected farmers in areas with high agricultural potential for the crops/varieties in each district.

This will ensure maximum return on investment (ROI) and minimize unregulated, uncoordinated, ad hoc crop production for commercial purposes under sub-optimal and marginal conditions.

For instance, paddy is grown in 22 districts in the country with the average yield ranging from about 2.5 to around 6 metric tons/ha. However, in all the districts, more or less comparable quantities of water, fertilisers and pesticides are used per hectare. Therefore, the use of the limited fertilizers, agrochemicals and fuel in the most effective and productive manner will produce the highest possible yield so as to mitigate food shortages and nutritional insecurity. Thus, Sri Lanka should be able to maintain the same level of national production, with about one million farmers working about half of the extent cultivated now, if farming is done scientifically through matching of crop and land with proper planning and management. This will save a lot of water – at present, about 2500-5000 litres are required to produce one kilogram of rice depending on where it is grown – which can then be used for other purposes including generation of hydropower and reduce the need for agrochemicals. This will help to minimize the environmental and health hazards associated with agriculture and reduce the drain of foreign exchange.

8. Augmenting the production of organic manure for food crop production and inoculum for the production of pulses such as cowpea, mungbean, and soybean.

The former can be achieved with support from the garbage disposal unit of each UC and MC. In addition, immediate action should be taken to increase the production Single Super Phosphate (SSP) from Eppawala Rock Phosphate and produce ash from paddy husk and other suitable material as a source of potassium. Community-based organizations and the private sector can assist in these initiatives.

9. Cultivation of lands available in government institutions, religious institutions, schools etc. with assistance of the staff of the DoA, DAD, Mahaweli Authority, Faculties of Agriculture, Schools of Agriculture, and outstanding farmers in the area.

School children and public sector employees can be mobilized as necessary for cultivating crops in their respective premises for a few hours every week on a rotational basis during the crisis period.

Moreover, agricultural lands with high potential should be leased to outstanding farmers and private sector for cultivation with attractive incentives/benefits offered to landowners. Polyculture should be promoted over monoculture wherever possible.

10. Launch of an accelerated programme for increasing the productivity and extent cultivated of home gardens, which hitherto have remained under-exploited.

There are over 4.46 million home gardens in the country with a total extent of 835,000 ha spread over the 25 districts. They operate far below their potential and their productivity can be considerably increased through intensification and improved management with minimal additional external inputs or expenditure. There are around 40 types of green leaves, and over 50 types of traditional and indigenous yams and tuber crops in Sri Lanka, which are not well known and hence under-exploited. They are a valuable source of minerals, vitamins, and energy.

11. Promotion of urban agriculture (vertical farming, rooftop farming, window gardening, balcony gardening etc.) and edible landscaping in suitable common urban areas.

This will be of great relevance to the Western Province where only about 10% of its food requirement is produced within the province. This should be facilitated by conducting appropriate awareness and training programmes and providing the requisite planting material, know-how and show-how which can easily be done by the staff of the DoA, Hector Kobbekaduwa Agrarian Research and Training Institute (HARTI), Faculties of Agriculture, etc.

12. Use of lands unsuitable for cultivating food crops to establish pasture or pasture/legume mixtures for increasing milk production, and of paddy fields which are not cultivated owing to shortage of fertilizer, pesticides and machinery to cultivate crops and vegetables that need a minimum of inputs.

Besides, mushroom production which requires no agricultural inputs such as fertilizer and agrochemicals should be promoted as a cottage industry.

13. Setting up of economic centres in each agriculturally important district for the purchase and distribution of agricultural produce mainly within the district, thereby reducing not only fuel consumption and carbon footprint, but also postharvest losses, i.e. 30-40%, and quality deterioration.

Presently what is produced in Angunukolapalassa is transported to the Dambulla Economic Centre from where it is distributed to other districts including Hambantota. In addition, cottage industries should be developed in agriculturally important areas for value addition, reduction of postharvest losses, and coping with gluts.

14. Development of innovative business models with the engagement of appropriate private sector institutions in order to increase productivity and profitability of agricultural enterprises with linkages to local (i.e. supermarket chains), regional and global markets. For instance, “Polos” has a global market exceeding $ 30 billion and Sri Lanka has a great potential to export polos to the West, where there is a growing demand for meat substitutes. Cultivation of non-narcotic cannabis is another plant with an immense global market. These can also earn much needed foreign exchange for the country.

15. Upgrading and integrating the digital platforms in operation to provide the requisite information and services to farmers and stakeholders, including weather data, market dynamics (price fluctuations and supply and demand), recommendations for the control of pest and diseases, early warning against disease outbreaks, natural hazards etc.

This will ensure a fair price for the farmers and reduce exploitation by the middlemen.

16. Putting in place price controls to prevent the exploitation of farmers by the vendors of agrochemicals who are presently the main suppliers, as well as the prescribers, of agrochemicals to the farming community.

Therefore, like medicine, sale of pesticides and weedicides should be subject to strict guidelines by the relevant authorities.

17. Making use of existing, home-grown, low-cost technologies for the preservation of crops such as jak, breadfruit and manioc and fruits such as wood apple, mango, papaya, sweet melon, “waraka” and ‘belli”.

Establishment of small scale processing centers in the relevant districts or DS divisions will be useful to reduce post-harvest losses and add value to such produce. In addition, cultivation of sugarcane in small holdings can be developed as a cottage industry to produce cane jaggery and cane treacle; they can be used as a substitute for sugar which is currently imported at a cost exceeding Rs 40 billion per annum.

18. Conduct of appropriate educational and awareness programmes, electronic and otherwise, aimed at enhancing food and nutrition literacy (FNL).

This will significantly contribute to the ability of people, especially the economically disadvantaged, to overcome the misplaced fear and apprehension due to media hype that causes panic buying, hoarding, scarcities and price escalations. Such programmes are of great relevance as young children and youth are lured into buying unhealthy, junk food and fizzy beverages by the aggressive and attractive advertising campaigns conducted by some commercial concerns.

Nutrition is especially important during pregnancy and infancy, which are crucial periods for the formation of the brain, laying the foundation for the development of cognitive, motor, and socio-emotional skills throughout childhood and adulthood. Therefore, it is imperative to identify the vulnerable segments of the population in the country and develop a mechanism to provide assistance, food and otherwise, to minimize impact of the food and nutritional insecurity on cognitive and physical development in particular and health in general, paying attention to the elderly as well who account for 12.3% of the population, i.e. about 3.3 million.

19. Introduction of an encouragement award scheme, with attractive incentives and a befitting title, in order to motivate, recognize and felicitate the TOP 10 exemplary farmers at the divisional, district and national levels.

Gramasevaka Niladhari (14,002), Samurdhi recipients (3.3 million), Development Officers (c. 100,000) , Vidatha Resource Centre Officers (260), Agricultural Research and Production Assistants (>8,000) etc. should be mobilized and harnessed as required for the above interventions at the Divisional Secretariat (331) or Agrarian Service Centre level (565) as appropriate.

This report constitutes recommendations pertaining to only the Food Crop sub-sector. Fisheries & Aquaculture and Livestock & Poultry sub-sectors also contribute greatly to improve food security. Similar reports for those two sub-sectors are in preparation. Implementation of the above proposed interventions through a holistic approach with the participation of the relevant public and private sector institutions, and community-based and farmer organisations will contribute in no small measure to mitigating the impact of the current economic crisis on food and nutritional security of the people of the country.

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