National and Household Food Security in Sri Lanka

by

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Nimal Sanderatne was the founder Chairman of the Centre for Poverty Analysis (CEPA). Among the positions he has held are those of Visiting Senior Fellow of the Postgraduate Institute of Agriculture (PGIA) of the University of Peradeniya, Director of Statistics and Director of Economic Research of the Central Bank, Chairman of the Bank of Ceylon, and Chairman of the National Development Bank. He was Senior Fellow of the Institute of Policy Studies (IPS) in its formative years. He holds a Ph.D from the University of Wisconsin.

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The **Centre for Poverty Analysis (CEPA)** in an independent, Sri Lankan think-tank promoting a better understanding of poverty-related development issues. CEPA believes that poverty is an injustice that should be overcome and that overcoming poverty involves changing policies and practices nationally and internationally, as well as working with people in poverty. At CEPA our emphasis is on providing independent analysis, capacity building of development actors, and seeking opportunities for policy influence. We are influenced by a strong orientation towards service provision that is grounded in sound empirical evidence while responding to the needs of the market. CEPA maintains this market orientation through client requests, while pursuing a parallel independent research agenda based on five broad thematic areas: post conflict development, vulnerability, migration, infrastructure and the environment. Ultimately, CEPA strives to contribute to influencing poverty-related development policy at national, regional, sectoral, programme and project levels.

Dedicated to the memory
of
Dr. Patricia Alailima
who had an abiding interest
in
Poverty, Income Distribution, Nutrition
and Food Security
and
contributed much towards the understanding
of
these issues

Preface

I commenced this book in 2002 by putting together a collection of papers that I had written on food security issues and agriculture. I sent the draft to several of my friends who responded magnificently with observations, comments, criticisms and suggestions. These were so extensive and thorough that revising the initial draft was a prodigious task. Consequently, my attention was diverted to other writing. I let the manuscript hibernate for over ten years. This book is a much revised and updated one from that of 2002.

Dr. Neville Edirisinghe studied the initial draft in great detail and commented on it comprehensively. When I told him much later that I had not revised the book yet, Kumari, his wife, said "it must be because of Neville's comments" ! His suggestions have been most useful in upgrading the book, although I have not been able to incorporate all his suggestions. I am very grateful to Neville for his thorough evaluation of the earlier manuscript and the useful suggestions he provided, as well as the important suggestions he made to improve the final version.

I am indeed fortunate that several of my other friends too responded promptly with extremely useful suggestions. Many of them were too courteous to be critical on the weaker chapters. Fortunately, there were others who were more forthright in pointing out that certain chapters were weak. Their inadequacy was very apparent to me later and I have revised these substantially, almost re-written them.

Friends who evaluated the study comprehensively and commented on it included Dr. Patricia Alailima, to whose memory this book is dedicated, Professor Sunil Chandrasiri, Professor Amala de Silva, Mr. Sunil Gamage, Professor T. Jogaratnam, Dr. Saman Kelegama, and Professor Jeevika Weerahewa. Although I have responded to most of the suggestions, I have not been able to incorporate them all nor meet their high expectations.

Ishara Rathnayake helped me with data collection and analysis of several chapters. Lakshika Weragoda helped me in incorporating some of the corrections and improvements and Kanthi Gamage copy edited the final version as well as the earlier 2002 draft. I am very grateful to Kanthi for undertaking this difficult task readily and cheerfully.

The three reviewers of the manuscript went beyond their task to suggest improvements and give a detailed assessment of the book. I am once again grateful to Professor Amala de Silva, Dr. Neville Edirisinghe and Professor Jeevika Weerahewa for their comments, suggestions and encouraging reviews.

This book would not have been completed if not for the willingness of Sharmini de Alwis to collaborate with me in updating and revising the text and improving the statistical analysis and presentation. Her contribution being substantial, I invited her to be the co-author of the book. I owe her a very special "thank you".

I am grateful to the Centre for Poverty Analysis (CEPA) for agreeing to publish the book. I am thankful particularly to Priyanthi Fernando, Executive Director; Roshni Alles, Editor,

who assisted in the publication of the book; Dr. Geetha Mayadunne, who was the main reviewer for the book along with Romeshun Kulasabanathan, all of CEPA. I am also grateful to the Think Tank Initiative for providing the funding to print this book.

The book is published in the expectation that it would lead to a clearer understanding of food security and that it would lead to economic and agricultural policies that would be in the long term interests of Sri Lanka's food security. I also hope it will be a valuable addition to CEPA's publications in its quest of understanding issues related to poverty.

Nimal Sanderatne

Peradeniya, May 10th 2014

Contents

List of Acronyms

BMI	Body Mass Index
CAR	Calorie Adequate Ratios
CFS	Consumer Finance and Socio-Economic Survey
DCS	Department of Census and Statistics
DHS	Demographic and Health Survey
FAO	Food and Agriculture Organisation
GDP	Gross Domestic Product
HIES	Household Income and Expenditure Survey
IMF	International Monetary Fund
MRI	Medical Research Institute
NIC	Newly Industrialised Country
PA	People's Alliance
SAFTA	South Asian Free Trade Association
SLFP	Sri Lanka Freedom Party
UN	United Nations
UNP	United National Party
WHO	World Health Organisation
WTO	World Trade Organisation

CHAPTER 1

Introduction

Food security has been a central concern in Sri Lanka since the early decades of the 20th century. An underlying reason for this is that Sri Lanka has been a food deficit export-import economy since the 19th century. The anxiety about food security can also be attributed to Sri Lanka being an island that depends on food supplies from abroad which could be undermined by international developments. Shortages of food during the Second World War and the rationing scheme adopted to ensure minimum food security have left an indelible concern about the country's vulnerability to food shortages.

Historical and cultural factors have been significant influences in creating concern for national food security. Sri Lanka has taken much pride on achieving self-sufficiency in food in its ancient past. The country has been described as the "Granary of the East" during the reign of the ancient kings. Therefore, there is strong emotion attached to achieving self-sufficiency in rice in order to emulate the achievements of the kings of the Anuradhapura and Polonnaruwa periods. Consequently, self-sufficiency in rice has been a cherished goal of all post-independent governments.

The liberalisation of trade and the conditions imposed by the World Trade Organisation (WTO) have also renewed concerns of food security recently. The South Asian Free Trade Association (SAFTA) and the Free Trade Agreements with India and Pakistan have accentuated this anxiety. Even though these may not be threats to food security, there is a popular perception that they could affect domestic food production by allowing cheap food imports.

The emerging unstable world food situation has been another reason for concern. The world food crisis, export restrictions, export bans and export taxes imposed by food exporting countries have added to these concerns. There are apprehensions that world

food demand may exceed food supplies and consequently international prices could rise sharply (Sanderatne, 2011, Ch. 16 pp. 197-203). This could affect food security in the country as the country's capacity to import the food deficit would be weakened. This is especially so, as export earnings are only about one half of import expenditure at present. Furthermore, higher food import prices mean lesser capacity of the poor to access essential foods. This has resulted in a call for self sufficiency as a means of ensuring food security in the country.

These issues have inclined to muddle thinking on food security in Sri Lanka. For instance, self-sufficiency in food has been presumed as synonymous with food security. A country does not need to be self-sufficient to be food secure. Furthermore, the concept of food security goes far beyond the concept of self-sufficiency as it is related to the capacity of individuals to access adequate food to ensure their food security. The general thrust of this book is, however, that food security is best achieved by rapid economic development with reasonable income distribution and a strong economy that enables adequate food supplies through domestic production and imports, and through effective social interventionist programmes that ensure adequate food to those without the means to obtain them. A full discussion of the meaning of food security is therefore a fundamental objective of this book.

Understanding Food Security

Historically food security was discussed in relation to either times of famine caused by drought, floods or other extensive crop damage or wartime situations, when international food supply lines could be interrupted. It was largely an issue of domestic food supply being adequate to meet basic food needs of a nation in such situations.

In the current international context, food security is a complex issue influenced and determined by a host of additional factors such as global food production, nature of trade dependence, trade policies, terms of trade, the economic structure of the country, income distribution, social security and welfare policies.

Furthermore, the distinction between national food security and household food security is central to understanding the food security situation of a country. The ability of poor households to access adequate quantities of food even when national stocks of food are deemed sufficient is the most serious issue in developing countries, as is the case in Sri Lanka. The discussion in this book focuses on both these dimensions and to some extent on intra household food security, which is a problem especially in poor households.

Admittedly, food security is a multi-dimensional issue. Economic perspectives alone would be inadequate to determine policies for food security. Food security encompasses national security concerns, environmental issues, cultural dimensions and political factors. However, if a single of these concerns on food security were to be discussed as a priority, economic policies that are detrimental to the country's economy and disadvantageous to the population's food may be deemed the single most important one.

Food Security and Food Self-sufficiency

As highlighted before, food security is not synonymous with self-sufficiency in food achieved by a country's own production. It is the capacity of a country to access adequate food supplies, either by domestic production or imports that enable households to obtain

adequate quantities of food for their nutritional needs. This capacity of a country to access adequate food must not be confined to the effective demand for food but the need to ensure food security of all. No longer is it adequate to think of food security as determined by the capacity of a country to produce its entire food needs. In fact food security may be better served, in certain national contexts, by diversification of the economy to improve the economic capacity to access international markets rather than by producing all food needs domestically.

This does not imply that a blind faith in international market forces would ensure food security. Dependence on food imports could sometimes undermine a country's food security in the longer term, as well as erode the capacity of rural households to obtain adequate food. This issue is a fundamental concern in several chapters of the book.

Food security is a problem of under-development. One of the central conclusions of this book is that the problem of food security is due to the under-development of an economy. The attainment of food security is not dependent on agricultural and food policy alone, but on good overall economic management and social policies. Food security is determined by the overall level of output of the economy. Social policies and a country's distribution of incomes have significant roles in ensuring its food security.

Rapid economic growth, a diversified economy, a rational and productive agriculture, a good distribution of incomes and interventionist policies to assist people left behind in the process of economic growth, are needed to ensure food security. Increased agricultural production by improving incomes of rural households could enhance household food security considerably, as a large proportion of Sri Lanka's population is dependent on agricultural incomes, directly or indirectly. Good governance is essential to formulate proper economic and agricultural policies, implement them effectively and to intervene to ensure household food security.

The next chapter discusses the concept and definition of food security that is central to the discussions that follow. The third chapter discusses the concept of "The Right to Food" that has been put forward as a progressive and dynamic concept of food security by the United Nations. The fourth chapter looks at the political economy of food policies pursued in Sri Lanka from 1942. This discussion brings out the significance of political factors in the determination of food production and distribution policies, especially its welfare orientation. It brings out the merits, deficiencies and difficulties in implementing three types of interventions: a universal food ration scheme, a targeted food stamps and poverty alleviation programme and income support system.

The fifth chapter discusses national food security concerns and the areas of vulnerability of the Sri Lankan economy in ensuring food security. The discussion complements the issues with respect to the terms of trade effects and increased per capita consumption discussed in the previous chapter. It is also a precursor to the projections in domestic demand and production of food in the next two decades that are presented in chapter seven.

The sixth chapter examines the household food security situation in Sri Lanka which is the crucial concern in food security in Sri Lanka and other South Asian countries. Despite high rates of economic growth in many countries, there are an unacceptable proportion of people who are unable to access their basic food needs. Household food security is of

special interest to developing countries in general and South Asian countries including Sri Lanka, since a significant proportion of the country's households are food deficient. The issue of household food insecurity has a significant bearing on the role of agriculture and domestic efforts towards self-sufficiency discussed in chapter eight.

Chapter seven attempts a projection of food needs and examines the prospect of self-sufficiency in the most important foods. The eighth chapter focuses on new concerns in food and nutrition that have emerged in recent times. These relate to the marketing of unhygienic and harmful foods as well as the need for nutritional fortification of basic foods.

The ninth chapter discusses the needed policy directions to enhance food security. It discusses the macro-economic policies, agricultural policies and social interventions needed to achieve food security. It concludes that sustained high economic growth, a robust economy, sound public finances and a healthy balance of payments are the best means of achieving food security. Since the national requirements of food are met by domestic production and food imports, there is a role for agriculture in ensuring food security, especially as agricultural development has an important bearing on household food security. However, food security is not only determined by economic growth and agricultural development alone, but also determined by the distribution of incomes. In addition, social interventions are needed to ensure food security to those who are too poor, the unemployed, the unemployable, those who are handicapped, disabled and the aged who have inadequate means to access adequate food to meet their basic food requirements. Furthermore, the capacity of a government to have adequate safety nets depends on its fiscal capacity, macro-economic stability and its expenditure priorities.

The final chapter summarises the main issues and conclusions of the study and discusses needed new policy directions to ensure a higher degree of food security.

CHAPTER 2

Defining Food Security

Food security needs are generally defined as the basic requirements of food rather than the satisfaction of all food wants. At the 1996 World Food Conference, the following definition of food security was adopted by all countries:

> 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 *(Rome Declaration on World Food Security and World Food Summit Plan of Action,* World Food Summit 13-17 November 1996, FAO Rome, 1996)

This definition was further elaborated in *The State of Food Insecurity in the World:*

> 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 for an active and healthy life. (*The State of Food Insecurity in the World*, 2001, FAO Rome, 2002)

Food security is the availability of an adequate supply of food that people can access to obtain their food needs at prices they can afford. Such availability can be achieved by domestic production, imports or by a combination of these. Household food security is achieved when there is adequate accessible food at national level for people to meet their nutritional requirements at all times.

Many developed countries are not self-sufficient in food, however, they enjoy food security. Though many developed countries such as England, Japan and Singapore produce only

a fraction of their food requirements, they are not subject to food insecurity, as they are able to import their requirements of food. Such nations are not self-sufficient in food but food secure. Therefore, food security is the capacity to access the required quantum of food, rather than the ability to produce all your food needs.

Alberto Valdes' defines food security "as the ability of food deficit countries, or regions or households within these countries to meet target consumption levels on a year-to-year basis" (Valdes, 1981, p. 2). This definition relates food security to regions and households within countries, thereby focussing on the vulnerability of groups of persons within countries to secure their food requirements, even when the total food availability is adequate. Although there is a difficulty in defining 'target levels', as these could differ according to the standards of differing countries and socio-economic conditions, there should be a target level in each country.

This issue of household food security that is brought out by Valdes is a central issue as very significant proportions of people in poor countries face food insecurity. Valdes elaborates this concept thus:

> Stable food supplies in the aggregate – that is, for a nation as a whole – is not necessarily synonymous with consumption stability for large segments of the population. The nation must have some means to deliver food to the households that are exposed to food insecurity risks (Valdes, 1981, p. 3).

In several of his seminal studies on famines, hunger and equity, Amartya Sen, has brought out the important distinction between adequate supplies of food globally and nationally and the access of food by particular categories of consumers. These perceptions are of direct relevance to the issue of food security (Sen, 1982).

Sen's central thesis is that while the overall food supply situation has a relationship to whether people have adequate food, it is not solely governed by the total food supply. The 'entitlements' people have to exchange for food are just as important. People may not have adequate food to eat in a situation of large-scale famines, but some people may not have adequate food even when there is no overall shortage of food.

Sen's analysis of the Great Bengal Famine, and the Ethiopian, Sahel and Bangladesh famines, demonstrate that "starvation is a function of entitlements and not of food availability as such". He points out that some of the worst famines have taken place with "no significant decline in food availability per head" (Sen, 1982, p.7). Further, countries, such as China, eliminated starvation "even without a dramatic rise in food availability per head" (Sen, 1982, p. 7).

Sen argues that the elimination of starvation preceded an increase in food supply in China. He asserts that socialist countries, as well as developed capitalist countries like Britain and America, have achieved food security for their people through social security arrangements and systems of guaranteed employment at adequate wages (Sen, 1982, p. 7).

The distributional issue is as relevant to the main theme of this book as producing the total needs of food for the world's population and its availability at national level. In fact the accessibility of adequate food to households is perhaps of more importance in countries with a large proportion of population below the poverty line. Regionally and within nations the uneven and skewed distribution of incomes, or in Sen's words, 'entitlements' may lead to large segments of the population being unable to purchase their nutritional needs.

There are three issues that the preceding discussion brought out:

First, a country need not achieve self-sufficiency in food to achieve food security as it could obtain their needs of food through imports.

Second, even though a country produces adequate food or has a capacity to import all its food needs, large segments of a population may be denied their basic requirements of food.

Third, household level food security may require social interventions to ensure that the poorest segments of a population receive adequate food.

The contemporary South Asian situation is illustrative of these. India, the largest country in the region, produces adequate food to meet the market demand for food of its population of over one billion people. In fact, estimates place the stocks of grain in the go-downs to have been 30 to 80 million metric tons in 2000 to 2005. Yet nearly 40 percent of the population were in need of their food requirements at that time (Mabul ul Haq Centre, 2003).

Sri Lanka is a food deficit country, but as the subsequent analysis in this study shows, it could at present afford to import her full requirements of food at market demand. However, as a significant proportion of Sri Lanka's population is below the poverty line, they have been unable to access their basic nutritional requirements of food. Although this proportion has come down more recently with economic growth, reduced unemployment and poverty, a significant proportion of the country's population is deemed to not have the money to purchase their requirements of food. Although estimates of poverty indicate a sharp drop of poverty to around 6.5 percent of households (Central Bank Annual Report, 2013), there is evidence of a much higher number of households that are food insecure and under nourished (MRI, 2010).

This means that though the country had adequate supplies of food for the entire population, the income distribution of the country threatened the food security of the poorest segment of the population. This situation, prevalent in most developing countries is very pertinent to the discussion on national policies for food security.

Food security has several levels: global, regional, national, areas within countries, households and intra household. The concept of global food security in its crude definition means adequate global food supplies for the world population at a defined consumption level. Global food security has often been discussed as a population to food equation. If the world population's basic food needs exceed global food production, then this is viewed as a disequilibrium that threatens global food security.

National food security is attained when a country produces adequate food for its people or has the capacity to import its needs of food by the earnings from other exports and all people have a capacity to access their food needs. The food security of low-income households or poor regions of a country is a problem in many countries. Many developed as well as developing countries have regions or particular communities that are deficient in food.

Regional food insecurity is a situation where whole continents or sub-continents or regions of a country have a food deficit, though global food supplies are adequate. The global situation, as well as the situation in many countries, is the persistence of regional food insecurity.

There is also a problem of equitable distribution of food within a household. In many societies the food available in the household is not equitably distributed among members of the household. Often the males in the household access their requirements leaving an inadequate amount of food for the others. This inequitable distribution of food within households leads to some members of the household not accessing adequate food for their nutritional requirements (Edirisinghe, 1987, p. 62-63).

Food security is often discussed in terms of a staple or a few commodities as these comprise a high proportion of calorie intake. There is a tendency to think of food security as adequate supplies of rice or rice and wheat. Food security is not adequacy of one or two commodities: it is the availability of a basket of basic commodities to meet nutritional needs.

The issue of food security becomes more complex when one attempts to define such a basket of food. Yet any meaningful concept of food security in the contemporary world should not be confined to cereals alone. It should include other essentials like sugar, milk, dhal, vegetables and perhaps some minimal quantity of fish or meat.

It is necessary to be clear as to whether the discussion should focus on only basic food needs for survival or be concerned with the availability of adequate food supplies to ensure a nutritionally adequate diet. The inclusion of foods to ensure a nutritionally adequate supply of food is indeed a more complete and holistic concept of food security.

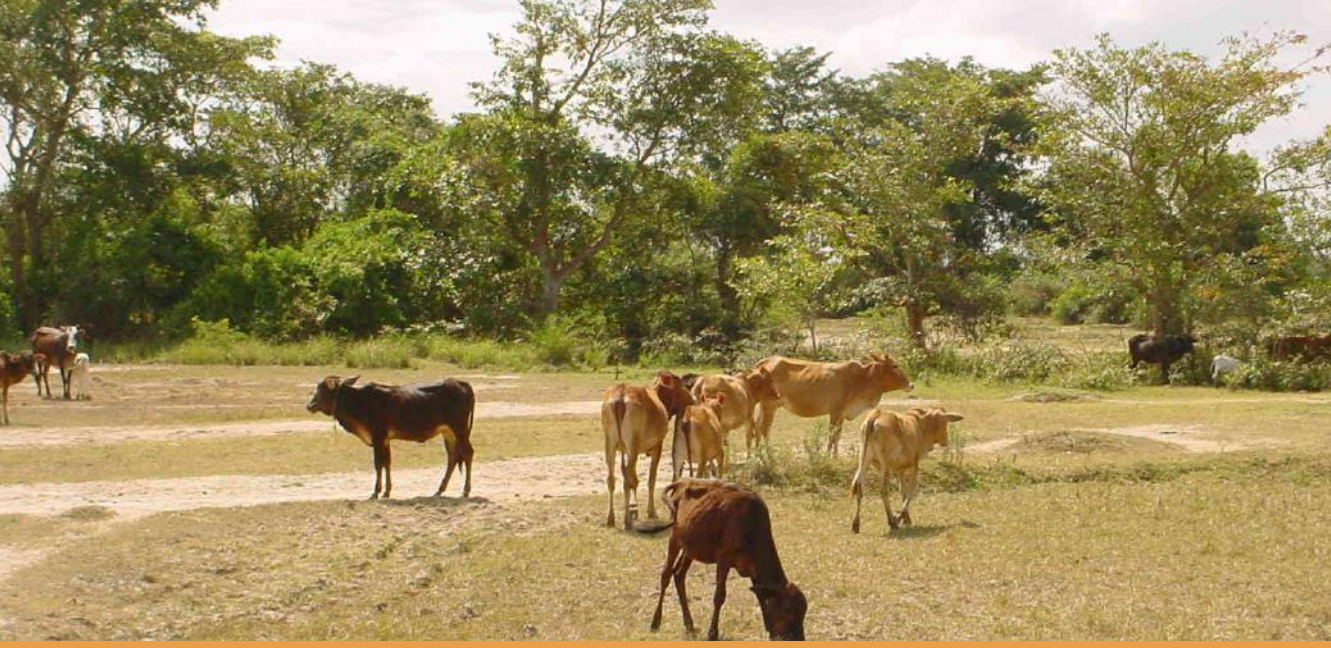
A nutritionally complete diet does not necessarily mean larger quantities of presently consumed food or the addition of expensive foods. Nutritional needs are often better met by an improved nutritional awareness leading to healthier choices in foods. There is a justification for national policies on food to include nutritional awareness programmes as well. This enhances the concept of food security from energy needs to nutritional needs that encompasses nutrients and micro nutrients.

The United Nations (UN) has gone further to view food from a rights based perspective. The right to food is conceived of as a progressive right. It is a right to a much higher and broader level of access to food. The right to food is defined, as the right of everyone to access the minimum quantity of food required for maintaining oneself. It is deemed a basic right. This concept is discussed in the next chapter.

Another dimension of food security is the availability and access of food that is not harmful to health. Unfortunately, the quality of food available at present has deteriorated and in many instances marketed foods can be hazardous to the health of the community. Food in many small restaurants and roadside outlets are exposed to dust, exhaust fumes and bacteria. In addition, much of the wheat flour in the country is of 74 percent extraction. Most of the rice consumed is highly polished milled rice of which the nutrient content is reduced.

Food security must therefore include the protection of the consumer from poor quality food and dangerous substances in foods. It must incorporate the right of access to uncontaminated, healthy, hygienic food. Additionally, this implies positive actions that ensure nutritious food through fortification with minerals and vitamins. There should be adequate legislation and effective implementation to ensure that food is prepared under hygienic conditions, i.e. not wrapped in hazardous materials such as newsprint and not containing substances dangerous to health. This aspect has become more important and pertinent owing to changing life styles and greater dependence on fast foods and take-home foods.

These multifaceted aspects of food security are discussed in the following chapters.



CHAPTER 3

New Frontiers in Food Security: The Right to Food

The United Nations has advocated a rights-based perspective of food security. This perspective of food security encompasses a much higher and broader level of access to food than the concept of food security and is conceived of as a progressive right. Access to a minimum quantity of food required for maintaining oneself is deemed a basic right of everyone. In this rights-based perspective, the right to food is an integral component of the right to development. The right to food has been conceptualised as an integrated whole of civil, political, economic and cultural rights. *The UN Declaration on the Right to Development* of 1986 defines it as:

> "....an inalienable human right by virtue of which every human person and all peoples are entitled to participate in and contribute to and enjoy economic, social, cultural and political developments in which all human rights and fundamental freedoms can be fully realised." (*UN Declaration on the Right to Development,* 1986)

Within this conceptualisation of the Rights to Development, the right to food, education and health are fundamental. While they are interdependent rights, the fulfilment of one enriches the fuller realisation of the other. The right to food is, however, the most basic of these rights, as it has an important bearing on the realisation of the right to health in particular and to the right to education, as adequate food and nutrition are prerequisites to health and capacities for education.

These rights have also been defined as progressive rights, where persons are able to enjoy progressively higher levels of these rights. Therefore, it is a dynamic concept and varied in time and place and one that implies a much higher and broader level of access to food.

While the right to food is defined, as the right of everyone to access a minimum quantity of food required for maintaining oneself, this minimum quantity and the composition of the food basket would vary over time. It would increase in quantity as well as quality and composition.

Within this perspective what constitutes the right to food in Sri Lanka? Clearly and indisputably the right of everyone to access the minimum quantity of food required to maintain oneself by meeting their nutritional needs is a basic right. Data cited in subsequent chapters of this book indicate that around one third to one fourth of Sri Lanka's population appears to lack the capacity to obtain an adequate quantum of basic food requirements. Therefore, the priority in the achievement of the right to food must be to ensure their access to an adequate amount of food. This perspective, that all citizens must have the capacity to access the minimum amount of food needed means that the state has a responsibility to ensure it. But it does not mean that a basket of food must be given free.

Since the right to food is conceived of as a progressive right, it is a right to a much higher and broader level of access to food. The concept of access to food cannot also be confined to only basic food needs for mere survival as conceived of in the past. The right to food includes a nutritionally adequate basket of foods. It must go beyond the provision of staples like rice and wheat and must include other essential foods like sugar, milk, dhal, and vegetables and, perhaps some minimal quantity of fish and meat.

Such a broadening of the concept of a right to food is a realistic one as most people in Sri Lanka expect a basic food basket to include a more varied and nutritional diet. Therefore, the attainment of food security requires that all households in the country have access to a quantity of food that is considered a basic minimum in terms of quantity and composition. At the present stage of economic development and social expectations, it would necessarily have to contain a more varied diet than mere staples.

Was the Right to Food Recognised in Sri Lanka?

The right to food is achieved when all citizens have access to a minimum quantity of food required for maintaining themselves at a nutritionally accepted level. If an individual is unable to access his or her minimum food needs, as defined by the right to food, such an individual has a right to demand it from the state.

The account of Sri Lanka's food subsidies discussed in the next chapter raises the important question as to whether the food ration scheme from 1942 to 1979 constituted recognition of the right to food. There are elements of the policies that make it very controversial. This discussion of the issue is intended to use the experience as a means of eliciting fundamental issues relating to the implementation of a right to food.

It can be argued that the guarantee of a minimum quantity of food at a concessionary price or free during a period by the government constitutes such a right. Further, when the government attempted to remove the subsidy in 1953, there were protests that implied it was an inalienable right. However, it was not based on a concept of rights but as a means to ensure food security in the country at a time when there was a threat owing to food shortages during the Second World War. The period since then till 1979

was one where governments continued the subsidy in one form or another, even in the face of economic difficulties owing to political compulsions.

Another point requires to be stressed. The food ration was applicable to all citizens at most times and the administration ensured that nearly all obtained the subsidised or free ration. While this was done by an efficient administration through a widespread co-operative network, its effectiveness was also owing to individuals themselves recognising the ration as a fundamental right and protecting it themselves.

For these reasons it can be argued that the right to the food subsidy was an inalienable right; that it was not a passive right; that the state recognised it as an obligation; that the people were claimants rather than beggars; and that it had a universal applicability.

Yet there are other aspects of the scheme that are counter arguments. First, the extent of the subsidy as well as the amount varied from time to time. Food as a right implies a minimum quantity of food that is needed for normal life. The variations in the amount of food and extent of subsidy negate this condition.

Second, there was cross-subsidisation of the basic foods. The subsidy on rice was partially met by higher than market prices for wheat flour and sugar at times. Especially as these two food items are also basic, the state was in fact negating the benefits of the rice subsidy. The right to rice meant a loss of total entitlements of food. Therefore, was the cross subsidisation a method of fiscal management that negated the right to food? An alternate perspective is to consider the provision of several basic food items (sugar, lentils and flour) as an embryonic concept of the right to food.

Third, although the subsidy was confined to rice rather than a basket of foods, the scheme did ensure quantities of wheat, flour and sugar, but at most times, at a higher than market cost. It is therefore debatable as to whether the ration scheme met the criterion of food as a right.

Fourth, there was a period when due to the disenfranchisement of the population of Indian origin, the principle of universality was breached. Therefore, all residents in the country were not entitled. Only citizens were entitled to the ration. As a consequence a significant proportion (about 10 percent) of the resident population was not entitled to the ration, as they were no longer citizens.

Fifth, the food basket and its cost were very much dependent on international prices and overall economic conditions. The international prices of food imports, as well as the export prices of the country's main exports, affected the quantum and prices of foods – both on the ration and outside it. However, as mentioned in the previous section, during the food crisis in the 1970s, the ration scheme ensured a right to a minimum quantity of basic foods, just as it did during the war years.

Sixth, the fact that a government was able to change the food ration to a food stamps scheme, whose benefits were eroded through inflation, implies that it was not a right to food, but a support to enable the poor to access some food. It is clear that the food stamps scheme eroded the more universal right to food that the food ration schemes provided.

Was *Janasaviya* and *Samurdhi a* recognition of the right to food? To the extent that it enhanced the incomes of the poor, their capacities to access food would have been enhanced. However, it was not the recognition of a right to food as it was a provision of a minimum income that may or may not lead to adequate access to food. It is arguable that the income supplementary approach is not a rights-based one. Those who received *Janasaviya* and *Samurdhi* no doubt had access to more adequate food but it did not constitute a right to food *per se.* The targeting was also such that a large proportion of those who were not in need obtained the benefit, while a significant number of the really poor were deprived of the benefit.

Why the Right to Food is Difficult to Implement?

Unlike the rights to health and education, the right to food is difficult to achieve in developing countries for several reasons. The rights to health and education are for most part institutionally delivered. Therefore, they could be enforced by ensuring certain stipulated standards. The right to food is different as it is an individually accessed right within a household and involves the entire population every day.

The rights to education and health could be enhanced through institutional capacity building. The right to education could be implemented by regulations requiring schools within a stipulated distance, teacher: student ratios, minimum qualifications for teachers, waiver of fees and primary and/secondary education being compulsory. When a child is unable to access education facilities or when such facilities are sub-standard, it should be possible for parents to bring an action against the authorities. A specially constituted 'Court for Educational Rights', could hear these violations and enforce the right.

Similarly inadequate hospital and medical facilities, lack of doctors in regions, unavailability of medicines, ambulances, special facilities for the mentally handicapped or persons otherwise able, prenatal and post natal care, provision of geriatric services, availability of laboratory services and medical technology could be enforced by laying down regulations for ensuring the availability of such services.

The right to food cannot be implemented in these ways as it involves everyone's daily consumption of food. Ensuring the right to food could be very costly and beyond the capacities of developing countries that have serious fiscal constraints. Administrative capacities, abuse of such rights and inadequate finances make it nearly impossible to implement the right of food in countries like Sri Lanka.

Notwithstanding the above, it must be recognised that the implementation of these rights too, face severe difficulties owing to financial constraints and inadequate personnel in developing countries like Sri Lanka. It is one thing to stipulate standards, quite another to find the means to implement them, whether these be the construction of schools or hospitals or finding doctors, teachers and paramedical staff.

Sri Lanka's weak public finances with persistent large fiscal deficits and a lack of funds for developmental expenditure weaken the capacity for safety nets and social interventions. Financial stringency is a serious constraint to developing the institutional capacities for delivering these services and for capacity building in education and health, as well as providing adequate funds for medical and educational equipment in addition

to disposables like drugs. These financial constraints are made even more difficult due to defence expenditures, high debt servicing costs, massive losses in public enterprises, waste of public funds, faulty prioritisation of public expenditure and adverse movements in the terms of trade, especially caused by the sharp rise in oil prices.

Although the rights to development interprets the obligations to be not solely those of the nation concerned but of the international community, in reality it is not likely that rich countries would fill the gaps in resources, just as much as they have failed to comply with the aid ratios that were stipulated several decades ago. Apart from financial constraints, there are difficulties of finding trained personnel for educational and health services.

The rights to food are far more difficult to achieve through a legalistic approach as it would be difficult to implement these. Bringing actions and proving these would be nearly impossible. Therefore, the approach to the realisation of the right to food would have to be through a range of economic, political, social and administrative policies. These are spelled out briefly in the next section and discussed fully in subsequent chapters.

How the Right to Food Could be Achieved: Needed Policy Directions

The discussion so far, implies that the right to food cannot be realised through legal enactments and enforcement. The right to food or food security has to be achieved through a process of economic growth and development, a more equitable distribution of incomes and effective food interventions for those unable to access their needed food requirements.

The problem of food security is a problem of underdevelopment and can be resolved only through economic growth and development. The experiences of developed countries, as well as those of the Newly Industrialised Countries (NICs), bear this out. In the latter group of countries, Singapore, Malaysia, the Republic of Korea, are examples where the proportion of the poor has been sharply reduced and consequently food security for a high proportion of the population has been achieved.

The improvement of food security in a country requires policies and strategies that generate rapid economic growth to raise employment and income levels on a broad basis throughout the country in order to reduce poverty, unemployment and low incomes that have a close correlation with the attainment of food security. The macro and micro economic policies that have to be adopted if food security is to be achieved include good macro-economic policies that generate economic growth, foster economic diversification, generate new employment opportunities outside of agriculture, increase incomes and reduce poverty.

While overall economic growth and diversification are important factors in ensuring national food security, agricultural development has a vital role to play in ensuring food availability at household level. Overall economic growth, however important, cannot by itself resolve the problem of household food security at the present stage of development of countries in South Asia. There is a need for rural development and increased agricultural productivity that directly addresses the problem in the rural areas in particular.

Although the availability of food supplies does not necessarily ensure household accessibility to food, there is a relationship between food availability and household access to food. Ensuring adequate food supplies at the national level is the foundation for resolving the problem of food insecurity. It is also necessary to adopt agricultural and rural development policies to increase agricultural production, improve marketing and distribution of food and to develop rural infrastructure and rural industry.

It is also important to have food interventionist programmes to reach the poorest of the poor. These programmes would be quite large when the proportion of households in poverty is high but should decrease as the other strategies succeed. The lessons of interventionist programmes discussed in later chapters are that interventions were inadequate, on the one hand, and on the other, that they should be better targeted. Targeting has indeed been a serious problem in Sri Lanka, especially owing to political interventions.

In India too, there have been significant lapses in targeting the really poor. The Human Development in South Asia 2002 report has shown the difficulties of effective targeting of food interventionist programs and is sceptical of their sustainability (Mabul ul Haq, 2000) However, if the right to food of the poorest in these South Asian countries is to be achieved, effective targeting has to be achieved.

An increasingly important issue in the right to food is the accessibility to wholesome and hygienic food. Emerging urban life styles and increasing dependence on pre-prepared and fast foods require that consumers be protected from unhygienic, contaminated and nutritionally poor quality foods. There is a growing need to ensure wholesome, nutritious, clean and unpolluted food by regulatory mechanisms that are effectively implemented.

Action is required on at least three fronts. First: the rules and regulations governing the preparation and sale of food require to be revised to incorporate new health hazards. Second, the system of surveillance and enforcement needs to be strengthened. Third, new regulations to ensure quality food should be included. This would include an accurate description of foods, including nutritional values. The composition of food parcels may require certain minimum quantities of vegetables, greens, fish or meat.

The fortification of foods is another means by which the nutritional levels of the population could be improved. Salt is already iodized prior to sale in Sri Lanka and several countries. The possibility of vitamin fortification requires to be explored. Additionally, the sale of foods with nutrient extraction should be prohibited. The case of wheat flour being of 74 percent extraction in Sri Lanka cited earlier is a clear violation of this right.

Summary and Conclusions

The rights approach to development is a commendable recognition of human rights and an advancement of the basic concept of food security. The recognition of the right to food is a foundation on which food security policies should be pursued. The discussion on the right to food expands the conceptual backdrop to the discussion on food security in Sri Lanka that follows.

The rights to food, education and health as components of the right to development are however difficult to implement and render into reality. The right to food in particular cannot be achieved through a rights-based approach that attempts to enforce it through laws. The right to education and the right to health could be partially achieved by such an approach. Higher economic growth, the diversification of economies and increased employment opportunities are fundamental to the achievement of food security. Rapid economic growth and economic diversification in South East Asia have been responsible for the reduction of poverty and the improvement in food security in these countries. Therefore, good economic management and macroeconomic policies that generate growth are vital if food security is to be achieved.

Agricultural and rural development policies that increase productivity and incomes in rural areas must work in tandem with economic growth for the attainment of household food security. A pre-condition for ensuring food security for the population as a whole is the national availability of adequate food stocks year-in and year-out. The attainment of food security requires agricultural support policies that would enhance productivity in rice and other crops where the current levels of yield are far below the potentially achievable levels.

Food security and the right to food could be strengthened by increased national production of food, increased diversification of the economy, increased employment and income generating opportunities and better management of the economy to achieve higher economic growth. Yet even with such an achievement there would be a proportion of the population left behind whose entitlements would be inadequate to meet their food needs. This implies a need for interventionist programmes to ensure their food. The issues raised earlier come into play in the nature and design of such a programme. Besides this, the capacity of a government to intervene effectively depends very much on its financial and fiscal situation and good governance.

The conclusion derived from this discussion on the right of food is that food security is a problem of underdevelopment and an issue in governance and cannot be achieved by the enactment of laws. Good governance would ensure that countries are able to achieve rapid economic growth, increase agricultural productivity, achieve robust rural development and reduce poverty substantially. With higher economic growth and a better distribution of incomes, the incidence of household food insecurity could be brought down to levels that enable governments to adopt and implement effective interventionist programmes that could resolve the problems of household food security. The recognition of the right to food could be the foundation on which such policy measures are enacted and implemented.

CHAPTER 4

The Political Economy of Food Subsidies

Food subsidies have been a central issue in Sri Lankan politics. The food subsidy was a part of a welfare package that included free health care, free education and more recently the *Janasaviya* and *Samurdhi* poverty alleviation programmes.

On the supply side, rice producers have been subsidised by a guaranteed price scheme that ensured a floor price often above the international market price for a considerable period of time. A comprehensive system of support for paddy production in the form of fertilizer subsidies, concessional credit, government procurement of paddy at a guaranteed price, crop insurance and an extension programme, has attempted to support food production.

This chapter analyses and discusses the political and economic facets of the different food subsidy programs.

Rice Ration Scheme

The first food subsidy was the rice ration programme that was introduced in 1942 to overcome difficulties of procuring basic consumption items during the Second World War when food supplies became uncertain. Its objective was to ensure a minimum quantity of food for everyone when basic food commodities were scarce. Every person (except children under one year) was given a ration book entitling the holder to certain quantities of rice, flour, sugar and other basic commodities. The retail prices of rice, as well as flour and sugar, were stipulated and controlled. The ration scheme achieved an equitable distribution of food as well as internal security.

The food ration scheme was continued after the war as a means of easing the cost of living and promoting social welfare. The subsidy was initially affordable because of

the post-war rise in Sri Lankan export crop prices, the accumulated foreign exchange reserves of the country and the low import prices of rice, wheat flour and sugar. In most years there was a cross subsidy in basic food items on the ration: while the price of rationed rice was subsidised, wheat flour and sugar were often sold at prices higher than their import cost.

The amount of the rice ration, per person per week, and the price of the rationed rice are given in Table 4.1.

Table 4.1: Rice Ration Subsidy in Sri Lanka (1945-1980)

Date of change	Ration per person (In Measures[1])	Nominal price Rs. per Measure[1]
1945 to September 1952	1	0.25
July 1953	1.5	0.70
October 1953	1.5	0.55
November 1954	2	0.55
May 1955	2	0.50
October 1955	2	0.25
May 1956	2	0.40
June 1958	2	0.35
June 1959	2	0.25 first measure 0.45 second measure
April 1960	2	0.25
December 1966	1	Free
September 1970	2	0.75; 1 measure free
February 1973	2[2]	1.00; 1 measure free
October 1973	1.5	2.00; 0.5 measure free
April 1974	1[3]	2.30; 0.5 measure free
August 1974	1	2.20; 0.5 measure free
March 1975	1	2.20; 0.5 measure free
November 1975	1	2.00; 0.5 measure free
November 1977	2	2.00; 0.5 measure free
November 1978 to September 1979	2[4]	2.00; 0.5 measure free

Sources : Annual Reports of the Central Bank of Sri Lanka, Budget Speeches, Gavan and Chandrasekera, 1981.

[1] *1 Measure = 2 lbs. approximately.*
[2] *Income tax payers were not eligible for the free ration from this date.*
[3] *In urban areas of rice deficit districts, one measure was issued at Rs. 2.30 per measure.*
[4] *Only those earning less than Rs.300 per month were entitled to ration.*

In the late 1940s the price of imported food rose, cross-subsidisation was eroded and the subsidy on food began to increase considerably. By 1952 the cost of the subsidy had reached one-third of total government expenditure. This situation led the government, on the advice of the Central Bank, to curtail the subsidy on rice in July 1953 by increasing its price from 25 cents per measure (approximately 2 lbs.) to 70 cents per measure, about 90 percent of its import price (Table 4.1).

This sparked off a public outcry. A strong protest in the form of a hartal (work stoppage) organised by the opposition led to the resignation of the Prime Minister, who had acted on the advice of the Central Bank somewhat reluctantly. Subsequently the price of rice was reduced from 70 cents to 55 cents, still higher than the previous price of 25 cents per measure.

The ferocity of public protest against the reduction of the rice subsidy in 1953 led to a conviction that a political party intent on retaining office or winning an election could not remove the subsidy. Much of the country's politics until 1978 was a competition among parties to enhance or create an impression of enhancing, the subsidy rather than remove it. Whenever economic conditions decreed that the subsidy should be reduced, governments did so in a manner that attempted to confuse the issue by seeming to give a better form of subsidy. Opposition parties seized each such opportunity to denounce the government and promise that they would restore the subsidy to its former value. This process of political bargaining culminated with the provision of one measure of rice free to everyone in December 1966. This free component of the ration was reduced to 0.5 measures in October 1973 and continued to be issued until 1978. (see Table 4.1 above).

In October 1955, shortly before the election of April 1956, the price of a measure of rice was reduced to its former price of 25 cents. Yet, the United National Party (UNP) that had dominated politics since 1931, when universal franchise was introduced, lost power. Their parliamentary strength was reduced to 8 members in a parliament of 101 members. Incontrovertibly there were other issues that dominated the electioneering, most notably the official language issue, but the reduction of the subsidy would have also played a role in shaping public opinion.

Despite the populist nature of the Sri Lanka Freedom Party (SLFP) that was elected in 1956, the deteriorating balance of payments compelled it to raise the price of rice on the ration soon after it was elected from 25 to 40 cents. As the 1960 elections drew close, the SLFP attempted to bolster its support, by changing the pricing system for the food subsidy while reducing public expenditure. Instead of giving two measures at 35 cents each, the price of the first measure was reduced to 25 cents, while the price of the second measure was increased to 45 cents. Although the total cost to the consumer of two measures remained at 70 cents, it was expected that overall government expenditure would be reduced, as some people would opt to buy only the first measure.

Notwithstanding this and other moves, the SLFP lost its majority and a minority UNP government took office in April 1960. It lasted only a few weeks. Before dissolving Parliament, however, it sought popularity by reducing the price of the second measure of rice as well to 25 cents. In spite of this, the UNP lost the election in July 1960. The SLFP government that assumed office in July 1960 did not tamper with the ration. It

continued giving two measures of rice at 25 cents each, rather than returning to its policy of the previous year.

The rice subsidy issue came to the political forefront once again in the election of 1965 when the UNP and SLFP competed with each other to promise larger subsidies. The UNP won the election and decided to reduce the ration to one measure and to give that measure of rice free to every person from December 1966: a move intended to enhance the popularity of the government, while reducing the total cost of the subsidy. The halving of the ration reduced the amount of rice distributed under the programme, increased open market sales, and reduced per capita and total rice consumption.

This practice of giving rice free to the entire population became a legacy from which subsequent governments could not retreat till the late seventies.

The deterioration of the country's economic conditions in the 1970s meant that the food subsidy became an enormous burden on public finances and on the economy. Between 1971 and 1975 the cost of the subsidy averaged out at 4.3 per cent of Gross Domestic Product (GDP) (Table 4.2). The cost of food subsidies accounted for an average of about 20 percent of the government's current expenditure annually (Abeysekera, 2006, p. 7).

Table 4.2: Food Subsidy Expenditure as Percent of GDP (1951-1980)

Period	Percent of GDP
1951-55	2.4
1956-60	2.1
1961-65	3.7
1966-70	2.7
1971-75	4.3
1976-80	3.4

Sources : *Annual Reports* of the Central Bank of Sri Lanka, various years

Despite the severe economic difficulties during 1970-77 owing to oil price hikes, increased prices for fertilizer and food imports and three years of drought, the government decided to retain the food subsidy. In September 1970, the newly elected SLFP government increased the ration by one measure, to honour an election promise that the Prime Minister made that she would 'bring rice even from the moon'. This increased the scale of subsidy and the external shocks of 1973 forced it to rein expenditure in.

The price for the purchased component was increased to Rs. 2.00 and the free ration was reduced from one measure to one half measure. For the first time, the principle of targeting was introduced, as income tax payers became ineligible for the free ration. However, as tax payers were so few in number, perhaps 50,000, this decision had little effect financially.

The UNP government, which came to power in July 1977 on a platform of economic liberalisation, increased the paid component of the ration to one and one half measures. However, as the UNP became aware of the scheme's escalating costs, it decided to restrict the ration to households with an annual income of less than Rs. 3,600 in January 1978. This restricted the ration to about one half of the population and was a more significant attempt to 'target' the ration than that of 1973. However, it was only an interim reform.

Food Stamps

In September 1979, there was a break with food subsidy policies of the past. The food ration, which had dominated the political and economic scene for nearly half a century, was terminated and a food stamps programme was introduced. The scheme provided food stamps with a fixed nominal value to families with an annual income of less than Rs. 3,600 (around half the population). These food stamps could be redeemed against food purchases from state run cooperatives at unsubsidised prices.

This immediately lowered food subsidy expenditure from Rs. 2,100 million in 1970 to Rs. 1,500 million in 1980. The expenditure on the food stamps was much lower than on the rice ration scheme as can be seen from Table 4.3. This targeted food stamps scheme that was not indexed to price changes was an astute manoeuvre to minimise food related social interventions. It was a reduced intervention whose benefit to the poor was quickly eroded by the high rate of inflation (Alailima, 1985)

In subsequent years, by keeping the nominal value of food stamps fixed, while prices rose, the government was able to avoid the usual rise in expenditures that all earlier governments had faced. On the other hand, food stamps recipients found their food entitlement eroded by sharp rises in food prices that characterised the 1980-85 period, in particular (Alailima, 1985).

Table 4.3: Expenditure on Food Stamps (1977-2002)

Year	Rs. Million	Percent of GDP
1977	1,424	4.1
1978	2,162	5.3
1979	2,326	4.7
1980	304	0.5
1981	125	0.2
1982	42	0.1
1983	81	0.1
1984	90	0.1
1985	100	0.1
1986	100	0.1
1987	1,666	0.8
1988	1,895	0.9
1989	3,932	1.6
1990	5,122	1.6
1991	4,023	1.1
1992	4,466	1.0
1993	4,580	0.9
1994	4,654	0.8
1995	1,799	0.3
1996	591	0.1
1997	-	-
1998	-	-
1999	334	-
2000	435	0.00
2001	681	0.00
2002	740	-

Sources : *Annual Reports* of the Central Bank of Sri Lanka, various years

Note: The figures include food subsidy expenditure as well in some years.

Janasaviya

In 1989, following the re-election of the UNP, the food stamps entitlement was phased out. The *Janasaviya* programme replaced the food stamps programme.

The election manifesto promised that the *Janasaviya* programme would give each household entitled to food stamps a grant of Rs. 2,500 per month for two years. The *Janasaviya* entitlement comprised a consumption component of Rs. 1,458 per month and

an investment component (that is, forced savings) of Rs. 1,042 per month. Since the full coverage promised in the manifesto would have doubled total public expenditure immediately, it was phased out over 11 years. By early 1993, about 10 percent of households (355,124) had received *Janasaviya* entitlements under its first three annual rounds. Following President Premadasa's assassination on May 1st 1993, the *Janasaviya* programme was curtailed.

Samurdhi Programme

The People's Alliance (PA) government headed by the SLFP that came to power in 2000, despite its opposition to the *Janasaviya* programme, reincarnated it as the *Samurdhi* programme. Its features were similar, in that it had a consumption and non-consumption component, the latter being saved by the scheme itself. Although in introducing the scheme, as well as the first Economic Policy statement, the government stressed the need for a well-targeted programme of poverty alleviation, the scheme had covered 58 per cent of the country's households by 2001.

Since then, the number receiving *Samurdhi* payments have been reduced progressively. In 2012, it is estimated that 1.6 million households or 35 percent of households received *Samurdhi* benefits (Central Bank Annual Report, 2012). Even this proportion of households receiving benefits is several times the estimated number of households below the poverty line. Nonetheless, the *Janasaviya* and *Samurdhi* expenditure was less than 1 percent of GDP except in 1996, when it was just over 1 percent (Tables 4.4 and 4.5).

Both the *Janasaviya* and *Samurdhi* programmes assisted some of the very poor in obtaining their basic food needs as well as alleviated their poverty. Yet there were many of the poorest of the poor who did not receive *Samurdhi* benefits, as it was a highly politicised one giving benefits to a larger proportion than those who were needy. The fact that the national poverty count is only 9 percent of the population, while *Samurdhi* beneficiaries are as much as 35 percent of households cast doubt on both the poverty estimate and the targeting of the programme.

While many of those who receive *Samurdhi* benefits are not those entitled to these, many of the needy do not receive benefits. The poor targeting of the programme is evident from the fact that the number of households receiving *Samurdhi* benefits is several times the estimate of poverty. Equally unsatisfactory is the fact that households that deserve these benefits do not have access to them. Politicisation of the programme's implementation is a primary reason for this (Institute of Policy Studies, 2006, pp. 80-90).

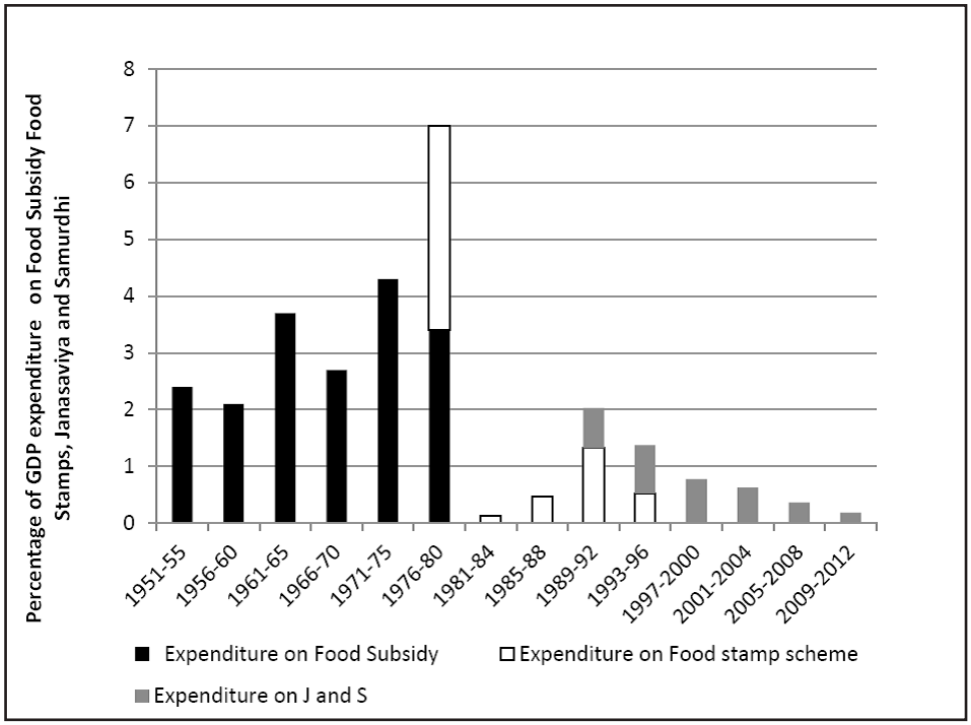
Table 4.4: Expenditure on Janasaviya and Samurdhi (1989- 2013)

Year	Amount (Rs. million)	Percent of GDP
1989	705	0.3
1990	2,912	0.9
1991	3,407	0.9
1992	3,098	0.7
1993	3,685	0.7
1994	5,369	0.9
1995	5,130	0.7
1996	8,591	1.1
1997	8,718	1.0
1998	8,652	0.8
1999	8,020	0.7
2000	9,861	0.6
2001	9,861	0.6
2002	12,574	0.9
2003	9,933	0.6
2004	8,623	0.4
2005	10,636	0.4
2006	12,505	0.4
2007	11,251	0.3
2008	11,810	0.3
2009	12,639	0.3
2010	10,645	0.2
2011	9,602	0.1
2012	10,553	0.1
2013	13,896	0.2

Source : Annual Reports of the Central Bank of Sri Lanka, various years

Figure 4.1 shows that the proportions of GDP expended on the *Janasaviya* and *Samurdhi* programmes were much less than on the food subsidy. The highest expenditure on the food subsidy as a percentage of GDP was in the 1971-75 period. The food subsidy being a universal programme its expenditure was huge and increased with the population increase and costs of the rationed rice. In 1976-80 the combined expenditure on the food subsidy and food stamps reached an unprecedented high level of 7 percent of GDP.

Figure 4.1: Percentage of GDP expenditure on food subsidy, food stamp scheme and *Janasaviya* and *Samurdhi* (J&S)



Source : Annual Reports of the Central Bank of Sri Lanka, various years

The number of beneficiaries and the value of the different benefits are given in Table 4.5

Table 4.5: Number of Beneficiaries and Value of Benefits of *Janasaviya* and *Samurdhi*

Year	Income Supplementary Programmes		Dry Ration Programmes		Nutrition Programmes	
	Number of Families	Value Rs. Mn	Number of Families	Value Rs. Mn	Number of Families	Value Rs. Mn
2005	1,960,664	9,244	98,223	1,142	122,186	250
2006	1,916,594	10,570	122,269	1,359	186,211	576
2007	1,844,660	9,423	105,105	1,234	102,020	594
2008	1,631,133	9,967	102,662	1,457	86,480	386
2009	1,600,786	9,274*	173,450	2,860	71,762	505
2010	1,572,129	9,241*	30,320	1,016	61,495	388
2011	1,541,575	9,043*	na	100	44,739	360
2012	1,549,107	10,553*	na	54	55,299	250
2013	1,477,313	13,896*	na	33	40,403	204

Source : Annual Reports of the Central Bank of Sri Lanka, various years

Current policies to improve food security include enhancing self-sufficiency in food at household level and uplifting the livelihoods of rural households. The government embarked on a number of rural development projects that included the *Hadabima, Api Wavamu Rata Nagamu* and *Divi Neguma projects. The Hadabima,* cultivation of vegetables engaged armed forces released from fighting, while the *Api Wavamu Rata Nagamu* was aimed at making individual households produce food items. The *Divi Neguma* Programme expects to improve food security by increasing food production by cultivating vegetables and fruits, animal husbandry and rural industries. Home gardens and small scale livestock enterprises are expected to improve household food consumption. It is too early to evaluate the success of these programmes.

Factors Influencing Food Policies

The initial intervention in the form of the food ration scheme in 1942 was to ensure equitable distribution of basic food items that became scarce and uncertain in the face of disruption of shipping during war time. The strong foreign exchange reserves and adequate revenues from export taxation enabled governments to continue the rice ration scheme after the war.

The provision of subsidised food helped to keep the cost of living down and proved popular with both the masses and the powerful plantation interest group, who were able to keep wages low because of it. When economic conditions took a downturn the rice subsidy was retained because of the difficulty of withdrawing a popular benefit that was considered a birthright. The opposition trade union movement was an important factor for the continuation of the ration scheme. The experience of the *hartal* demonstrated this.

In such a political bind, government responses to this difficulty were threefold: pre-empting, deceiving and targeting. Some regimes increased the subsidy in the run up to election time in an attempt to pre-empt opposition promises of bigger and better subsidies.

A second approach was to change the scheme to reduce the total cost of the subsidy but present the changes as a better benefit. For instance, the grant of a free measure of rice in lieu of two measures at a price was made to appear an increased benefit to the poor. By such innovative deceptions the government succeeded in portraying the reduction of the subsidy as an enhancement of it to thereby make it more palatable politically (Hulme and Sanderatne, 1995).

The third strategy was to remove some sections of the population, such as taxpayers and later, those above a certain income from eligibility. Ultimately, when the food stamps scheme replaced the ration, the targeting of it to a small proportion of the population and erosion of the real value of the subsidy by denominating the benefit in fixed monetary terms, meant a diminution of food subsidy.

The most explicit and directly relevant factor accounting for the commitment to social welfare was the introduction of universal suffrage in 1931. The competitive politics that emerged from this constitutional change led to successive governments retaining or improving welfare programmes. A fundamental factor in Sri Lanka's welfare policies and

food subsidies in particular, is that political competition within its democratic framework fostered the continuation of the food subsidy. The response to a downturn in economic conditions was to practice innovative deceptions rather than to address openly the issue of what level of expenditure the country could afford. The competitive political process accentuated the ingrained welfareism of the population and all political parties were committed to it. The governed, on this issue at least, exercised significant influence over their governors (Hulme and Sanderatne, 1995; Cromwell, Hulme and Sanderatne, 1994).

How then did the UNP government manage to drastically reduce the subsidy from 1978 when previous governments were unable to do so? Did it become politically less responsive? Was the value placed on social welfare reduced? Were the people in a different frame of thinking and therefore ready to accept drastic cuts in subsidy? Did the people deny themselves the right to a food subsidy?

One possible explanation is that the sharp deterioration in economic conditions in the 1970-77 period induced a greater willingness of the electorate to accept a drastic change in economic strategy to resolve the problems of scarcity, unemployment and low incomes. There was a perception among the middle classes, in particular, that the universal rice ration subsidy was not financially feasible and that a better-targeted programme was needed. Economic growth and reduction of unemployment may have emerged as higher priorities among a large section of the population. There is little doubt that the overall deterioration in economic conditions was the main factor that routed the government. The food ration may have played little part in the election.

The government's two-thirds majority at the election gave it the political courage to face any likely opposition. The UNP government with its huge mandate was able to implement a new package of policies that included a curtailment of the food subsidy, by targeting it only on poorer households and excluding many who had formerly had an entitlement. This contradicted a vague manifesto promise of giving "..... 8 lbs. of grain per adult per week". Although it did increase the ration for a short period after its election (Table 4.1), it proved a precursor to a curtailment of food subsidies.

Thus, while people may have been more willing to accept a change, the government was careful to ensure that it could not be accused of depriving "the poor" of the food subsidy. The changes in November 1977, in November 1978 and in September 1979 were modifications reducing the cost of subsidy to the government, but were projected as a continuation of the food subsidy to those who genuinely needed it. The changes were also made more palatable by related elements of the policy package which promised to increase employment through a number of large investment schemes, the availability of food and other consumer items consequent on the liberalisation of imports and sharp increases in food production in the 1980s.

However, one of the most important factors in this change in policy was the influence and clout of the International Monetary Fund (IMF), which demanded a pruning of welfare expenditures and better targeting of the benefits as part of the 1978 Structural Adjustment Facility (SAF). The limits placed on the amount that could be devoted to welfare expenditure and the requirement to keep the budget deficit within stipulated proportions of the gross domestic product (GDP) as “conditionalities” of the SAF and

later the Extended Structural Adjustment Facility (ESAF) required the curtailing of expenditure. Therefore, IMF "conditionalities" dominated the policy change, rather than populist political considerations that had persisted previously (Cromwell, Hulme and Sanderatne, 1994).

The story of the food subsidy amply demonstrates the responsiveness of Sri Lankan political parties to the wishes of the governed. Yet, given the high cost of the subsidy, the question is whether political parties, in office or in opposition, lacked a sense of public accountability in being willing to continue or enhance a subsidy which was so costly that it resulted in distortions in taxation and curtailed public investment in other areas of direct relevance to economic growth. Since the 1953 failure to reduce the subsidy, political parties in power attempted to cope with its financial burden by a degree of deception and at no stage did they foster debate about what level of expenditure was appropriate for the food subsidy. Whenever seeking to curtail the total costs of the subsidy the impression was created that a greater benefit was being conferred. This indicates political cunning and manipulation rather than a sense of accountability.

Political parties in opposition promised increases in the subsidy knowing full well the difficulties of their finding the resources to implement such promises. Financial constraints compelled governments to make corrections midway in their regime. Once in power, they often reduced or adapted the subsidy to the extent that political expediency would permit. The competitive political process and the country's high rate of electoral participation (over 70 percent) fuelled this bidding. No party could afford to be not competitive in its subsidy promises. Governments were truckling to the multitude and pandering to the masses rather than acting responsibly on a financial issue of considerable significance for economic development.

Governments did not attempt to explain the direct and indirect economic costs and effects of the food subsidy to the electorate. A lack of dialogue between the government, political parties and the people prevented the designing of a more realistic food subsidy programme that could have achieved food security on a more viable and sustainable basis. There was indeed a lack of transparency in the approaches of successive governments and opposition parties.

Further, until 1978 governments made no serious attempt to reduce the subsidy by targeting it to the poor and needy. After the 1953 episode, governments were unwilling to tamper with the scheme, even to the extent of removing it from the richer classes. Only in 1978 was the subsidy fully removed from income tax payers and in 1980 restricted to those with a family income of less than Rs. 300 per month. However, this attempt to target food stamps resulted in a proportion of the neediest losing access. About 20 percent of the lowest-income receivers did not receive food stamps and the leakage to unintended beneficiaries amounted to 62 percent of the subsidy (UNICEF, 1985). In retrospect the attempt at targeting, demonstrated the problems that the poor face when benefits are means tested. The ineffectiveness of implementing a targeted interventionist programme was also demonstrated in the *Janasaviya* and *Samurdhi* programmes.

In 1988 the UNP government responded to these growing difficulties by promising a new poverty alleviation programme - the *Janasaviya* Programme. However, promises vastly exceeded the resources available to government and, if implemented, would have led to

enormous financial difficulties. In consequence, the promised programme was phased over a long period and the grants were kept at nominal values. Their real values were eroded by around 40 percent. The government, and in particular President Premadasa, was not able to fulfil the rash electoral promises made owing to financial constraints. Nevertheless, the extravagant and financially unfeasible promise achieved the intended objective of coming to power. In a country accustomed to free or highly subsidised food, free education and health, the extravagant and impractical promise of *Janasaviya* would have appeared a feasible promise that may have been kept.

Initially, President Premadasa conceived of the *Janasaviya* programme as a targeted one. He explained that the really poor and unemployed would be screened by a transparent process since the community would be aware of those receiving the *Janasaviya* benefits. He contended that those not entitled would not apply. He expected unintended beneficiaries to be reported by the community. In the event, such community pressure was not brought to bear and unintended beneficiaries proliferated. Again this experience demonstrated the welfare culture of the people that attempted to maximise receiving state grants of any kind.

As the economic burden of the subsidy increased, the bureaucratic response was to continue with the system of subsidies, but to propose measures that would cut its total cost. Especially after the disastrous political consequences of the 1953 attempt to reduce the subsidy, the political imperative to continue food subsidies was accepted by the bureaucracy. It worked within a framework of food subsidisation by providing advice on how the fiscal burden could be reduced by deceptive innovations. When a visible change in approach was witnessed in 1977 with the adoption of a drastically different economic policy package, they responded by assisting in the design of the new programme. Senior civil servants of that era carefully planned the food stamps scheme so as to progressively reduce its cost in a way that would not be apparent to the public.

The food ration scheme was of nearly universal applicability. Every citizen claimed the right to possess a ration book as it acquired the status of a national identity card and could be used as security to obtain loans. Some employers, particularly of domestic servants, retained ration books as a bond. These characteristics ensured that virtually every citizen possessed a ration book and obtained the subsidy. Those not receiving the subsidised ration were negligible. This universal applicability was of particular relevance in the crisis years of 1972-75, when the country experienced a severe drought at a time of international food shortages and high prices (Sanderatne, 2000). The rice ration helped avert a serious situation of starvation and malnutrition. Yet the rice subsidy was inadequate to prevent a rise in malnutrition among the unemployed, especially the estate workers who lost jobs at this same time.

Abeysekera evaluated the impact of the food ration scheme as being socially pervasive (Abeysekera, 2006, pp. 7-8). The food stamp scheme introduced in September 1979 attempted to target the benefit to the poor. Initially, the beneficiaries were about 49 percent of the population dropping to 42.5 percent in 1986, but increasing thereafter to about 45 percent at the end of 1992. The implementation of the food stamps scheme resulted in administrative malpractices and accountability problems. Since the eligibility on the basis of the cut-off point of income had to be determined at the local level,

officers responsible for determining eligibility often used their discretion to favour kith and kin and took bribes to enlist households. Public servants were also subjected to the orders of politicians who used food stamps as political patronage at both national and local levels. Consequently some persons who were eligible for food stamps did not receive them, while a larger number, who were clearly above the threshold income, obtained stamps.

Edirisinghe's comprehensive study evaluating the Food Stamp Scheme found that the real value of the food stamps had halved by 1981/82 owing to a 92 percent increase in the price of food. However the average calorie intake of households had improved although the nutritional status of the bottom 20 percent of households had declined. The Food Stamp Scheme had failed to improve the food security of the most vulnerable section of the population. The fact that the food stamp values were not indexed to allow some cost of living adjustments is a clear indication that the welfare of the vulnerable sections was not as much of a policy concern as the fiscal burden. Although the economic liberalisation strategy of the new government was expected to unleash new income earning opportunities even to the vulnerable segments of the population, this expectation was not realised in the short run. Modifying the food stamp scheme to benefit the neediest was ridden with the difficulty of targeting food stamps to the poorest sections of the population. In any case there was no political will to do proper targeting (Edirisinghe, 1987).

Conclusion

The discussion and analyses of the food subsidy programmes from that of the rice ration scheme to food stamps to the income support schemes of *Janasaviya* and *Samurdhi* illustrated the political and economic dimensions of these programmes and their economic costs. While the food ration scheme's universal applicability ensured a minimum quantity of food for all, it became economically and financially unsustainable. Efforts at targeting subsidies and transfer payments to the most needy have been politicised and poorly targeted with many of the really needy not obtaining the benefits even though a large proportion of households that did not deserve it obtained *Janasaviya* and *Samurdhi* benefits.

CHAPTER 5

The National Food Security Situation in Sri Lanka

Introduction

This chapter examines and discusses the food security situation at the national level. The next chapter brings out very distinctly the differences between national food availability and national food security and household, regional and individual food security.

National food security in Sri Lanka is dependent on a number of factors. Being a food deficit country the capacity to import affects the national availability of food. This, in turn, is dependent on three variables: export earnings, import needs and the terms of trade. All three of these variables change year-to-year, while some long-term trends can also be identified in them.

The following analysis examines whether Sri Lanka being a food-deficit country has the capacity to import the food she is unable to produce to fulfil all her food requirements. Food requirements should primarily meet nutritional norms which provide the average energy requirements of the population. It may be greater than the current food consumption needs expressed as effective demand, as low income levels constrain effective demand. Meeting the difference between national level requirements and the quantum of food needed to meet effective demand is a subject for policy decisions.

The national availability of food has an important bearing on household food security. Nevertheless, the critical issue is the capacity of households to access the available food. Despite efforts to provide food through subsidised rations, food stamps and income supports, which were discussed in the previous chapter, there is evidence of a significant proportion of people not having adequate food most likely indicating policy and policy implementation inadequacies.

Food Availability 1970-2011

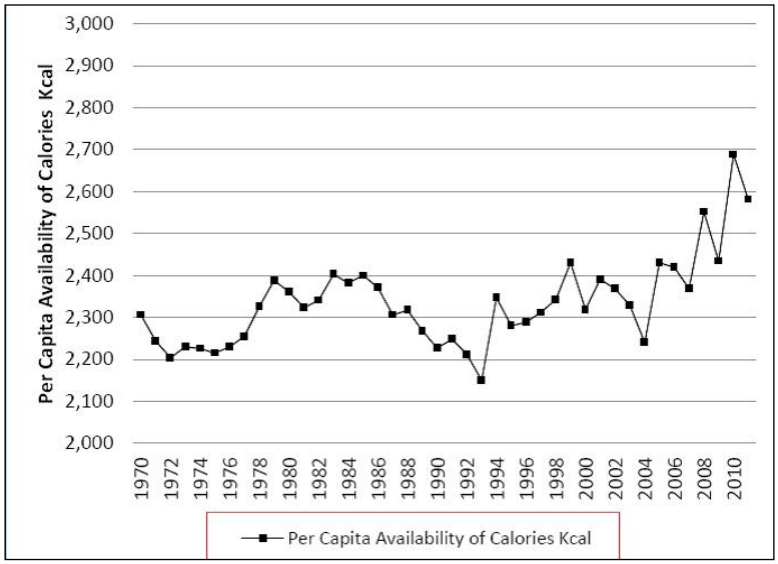
National food availability is dependent on domestic production of food and food imports. In turn, food imports are dependent on domestic demand for food and the capacity of the country to import the required amount demanded by consumers.

The FAO measures food deprivation by comparing usual food consumption expressed in terms of dietary energy (Kcal) with minimum energy requirement norms. Persons whose dietary energy intake falls short of minimum energy requirements are considered to be food insecure. The dietary energy requirement depends on the age, sex, activity levels and health of the individual. For example, the energy and protein requirement for an adult male in the age group 20-39 years is 2500 Kcal and 53 grams respectively while the average per capita energy requirement for Sri Lanka has been estimated at 2200 Kcal (Edirisinghe, 1987).

The availability of calories in the country improved from 1,990 Kcal. in 1953 to 2,306 Kcal. in 1970. Energy availability declined to below 2,300 Kcal. in the early 1970s due to decreased domestic production, high international prices and a severe drop in foreign reserves. Since 1978 there has been an improvement in average per capita food availability, especially due to increased imports of food, when there were domestic production shortfalls and the per capita energy availability was above 2,300 Kcal. until 1988. There was a drop in per capita availability of energy below 2,300 Kcal. from 1989 to 1996 (except in 1994). Since then there has been an improving trend in energy availability. The annual average energy availability during the period 2001 -2011 was 2437 Kcals. This is above the average energy requirement for a person in Sri Lanka which has been estimated at 2200 Kcal.

The per capita availability of calories, protein and fat over the 1970 - 2011 period is given in Figures 5.1 and 5.2.

Figure 5.1: Per Capita Availability of Calories (1970-2011)

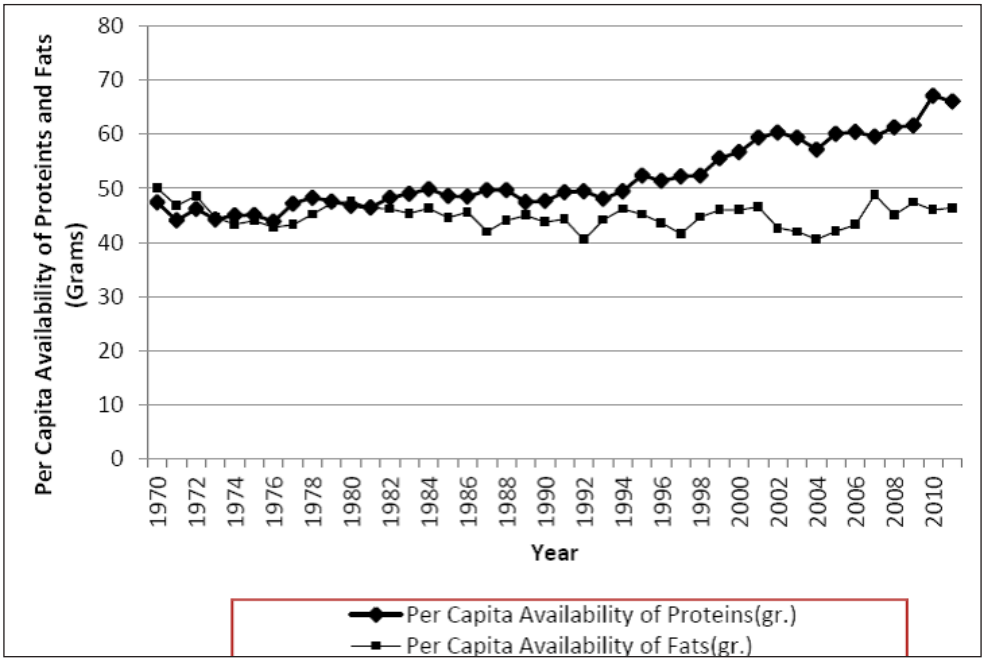


Per capita availability of protein remained below 50 grams until 1994. It fell to a low of 44.1 grams in 1971 and 43.9 grams in 1976. Since 1995, however, it has exceeded 50 grams. Since 2001 a further improvement has been observed with annual average availability of proteins being 61.1 grams during the period 2001-2011, which is above the norm.

The per capita availability of fat has varied between a high of 50 grams in 1970 and a low of 40.6 grams in 2004. Average availability during the period 2001-2011 was 45 grams.

The availability of four key items of food, rice, wheat, sugar, and fish through local production and imports is given in Table 5.1, while the supply of milk and the milk requirement over the years 1998-2013 is given in Table 5.2.

Figure 5.2: Per Capita Availability Proteins and Fats (1970-2011)



Sources: FAO, Food Balance Sheets of the Department of Census and Statistics, various years

Table 5.1: Supply of Major Food Items in Sri Lanka.

Food Com-modity	Quantity (MT)	1961	1970	1980	1990	2000	2010	2011
Rice								
(milled equiva-lent)	Local Production	616,000	1,078,000	1,423,000	1,693,000	1,908,000	2,878,640	2,647,920
	Imports	460,000	534,000	165,000	127,000	15,000	125,773	23,759
	Total Supply	1,026,000	1,194,000	1,485,000	1,820,000	1,922,000	3,039,498	2,689,686
	Self Sufficiency (%)	60.04	90.28	95.82	93.02	99.27	99.27	98.45
Sugar								
(row equiva-lent)	Local Production	4,000	10,000	26,000	57,000	64,000	33,380	36,780
	Imports	221,000	308,000	227,000	310,000	610,000	539,200	603,510
	Total Supply	178,000	308,000	262,000	330,000	594,000	571,530	639,000
	Self Sufficiency (%)	2.2	3.2	9.9	17.2	10.7	5.8	5.76
Fish and sea food	Local Production	74,000	98,000	185,000	166,000	280,000	384,670	444,830
	Imports	109,000	85,000	52,000	103,000	189,000	154,535	157,290
	Total Supply	182,000	182,000	234,000	265,000	457,000	539,192	575,250
	Self Sufficiency (%)	40.66	53.85	79.06	62.64	61.27	71.34	77.33
Wheat	Imports	242,000	620,000	712,000	769,000	891,000	1,068,000	1,260,000
	Total Supply	241,000	620,000	556,000	719,000	799,000	1,069,969	1,271,289

Sources : Food Balance Sheets of the Department of Census and Statistics, various years.

Note: Food self-sufficiency calculations based on local production and imports. Changes in stocks taken into account when computing total availability. Self sufficiency is computed by estimating the percentage of total supply derived from domestic production.

Over 90 percent of the country's staple food (rice) has been produced domestically since 1990. The country has been more or less self-sufficient in rice since 2005 (Table 5.3). In contrast, there is a high dependence on imports of sugar and milk. Fish production has increased since the end of the war in 2009 that has enabled a larger area of fishing in the North and East. Since 2010, domestic fish production has been sufficient to meet over 70 percent of domestic consumption requirements. Further, the domestic component of fish consumption is expected to grow in the future. Sri Lanka imports 85 to 95 percent of its

sugar requirements. The country's entire requirement of wheat is imported, as wheat is not cultivated in the country.

Domestic production of milk as a proportion of total availability from imports and domestic production is an unsatisfactory assessment of self-sufficiency, as self-sufficiency would increase when imports fall due to a multiplicity of reasons, such as international prices, tariffs, import policies and fall in incomes. During 1970-77 when imports were restricted, "self-sufficiency" in milk if computed as above would have been high owing to negligible imports of milk as a consequence of import restrictions.

In order to get a better assessment of self-sufficiency in milk, there is a need to determine it on the basis of an acceptable per capita consumption of milk. The Medical Research Institute (MRI) of Sri Lanka recommends an average dietary allowance for milk of 100 ml, per person per day. Self-sufficiency computed on this basis is given in Table 5.2 below:

Table 5.2: Domestic Milk Supply and Requirement of Milk 1998-2013

Year	Milk Production (Mn Ltrs)	Milk Requirement* (Mn Ltrs)	Self-Sufficiency
1998	177.1	664.1	26.7
1999	179.9	670.7	26.8
2000	181.5	677.4	26.8
2001	183.0	684.2	26.8
2002	183.2	691.0	26.5
2003	186.8	695.9	26.8
2004	190.3	700.9	27.2
2005	192.7	705.8	27.3
2006	196.6	710.9	27.7
2007	202.0	715.9	28.2
2008	208.1	721.0	28.9
2009	233.3	726.1	32.1
2010	247.6	731.3	33.9
2011	258.3	736.4	35.1
2012	299.6	742.0	40.4
2013	319.8	747.2	42.8

Source : Department of Census and Statistics

* Mid-year population for 2012 has been used to compute each year's population by assuming a growth rate of 0.75 percent for 2012, 0.71 percent for the period 2002-2011 and 1.0 percent prior to 2002

Table 5.2 indicates a steady increase in self-sufficiency in milk over the years since 1998. However, the bulk of the milk requirement at present continues to be imported.

The trends in rice production, rice imports and wheat imports over the period 1980-2013 are given in Table 5.3. In 1997, 84 percent of the total requirements of rice were produced domestically and 16 percent was imported. Domestic production was higher in 1998. Consequently, imports were only 8 percent of requirements. In 2003, self-sufficiency rose to 98.2 percent because of the improved production performance. In 2004 the level of self-sufficiency fell to about 90 percent (Table 5.3). The *Maha* 2004/2005 paddy crop was a record harvest of 2 million metric tons of paddy and total rice production during 2005 exceeded 2 million metric tons. Since then the country has been more or less self-sufficient in rice. Small quantities of special varieties of rice are however imported. A small quantity of local rice is also exported.

Table 5.3: Rice and Wheat Grain Availability in Sri Lanka

Year	Rice Production*	Rice Imports	Total Availability* of rice	Self-Sufficiency in Rice	Wheat Grain Imports
	('000 MT)	('000 MT)	('000 MT)		('000 MT)
1980	1366	165	1531	89.2	712
1985	1703	211	1914	89.0	665
1990	1624	172	1796	90.4	577
1995	1798	9	1807	99.5	1057
2000	1830	15	1875	97.6	922
2001	1725	52	1777	97.0	760
2002	1830	95	1925	95.0	993
2003	1965	35	2000	98.2	919
2004	1670	222	1892	88.2	993
2005	2077	52	2129	97.6	864
2006	2139	12	2151	99.4	1200
2007	2004	88	2092	95.8	952
2008	2480	84	2564	96.7	919
2009	2337	52	2389	97.8	1026
2010	2753	126	2879	95.6	1052
2011	2492	28	2520	98.9	1242
2012	2461	36	2497	98.6	1084
2013	2957	23	2980	99.2	895

Source : Annual Reports of the Central Bank of Sri Lanka. various years.

* Does not include changes in stocks – self-sufficiency as defined in this table would be less than 100 per cent if there are imports during the year.

• Conversion rate 1Mt of paddy = 0.64 Mt of rice

This situation is very different to that in the early 1950s when about one half of the rice requirement was imported to feed a population of only 7 to 8 million. However, the reduction in rice imports has been accompanied by increased imports of its close substitute wheat, which was wholly imported, until around 2006 as can be seen in Table 5.3. Wheat grain imports increased from around 712,000 metric tons in 1980 to around

1,200,000 metric tons in 2006 (Table 5.3). Since then, there has been a drop in imports until 2011 when imports picked up to 1,242,000 metric tons. Imports dropped once more to 1,084,000 metric tons in 2012 and further to 895,000 metric tons in 2013. The drop in wheat imports in recent years could be partly attributed to the increase in wheat prices particularly after 2008, which resulted in the price differentials moving in favour of rice. In 2012, prices of wheat flour were also increased noticeably, resulting in the drop in demand. Household consumption data confirms this decline. For example, per capita annual bread consumption (The main form in which wheat is consumed) was found to have declined from 18.4 kilograms in 2006/07 to 11.3 kilograms in 2012.

Paddy production is found to fluctuate from year to year mainly due to weather conditions. Extreme weather conditions have been experienced in Sri Lanka in the last few decades with excessive rain during the south west monsoon season and inadequate rainfall in the north eastern monsoon and inter-monsoonal period. The inadequacy of rain during the latter period has affected paddy cultivation in the north eastern and north central regions.

Despite adverse weather conditions in the opening months of 2013 which led to some crop damage, paddy production increased by a significant 20 percent during the year due to the good performance of the paddy sector during *Yala* season of 2013. In the *Yala* of the previous year 2012 however, a large extent of paddy production was destroyed by a severe drought followed by floods. However, as a consequence of the good *Maha* harvest total paddy production was only marginally below that of 2011. Deficiencies in production could arise in the future as well. Such deficiencies have to be met by the release of stocks or imports. Therefore, it is necessary to recognise that production should be higher than the annual requirements of rice in a good year so as to meet shortfall in years of poor harvest. Improvement in irrigation is also important as a high dependence on rainfall would create uncertainty in rice production.

As national food availability is also dependent on the country's capacity to import, it is also important to assess this. The expenditure on food imports varies year-by-year due to both variations in the quantity imported and prices. Major food imports include wheat grain, sugar, milk and milk products, rice, fish and fish products and some subsidiary food crops such as onions. In the case of domestically produced foods (e.g. rice and subsidiary food crops) their level of domestic production has an important bearing on the quantity imported. The relationship between the value of food imports and export earnings is an indicator of the country's food import capacity: an important factor in national food availability and food security.

Table 5.4 shows very clearly that food imports as a proportion of total imports have declined dramatically from around 40 to 50 percent from 1955 to 1975 to 20 percent in 1980 and to below 12 percent in 2000. In fact, during 2004 to 2007 this figure has been at a single digit level. It fell below 10 percent again during the period 2011 to 2013.

Table 5.4: Food Import Expenditure, 1955-2013

Year	Value of Food Imports	Total Imports	Food Imports as Percentage of Total Imports
	(Rs. Million)	(Rs. Million)	
1955	638	1,460	43.7
1960	785	1,960	40.1
1965	605	1,474	41.0
1970	1,051	2,313	45.4
1975	2,687	5,251	51.2
1980	6,940	33,637	20.6
1985	9,747	49,069	19.9
1990	20,357	107,729	18.9
1995	36,732	266,719	13.8
2000	52,584	554,290	9.5
2001	58,466	532,964	11.0
2002	66,539	584,491	11.4
2003	67,714	643,749	10.5
2004	78,983	811,138	9.7
2005	75,610	891,359	8.5
2006	99,533	1,066,689	9.3
2007	116,968	1,250,386	9.4
2008	161,344	1,525,705	10.6
2009	138,076	1,172,618	11.8
2010	179,577	1,519,737	11.8
2011	220,659	2,241,488	9.8
2012	212,355	2,441,879	8.7
2013	217,974	2.323,128	9.4

Sources : Annual Reports of the Central Bank of Sri Lanka, various years.
Note : Value of food imports includes Rice, Wheat Grain, Sugar, Milk and Milk Products, Fish and Fish products and other food items.

Considering food imports as a proportion of total imports could be misleading, as this proportion would decline if other import values rise. Total value of imports tends to fluctuate significantly with changes in international oil prices. For instance, in 2004 when the food import bill increased by almost 17 percent, as a proportion of total imports, it declined from 10.5 to 9.7 percent as total imports increased by 26 percent, mainly due to the high price of oil imports. In 2009, while food import expenditure declined in rupee terms, its proportion to total imports increased appreciably from 10.6 percent to 11.8 percent due to the sharper drop in overall import expenditure, owing to lower

international commodity prices. Therefore, a better indicator of the country's food import capacity is to evaluate food import costs in relation to export earnings.

Food import expenditure as a proportion of total export earnings and export earnings from selected categories of exports is given in Table 5.5. Figure 5.3 shows the decline in food imports as a proportion of total imports over the years.

Table 5.5: Food import expenditure as a proportion of export earnings 1998-2013

Year	Food and drink imports (Rs. Mn)	Percent of total exports	Percent of agricultural exports	Percent of tea exports	Percent of total industrial exports	Percent of net industrial exports *	Percent of gross garment exports	Percent of net garment exports**
1998	46,574	15.0	66.3	92.6	19.9	49.9	29.2	97.5
1999	46,562	14.3	69.8	106.5	18.6	46.5	27.2	90.7
2000	52,584	12.5	68.9	99.0	16.1	40.3	23.1	77.2
2001	58,466	13.6	70.2	94.9	17.6	44.1	25. 7	85.7
2002	66,539	14.8	74.2	105.4	19.1	47.8	28.7	95.6
2003	67,714	13.7	72.8	102.7	17.6	44.1	27.2	90.8
2004	78,983	13.5	73.2	105.5	17.3	43.2	27.7	92.3
2005	75,610	11.8	65.2	92.8	15.2	38.0	26.0	86.6
2006	99,533	13.9	74.0	108.6	17.7	44.2	31.0	103.4
2007	116,968	13.8	64.1	103.0	17.8	44.5	31.7	105.6
2008	161,344	18.4	75.7	117.3	24.4	60.9	42.8	142.7
2009	138,076	17.0	65.7	101.4	23.0	57.5	36.9	122.9
2010	179,577	18.4	68.9	110.3	26.1	65.2	47.4	157.9
2011	220,659	18.9	79.0	133.8	25.0	62.4	47.6	158.7
2012	212,355	17.1	71.3	117.7	22.6	56.6	41.8	139.2
2013	217,974	16.2	65.3	109.3	21.8	54.5	37.4	124.8

Sources : Annual Reports of the Central Bank of Sri Lanka, various years.

** Net industrial export value has been defined as the approximate domestic value added and estimated at 40 per cent of gross earnings*

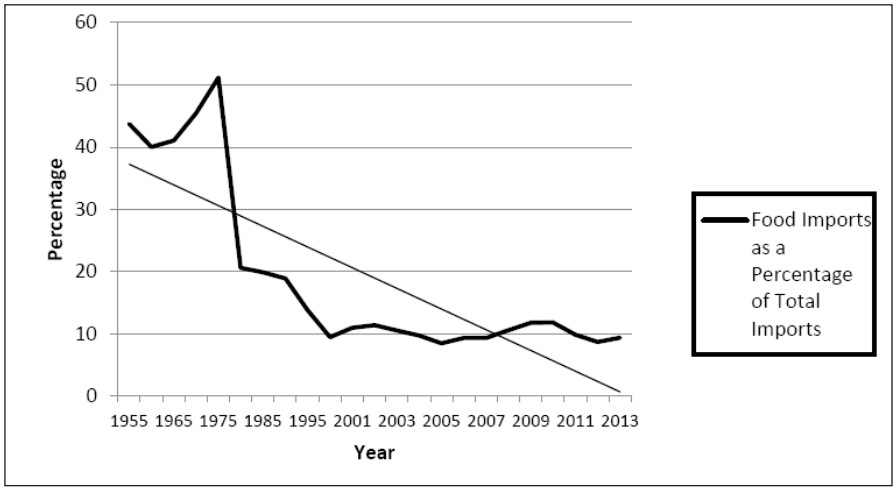
***Domestic value added in garment exports has been estimated at 30.per cent of gross earnings*

A very significant fact revealed in Table 5.5 is that the total value of food imports was more than covered by the value of agricultural exports alone during the period 1998-2013. However, the proportion of agricultural export earnings required to cover food import expenditure varied from 64.1 percent to 79 percent. Tea export earnings alone covered food import expenditure in 1998, 2000, 2001 and 2005 and only slightly fell short of it during the period 2002 to 2004 and in 2007 and 2009. However, in 2011 tea export earnings were only around three fourths of food import expenditure. There was a

slight improvement in this situation with tea export earnings covering 85 percent of food import expenditure in 2012 due to reduced imports of food during that year. In 2013 there was a noticeable further improvement with tea export income being sufficient to cover 91 percent food import expenditure. The decline in food imports in 2012 and in the first half of 2013 was owing to higher tariffs levied on several basic foods and the depreciation of the currency that increased the import prices of food sharply. In the year 2013 as a whole, food import expenditure expanded when compared to 2012 but remained below that of 2011. Further, export earnings expanded significantly in the second half of 2013 as a result of the recovery of the country's main export markets. In particular, there was a noticeable improvement in export earnings from both textiles and garments and tea, improving the country's capacity to import. The trends are brought out more clearly in Figure 5.3.

It is noteworthy that besides agricultural exports, a small volume of a variety of processed foods is also exported. These constituted around 2.5 to 3 percent of total export earnings in recent years.

Figure 5.3: Food Imports as a Percentage of Total Imports (including linear trend line)



Sources : Annual Reports of the Central Bank of Sri Lanka, various years

Although food imports are a small proportion of the total import bill, food imports consist of basic food items that have an important bearing on the food security of households. The main food imports from 2003-2013 given in Table 5.6 illustrates this. Therefore, a reduction of their imports due to higher prices is a threat to food security.

Table 5.6: Main Food Imports (2003-2013)

US Dollar Million

Food Category											
	2003	**2004**	**2005**	**2006**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**
Rice	8	59	16	6	39	44	23	59	18	24	18
Sugar	116	111	132	224	151	203	218	363	429	345	289
Wheat	137	183	141	199	234	375	269	265	426	364	323
Other	440	425	611	757	831	1138	692	900	1123	935	1061
Total	701	779	752	956	1058	1513	1202	1587	1996	1668	1691
Food Imports as % of total imports	10.5	9.7	8.5	9.3	9.4	10.6	11.8	11.8	9.8	8.7	9.4

Sources : Annual Reports of the Central Bank of Sri Lanka, various years

The Sri Lankan economy is more diversified today than up to the 1970s. Industrial exports account for 75 percent of total export earnings now. The discussion on food security must consider this fact, as national food availability must be placed within the overall context of the economic structure and particularly the import-export dependence of the economy and its implications for food availability. Figures in the last four columns of Table 5.5 present an analysis of food import expenditure in relation to industrial export earnings.

In 1998 the total food import bill was only 19.9 percent of industrial export earnings. Sri Lanka's manufactured exports have high import content. Therefore, it is important to assess the food import expenditure in relation to the net export earnings. Even after a generous allowance of 60 percent for these imported inputs is assumed, the net foreign exchange earnings of manufactures (assumed to be only 40 percent of gross earnings) exceed the value of food imports during the entire period under review. (Table 5.5) In 1998, the import expenditure on food was covered by around 50 percent of net earnings from industrial exports. However, the proportion of earnings of net industrial exports required to cover food import expenditure has increased appreciably since 2008 and stood at a high of 65.2 percent in 2010. Since then there has been a slight improvement with this percentage moving down to 62.4 percent in 2011, 56.6 percent in 2012 and 54.5 percent in 2013. Despite the high import content of industrial exports, the net foreign exchange earnings from industry are on average about 36 percent higher than the gross foreign exchange earnings from agricultural exports although this ratio tends to fluctuate noticeably from year to year.

Textiles and garments are the country's major industrial export. However, due to the high value of imported inputs, value added is relatively low. Even if a low value added of 30 percent is assumed, net foreign exchange earnings from garment exports more than covered food import expenditure during the period 1998-2005. However, it fell significantly below the level required to finance food imports from 2008 onwards. (See Table 5.5)

The evidence cited here indicates that the country, though a food deficit country, has the capability to import and meet the full requirements of food. Further, this capacity has been enhanced by the diversification of the economy, particularly through industrialisation.

This relationship between the cost of food imports and export earnings has an important bearing on future food availability and the formulation of agricultural policy to ensure food security. Though continuing to be highly trade-dependent, Sri Lanka's import-export structure has changed drastically. In the 1950s and for almost the next three decades, the country could be characterised as an agricultural export-import economy. Agricultural exports constituted 94 percent of export earnings in 1951, and even in 1975 they accounted for 80 percent of export earnings. Food imports accounted for 45 percent of imports in 1951 and 51 percent of imports in 1975.

As could be observed in Table 5.5, despite the country's ability to meet its food needs through exports, the proportion of export earnings required to meet import expenditure on food and drink, fluctuates significantly. Sri Lanka was at a relatively disadvantageous position in both 2010 and 2011 with a slight improvement experienced in 2012 and a further improvement in 2013. These fluctuations are accounted for by the changes in terms of trade from year to year and the import requirements that arise. This underscores the continued vulnerability of the Sri Lankan economy to international prices and export fortunes.

The foregoing analysis was based on the present consumption levels of households. It is necessary to examine whether the situation of adequate national food availability holds if the domestic demand is not constrained by low household incomes, or if adequate food is provided to poor households through government intervention. Therefore, to obtain a better assessment of the national food status, a sensitivity analysis with higher levels of food consumption is performed to see whether the situation would be different if the people, who are unable to purchase their total food requirements, are also able to access their food needs.

Some idea of the expansion in expenditure on imported foods that could arise, if households were not constrained by low incomes, can be obtained by examining the pattern of food expenditure by household income deciles. Accordingly, such an examination reveals that if the food expenditure of households in lower income groups were not constrained, overall average expenditure on imported foods could expand by around a maximum of 35 percent.[1] Although, this could be considered the maximum, for the purpose of this study, the demand for food imports has been increased by 25, 35 and 50 percent from that of 1998, 2004, 2008, 2009, 2011, 2012 and 2013.The position in the most recent year (2013) is given in Tables 5.7 below whereas the relevant tables for the other years are annexed as 5A1-5A6.

[1] Data from the Consumer Finance and Socio Economic Survey 2003/04 indicates that the expenditure on imported food items of house holds in the highest income decile is around 35 percent higher than that of the average household. This suggests that if the household expenditure of all households rose to that of the top decile, the import requirement of food would be 35 percent higher.

Table 5.7: Food Import Capacity at a level higher than 2013 Imports

(Value of 2013 food imports = Rs. 217,974 million)

	Current Level	25 percent higher	35 percent higher	50 percent higher
As percent of 2013 total exports (Rs. 1,344054 million)	16.2	20.3	21.9	24.3
As percent of 2013 agriculture exports (Rs. 333,942 million)	65.3	81.6	88.1	97.9
As percent of 2013 Industrial exports (Rs.1,001,808 million)	21.8	27.2	29.4	32.6
As percent of 2013 Net Industrial export (Rs. 400,732 million)	54.5	68.0	73.5	81.6

The data in Table 5.7 and Tables 5A1 to 5A6 in the appendix to chapter 5, while confirming that Sri Lanka is able to import its food requirements even at a higher level, out of its export earnings also indicates a fluctuation in import capacity which is indicative of the country's vulnerability. For example, in 1998 which was a fairly normal year, Sri Lanka was able to import food requirements 35 percent higher than the requirements at the time using less than 80 percent of agricultural export earnings alone. The situation was different in 2004 which was a crisis year. The economic shocks in 2004 were two-fold, both internal and external. Due to the drought, rice and food crop production fell by about 14.4 percent. The oil price hike resulted in a rise in imports and a high trade deficit of around U.S. $ 2,200 million. In order to accommodate import of food 35 percent over the prevailing year's level, almost the entire agricultural export income would have been needed. In 2008 too, the country faced a severe crisis owing to increases in prices of key imports including food, petroleum and fertilizer. The merchandise trade deficit reached US $ 5,981 million. There has also been a fluctuation in the exchange rate over this period.[2] Although, overall terms of trade improved, it was not possible to accommodate food expenditure 35 percent over the prevailing level by agricultural export earnings alone.

In 2009, Sri Lanka's external sector performance was affected by the global downturn which resulted in a substantial decline in exports. However, imports declined even more sharply, while there was a mild deterioration of the terms of trade as well. The trade deficit contracted to US$ 3,122 million mainly as a result of lower commodity and oil prices. Agricultural export income was more than sufficient to cover food import expenditure 35 percent higher than the prevailing level. The latter half of 2011 also turned out to be challenging on due to external and internal factors. There was a sharp surge in import demand on one hand while unsettled conditions in the Middle-East put pressure on oil prices. The trade deficit rose sharply to US$ 9,710 million while terms of

[2] Annual Average Exchange Rates (Rs. per US$) during this period were as follows:

1998	1999	2000	2001	2002	2003	2004
64.59	70.39	75.78	89.36	95.66	96.52	101.19

trade deteriorated noticeably. Agricultural export earnings once again fell short of that required to accommodate food import expenditure over 35 percent of the prevailing level. Further, over 90 percent of net industrial export income would have been necessary to finance this level of import expenditure in 2011.

A slight improvement was recorded in 2012, with a decline in both imports and exports. However, consumer goods imports fell more sharply than exports, resulting in the trade deficit declining to US$ 9,417 million. Increases in the domestic prices of major imported food items, due to the upward adjustments in duties, special commodity levies etc. was responsible for the drop in demand for imported foods. This was most noticeable in the case of wheat in respect of which there was a decline in demand of almost 14 percent. As a consequence of the decline in such import expenditure, food import expenditure exceeding 35 percent of the 2012 level of such expenditure could have been once more accommodated by agricultural export earnings alone. Further, 76 percent of net industrial export earnings could accommodate this level of food expenditure. A further improvement was observed in 2013 with the reduction in the trade deficit. Food import expenditure increased only marginally while overall import expenditure declined due to somewhat sluggish international prices. The trade deficit dropped sharply to US $ 7,609 million. The terms of trade also improved during the year.

A comparison of Table 5.7 and Table 5A6 shows the improvement in the capacity to import registered between 2012 and 2013. As a result of the healthy growth in agricultural exports, a level of food expenditure 35 percent higher than the level registered in 2013 could be comfortably accommodated by agricultural export income alone. In fact, this is even possible if the food expenditure levels were 50 percent higher than the 2013 level. In the previous year, 2012, this was not possible with 107 percent of agricultural export earnings required to accommodate food import expenditure 50 percent over that year's level. Further, a food expenditure 35 percent above the level in 2013 could be covered by 74 percent of the net industrial import earnings in that year while in the previous year the corresponding figure was slightly higher at 76 percent.

The above analysis discloses that while the macro-economic situation is currently not a threat to ensuring national food security, there is a need for vigilance as severe erosion in the terms of trade, a sharp drop in exports, a fall in domestic food production, increased needs for non-food imports such as oil and an upsurge in international food commodity prices and/or international oil prices could erode the food import capacity and thereby reduce food availability in the country. The fluctuations in the terms of trade shown in Table 5.8 reflect this vulnerability.

Being a food deficit country with a high dependence on imports and exports, the food situation in the country is very vulnerable to a number of factors. However, food imports are quite comfortably financed through exports. Agricultural export earnings alone, finance total food imports. The sensitivity analysis also demonstrated that the country had a capacity to import higher levels of food. This does not mean that the country is not vulnerable in its food security. As a food importing country there are several ways in which the country's food security could be threatened. These threats to food availability are discussed in the following section.

Table 5.8: Terms of Trade, 2000-2013*

Category	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Export Volume	-8	2.2	3.5	7.8	6.7	4.1	7.3	-2	-14.7	-13.3	10.2	-0.5	5.8
Import Volume	-10.7	11.4	11.2	9	2.7	7.1	4.1	18.7	-31.2	19.6	22.8	0.5	-0.3
Terms of Trade	-1.7	4.6	7.4	-5.2	-4.2	-3.5	-1	3.1	-2.7	27.5	-9.3	-1.2	6.8

Sources : Central Bank Annual Reports of the Central Bank of Sri Lanka, various years
* From 2003 Trade Indices have been computed with 1997 as base. From 2007 onwards they have been calculated with a wider coverage using 2010 as the base

Sri Lanka's Food Vulnerability

Global food production and consumption levels have an important bearing on Sri Lanka's capacity to meet the food needs of the country. If global food supply cannot match global demand, increased international prices could affect the country's capacity to augment its food supplies through imports (Sanderatne, 2001).

There are several factors that could threaten global food supply. One of these is water scarcity. Projections of water availability indicate that there would be serious water scarcities in certain regions of the world in about twenty years. These regional water scarcities imply constraints to agricultural production. Two of these water scarce regions would be in China and India, which together have to feed over one-third of the world population. The reduction in food supplies in these large Asian countries could have a serious impact on the global food supply - demand situation (Seckler et al., 1999).

Price increases for grains such as wheat could also arise due to catastrophic climate changes triggered by global warming which could result in large scale devastation of crops. Agriculture is currently heavily dependent on petroleum products such as fertilizer, pesticides and herbicides. An increase in petroleum prices could result in increasing international prices for agricultural commodities. In such a situation, there is a likelihood of increased production of bio-fuels which will increase the price of grain further.

Another concern arises out of the fact that countries of North America, which produce large quantities of the world's food and have favourable conditions for expansion of food production, may contract their production. The current depressed demand for food and consequent price decreases is a disincentive to their increased production. In addition, government policies in these countries give incentives to contract production in order to improve prices. This means that countries, which have a comparative advantage in the production of many items of food owing to large extents of land, capital intensive methods of production, advanced research and modern biotechnology, may in fact reduce agricultural production. Their reduced production could have an important impact on global food supplies and international prices especially of wheat and milk.

The demand for food has also been increasing due to economic growth and higher per capita incomes in highly populated countries of China and India. The increased international demand is an important factor contributing to the rise in food prices.

These factors are reasons for expecting a reversal in the global population-food equation. If global food supplies do not increase adequately, food prices would increase and Sri Lanka, which still imports significant quantities of food, would face substantial increases in food import costs. This is especially so with respect to the country's import of wheat.

An additional concern arises out of the volatility of the country's agricultural export prices and the highly unstable structure of exports. If agricultural export prices fall at the same time as our food import prices rise, then the consequent adverse terms of trade would erode the capacity for food imports.

The vulnerability of industrial exports is also a possible threat to food security. If industrial exports decline, then it would reduce food import capacity appreciably. A decrease in industrial exports by 13 percent in 2001, from the export earnings of 2000 is illustrative of this vulnerability. There was however a decrease in the total value of food imports in 2001. Therefore, on the one hand, food security has been enhanced by the diversification of the export structure and growth of industrial exports, while on the other hand, there is an added vulnerability if industrial exports perform badly.

In 2008, amidst a surge in international prices, Sri Lanka's food import expenditure rose by as much as 38 percent. However, growth in the earnings from industrial exports was marginal. During the year, the proportion of gross industrial export income required to meet food import expenditure rose to 24.4 percent from 17.8 percent in 2007. From 2008 onwards the proportion of gross industrial earnings required to meet food import expenditure has exceeded 20 percent. In the latest year, 2013, there was an increase in industrial exports by 5.1 percent while there was only a very marginal increase in total food imports by 1.4 percent, improving the country' capacity to import when compared to the previous year.

The country's manufactured exports at present are such that other countries could become more competitive within a short period. This is especially so with respect to the main industrial export - garments - that constituted around 54 percent of industrial exports and nearly 41 percent of total exports in 2012. The lapsing of the Multi Fibre Agreement in 2005, created such an anxiety, which was averted. Increased costs of production and more competitive supplies from other countries could pose a threat to the main export. More recently, the withdrawal of the GSP+ trade concession in 2009 continues to affect Sri Lanka's exports to the large European Union market.

A more diversified and a higher value added set of industries would ensure greater stability in exports and consequently lead indirectly to a higher degree of food security. There has been a modest increase in industrial export diversification in recent years. There is a need to diversify export markets as well.

The other conventional concern lies in the possibilities of global or regional wars that could disrupt food imports. The data presented earlier as well as the analysis in the next

chapter indicate that even in such an eventuality, the country's basic food situation is not seriously threatened. Certainly, there could be domestic shortages particularly with respect to wheat, sugar, milk and other foods, rather than the staple rice. Increased paddy production after 2005, has rendered the country more or less self-sufficient in rice. There is also a potential to increase rice production in the near future. Such increases could enhance food security in the country by meeting the increase in demand of the population growth and by substitution of rice for wheat. In a crisis situation, a shift in consumption to other 'inferior' domestic foods like manioc, other grains and pulses could also compensate to some extent the shortfall in imported food supplies. While such concerns are valid in ensuring essential basic foods and substitutes, such considerations should not be a basis on which national food and agricultural policies or indeed national economic policies should be based. The analysis to follow implies that while higher levels of self sufficiency in several key food items should be attempted, self-sufficiency should not be the determining criterion for economic policy.

Although the national food situation at present is one where there is adequate food, these uncertainties could make the country vulnerable. Economic policies would need to recognise these uncertainties to ensure adequate food supplies. Furthermore, the next chapter discloses that a significant proportion of persons in the country are food insecure as they have inadequate incomes to access their food needs. Household food insecurity is the basic problem that has to be addressed.

Appendix

Table 5 A1: Food Import Capacity at a level higher than 1998 Imports

(Value of 1998 food imports = Rs. 46,574 million)

	Current Level	25 percent higher	35 percent higher	50 percent higher
As percent of 1998 total exports (Rs. 310,398 million)	15.0	18.8	20.3	22.5
As percent of 1998 agriculture exports (Rs. 70,225 million)	66.3	82.9	89.5	99.5
As percent of 1998 Industrial exports (Rs. 233,508 million)	19.9	24.9	26.9	29.9
As percent of 1998 Net Industrial export (Rs. 93,403 million)	49.8	62.3	67.3	74.8

Table 5 A2: Food Import Capacity at a level higher than 2004 Imports

(Value of 2004 food imports = Rs.78,984 million)

	Current Level	25 percent higher	35 percent higher	50 percent higher
As percent of 2004 total exports (Rs. 58.3,967 million)	13.5	16.9	18.3	20.3
As percent of 2004 agriculture exports (Rs. 107,951 million)	73.2	91.4	98.8	109.7
As percent of 2004 Industrial exports (Rs. 457,175 million)	17.3	21.6	23.3	25.9
As percent of Net Industrial export (Rs. 182,870)	43.2	54.0	58.3	64.8

Table 5 A3: Food Import Capacity at a level higher than 2008 Imports

(Value of 2008 food imports = Rs. 161,344 million)

	Current Level	25 percent higher	35 percent higher	50 percent higher
As percent of 2008 total exports (Rs. 878,499 million)	18.4	22.9	24.8	27.55
As percent of 2008 agriculture exports (Rs. 213,132 million)	75.7	94.6	102.2	113.6
As percent of 2008 Industrial exports (Rs. 662,220 million)	24.4	30.4	32.9	36.5
As percent of Net Industrial export (Rs. 264,888)	60.9	76.1	82.2	91.4

Table 5 A4: Food Import Capacity at a level Higher than 2009 Imports

(Value of 2009 food imports = Rs. 138,076 million)

	Current Level	25 percent higher	35 percent higher	50 percent higher
As percent of 2009 total export (Rs. 813,911 million)	17	21.2	22.9	25.4
As percent of 2009 agriculture exports (Rs. 210,092 million)	65.7	82.2	88.7	98.6
As percent of 2009 Industrial exports (Rs. 600,621 million)	23	28.7	31	34.5
As percent of Net Industrial export (Rs. 240,248 million)	57.5	71.8	77.6	86.2

Table 5 A5: Food Import Capacity at a level Higher than 2011 Imports

(Value of 2011 food imports = Rs. 220,659 million)

	Current Level	25 percent higher	35 percent higher	50 per cent higher
As percent of 2011 total exports (Rs.1,167,588 million)	18.9	23.6	25.5	28.3
As percent of 2011 agriculture exports (Rs. 279,466 million)	79.0	98.7	106.6	118.4
As percent of 2011 Industrial exports (Rs. 883,771 million)	25.0	31.2	33.7	37.5
As percent of 2011 net industrial exports (Rs. 353,508 million)	62.4	78	84.3	93.6

Table 5 A6: Food Import Capacity at a level Higher than 2012 Imports

(Value of 2012 food imports = Rs. 212,355 million)

	Current Level	25 percent higher	35 percent higher	50 percent higher
As percent of 2012 total exports (Rs. 1,245,531 million)	17.1	21.3	23	25.6
As percent of 2012 agriculture exports (Rs. 297,715 million)	71.3	89.2	96.3	107
As percent of 2012 Industrial exports (Rs. 938,763 million)	22.6	28.3	30.5	33.9
As percent of 2012 Net Industrial export (Rs. 375,505 million)	56.6	70.7	76.3	84.8

Table 5 A7: Summary of Food Balance Sheet – 2011

Items			000 Metric tons				Per Capita Availability			
			Production	Gross Imports	*Available Supply	**Food Net	Food Grams per day	Calories per day	Protein Grams per day	Fat Grams per day
Cereals			4,037.10	558.48	4,621.64	3,000.46	399.21	1,383.43	29.46	1.371
Roots, Tubers & Other Starchy Food			399.37	131.61	530.98	400.01	53.24	69.03	0.58	0.08
Sugar			36.78	131.6	639.33	609.48	81.12	324.37	0.00	0.00
Pulses & Nuts			46.02	168.17	214.17	206.15	27.44	99.05	6.88	1.49
Vegetable (including Onions)			999.52	177.54	1,160.18	1,061.62	141.31	78.11	3.66	0.52
Fruits			568.61	45.24	597.49	588.77	78.37	79.46	1.01	0.24
Meat			139.75	82.35	142.69	142.69	18.99	23.72	4.69	0.55
Eggs			67.2		67.2	65.99	65.99	15.20	1.16	1.16
Fish	(i)	Fresh	444.83	11.71	429.67	166.24	22.13	29.45	4.32	1.21
	(ii)	Dried & Salted	52.23	49.96	102.19	102.19	13.60	33.34	6.90	0.55
	(iii)	Tinned Fish		20.68	20.68	20.68	2.75	4.74	0.58	0.03
Milk	(i)	Fresh	218.16		218.16	131.3	17.48	11.8	0.63	1.00
	(ii)	Whole Dried	9.88	84.02	94.22	94.03	12.52	62.11	3.22	3.34
	(iii)	Con-densed	5.28	..03	5.34	5.34	0.71	2.31	0.05	0.06
	(iv)	Milk Food (Yo-ghurt etc.)	8.84	.04	8.88	8.88	1.18	0.71	0.05	0.00
Oil & Fats (including Coconut)			1,035.3	18.89	1,008.55	747.84	99.52	364.46	2.92	34.79
Total								2,581.26	66.11	46.39

Source : Department of Census and Statistics, Agriculture and Environment Statistics Division
Estimated Mid Year Population : 20,869,000

* (Production + Imports) - (Change in Stocks + Exports)

** Quantities set apart for Seed, Animal Feed, Waste, Manufacturing are excluded

Table 5 A8: Per Capita Availability of Calories, Proteins and Fat by Sources 2000-2011

Year	Calories per day			Proteins (G/day)			Fats (G/day)		
	Total	Veg-etable	Animal	Total	Vegetable	Animal	Total	Vegetable	Animal
2000	2318.5	2159.7	158.8	56.7	38.6	18.1	46	38.6	7.4
2001	2,391.6	2,234.3	157.3	59.4	41.4	18	46.6	39.4	7.2
2002	2,367.6	2,206.5	161.1	60.3	42.0	18.3	42.7	35.4	7.3
2003	2,328.6	2,171.3	157.4	59.4	41.5	17.8	42	34.9	7.2
2004	2,240.2	2,094.6	145.6	57.2	40.3	16.9	40.6	34.1	6.6
2005	2,430.1	2,293.7	136.4	60.1	44.8	15.3	42.1	35.8	6.3
2006	2,419.3	2,263.3	156	60.4	42.9	17.5	43.3	36.2	7.1
2007	2,368.6	2,211.7	156.9	59.6	41.2	18.4	48.8	41.9	6.9
2008	2,551.7	2,396.2	155.5	61.3	43.1	18.2	45.1	38.2	6.9
2009	2,434.1	2,276.1	158	61.6	43.3	18.3	47.4	40.3	7.1
2010	2,688.4	2,517.4	171	67.1	47.6	19.5	46	38.5	7.5
2011	2,581.3	2,395.6	185.7	66.11	44.45	21.66	46.4	38.3	8.11

Source: Department of Census and Statistics, Agriculture and Environment Statistics Division

CHAPTER 6

Household Food Security

Direct and indirect evidence points to a fairly high proportion of households not obtaining adequate quantities and types of food. Average per capita daily calorie consumption of poor households is much below the requirement of 2200 calories. Also, as can be seen from the indicators of under-nutrition discussed below, there is substantial undernourishment among children in Sri Lanka providing indirect evidence of the inadequacy of food intake. It is not the amount of food available at the national level that was analysed in the previous chapter that is the critical concern in Sri Lanka's food security situation but the inability of low income households to access sufficient food that is a serious problem in Sri Lanka

Despite the interventionist policies discussed in chapter 4 to improve the availability of food, there is evidence of a significant proportion of the population not having access to adequate amounts of food. A number of surveys have estimated the percentage of households with inadequate incomes to range from 18 percent to 30 percent. These households do not obtain adequate food, although the country has a capacity to produce and import its food requirements.

Sri Lanka has fallen below the level of a medium level food security country for many years (Kelegama, 2001). The access to food has also fluctuated considerably. The FAO Aggregate Household Food Security Index (AHFSI) for Sri Lanka was 84.7 for the period 1993-1995 (www.wfp.org). Evidence of malnutrition, under-nutrition and stunting indicate that a significant number of households are food insecure.

This chapter analyses the current household food security situation. It examines the evidence with respect of an adequate access to food by households, nationally and regionally and also touches on the issue of intra-household food adequacy. Several sets of data disclose a serious problem of food insecurity among a significant proportion of households in the country.

Household Expenditure

The proportion of income a household spends on food is an indicator of its vulnerability to food insecurity. If this share is exceedingly high, a household is extremely vulnerable, as the slightest shock could push it into a position where the household could not obtain its food requirement, even if it does so at present. As food security is defined to be access to food at all times, such households are food insecure.

In 1990, Edirisinghe estimated that 28 percent of the country's households spent 80 percent or more of their incomes to purchase food. These households were unable to access food to meet their basic nutritional requirements (Edirisinghe, 1990). Therefore, according to his estimate about 30 percent of the population was denied access to their basic food requirements at that time.

The Central Bank of Sri Lanka's Consumer Finances and Socio Economic Survey (CFS) 1996/97 disclosed that on average Sri Lankan households spent 43 percent of income on food. The CFS of 2003/2004 indicated an overall improvement on the basis of this same criterion: households on average spent only 34 percent of income on food. The Household Income and Expenditure Survey (HIES) of the Department of Census and Statistics conducted in 2006/07 indicated a further improvement with the corresponding figure declining to 33 percent. However, in the HIES conducted in 2009/10, there has been a setback with Sri Lankan households on average spending 36 percent of income on food. Preliminary data from the HIES 2012/2013 indicates that this proportion has gone back to 33 percent reflecting an improvement.

Rural and estate households spent a much higher share of income on food compared to their counterparts in the urban sector. In 1996/97 the proportion of income spent on food was highest in the estate sector (75 percent) and lowest (30 percent) in the urban sector. Rural households spent 46 percent of their income on food. Between 1996/97 and 2003/04 there was an improvement, with the proportion of income spent on food declining appreciably in all three sectors (Table 6.1).

In 2006/07 according to HIES data a further decline in the proportion spent on food was observed in the rural and estate sectors with the relevant figure declining from 36 percent and 58 percent respectively for these two sectors in 2003/04, to 35 percent and 39 percent respectively in 2006/07. However, in 2009/10 there appears to have been a setback reflecting an increase in vulnerability, which was particularly marked in the estate sector, with the relevant figure going up to 50 percent in 2009/10 from 39 percent in 2006/07. The corresponding proportion in the urban and rural sectors also moved up to 33 percent and 36 percent, respectively. The situation appears to have eased in 2012, with the overall average proportion of income devoted to food declining to 2006/07 levels. However, in the Estate Sector the proportion of income devoted to food remains significantly higher than that recorded in 2006/07. The share of income devoted to food remained lowest in the urban sector and highest in the estate sector throughout the period under review.

Further, there are differences in consumer expenditure shares on rice, other food and non-food items and among different food items. There are also significant differences among provinces as well (Table 6.2). The high consumer expenditure share on food in

the Northern and Eastern Provinces in 2009/10 is noteworthy, particularly as consumer expenditure exceeded income in these two provinces. These differences point to the greater vulnerability of households in these provinces.

Table 6.1: Comparison of Food Expenditure among Sectors

Percentage of Income Devoted to Food					
	CFS		HIES		
Sector	1996/97	2003/04	2006/07	2009/10	2012
Urban	30	24	26	33	27
Rural	46	36	35	36	35
Estate	75	58	39	50	46
Sri Lanka	43	34	33	36	33

Sources : Consumer Finance and Socio Economic Survey, Central Bank of Sri Lanka, 1996/97 and 2003/2004, *Household Income and Expenditure Surveys* of the Department of Census and Statistics 2006/07 and 2009/10 and *Preliminary Report* 2012.

Table 6.2: Consumer Expenditure Shares on Selected Food Items (2009/2010)

	Western	Central	Southern	Northern	Eastern	NWP	NCP	Uva	Sabara-gamuwa
Food	35.4	44.8	43.8	58.9	57.4	47.0	41.0	46.8	46.4
Rice (Samba, Kekulu and Nadu)	4.9	8.3	7.9	7.5	10.2	8.7	8.6	10.6	9.9
Wheat Flour	0.2	1.6	0.2	4.5	0.5	0.4	0.4	1.0	0.5
Bread (Normal)	1.5	1.2	1.3	2.2	1.8	1.3	0.8	0.7	1.2
Coconut	1.8	2.3	2.8	3.9	2.8	2.8	2.4	2.4	3.2
Milk and Milk Products	9.6	8,2	8.3	5.8	5.1	6.0	6.4	7.7	6.9
Sugar Treacle and Jaggery	3.1	3.5	3.7	4.5	4.2	3.8	3.5	3.5	3.5

Source : Department of Census and Statistics
*Excluding Killinochchi, Mullativu and Mannar Districts

The HIES of 2002, 2006/07, and 2009/10 disclosed that the monthly average food consumption of households compares favourably with the recommended nutrition standards. However, the average consumption levels mask the fact that a significant proportion of households do not have adequate incomes to access their required food needs. In 2002, the third lowest household income decile spent as much as 87 percent of their income on food, while for the bottom two deciles the expenditure on food exceeded income. Data from the HIES preliminary report 2006/07 (Table 6.4) indicates that the situation had improved appreciably for the poor, with the third poorest decile

spending 62 percent of their income on food, while the second decile spent 76 percent of their income on food.

Data from the HIES 2009/10 (Table 6.5), however, shows deterioration with the third decile spending as much as 77 percent of their income on food. The data for 2009/10 is not strictly comparable to the earlier survey as the geographic coverage of this survey had expanded to include the Trincomalee district and the Jaffna and Vavuniya districts. Nevertheless, it is unlikely that this was the primary cause for the deterioration in the indicator as it has been observed earlier that the food share of income in the Estate Sector also increased. It is encouraging that preliminary data for 2012 indicates that the third decile spent a lower proportion of 67 percent of their income on food. However, it is observed that the proportion of income spent on food by the poorest decile in 2012 at 153 percent exceeded the corresponding proportion for the poorest decile in 2009/10. In fact, in all the HIES surveys considered, the food expenditure exceeded income for the first decile indicating that some of these persons need to borrow to meet even their food needs. Of course there is possibly some under reporting of income due to memory lapses particularly when income is irregular, as well as reluctance to divulge income sources among those who depend on illegal activities for their livelihood.

Only the richest 30 percent of households on average spent less than 50 percent of their income on food in 2002, while in 2006/07 on average the upper 50 percent were able to spend less than 50 percent of their income on food. However, the corresponding figure was only 40 percent in 2009/10. In 2012, the corresponding figure was again 50 percent.

Table 6.3: Average Monthly Household Income and Expenditure on Food and Drink by Household Income Deciles- Sri Lanka 2002

Household Income Deciles (Rs.)	Average Monthly Household Income (Rs.)	Expenditure on Food and Drink (Rs.)	Expenditure on Food and Drink as a % of Income (Rs.)
All Deciles	13,038	6,016	46.1
1st Less than 3,300	2,237	3,449	154.2
2nd 3,301- 4,660	4,036	4,056	100.7
3rd 4,661- 5,823	5,242	4,572	87.2
4th 5,824- 7,000	6,447	4,973	77.1
5th 7,001- 8,387	7,643	5,389	70.5
6th 8,388- 10,000	9,219	6,027	65.4
7th 10,001-12,688	11,242	6,573	58.5
8th 12,689-16,390	14,265	6,845	48.0
9th 16,391-24,225	19,670	7,963	40.5
10th 24,225 and above	50,490	10,334	20.5

Source : Household Income and Expenditure Survey Department of Census and Statistics, 2002 *Preliminary Report*

Table 6.4: Average Monthly Household Income and Expenditure on Food and Drink by Household Income Deciles- Sri Lanka 2006/07

Household Income Deciles	Average Monthly Household Income	Expenditure on Food and Drink (Rs.)	Expenditure on Food and Drink as as % of Income (Rs.)
(Rs.)	(Rs.)		
All Deciles	25,414	8,105	31.9
1st Less than 6,401	4,412	4,535	102.8
2nd 6,401-9,048	7,789	5,950	76.4
3rd 9,049-11,312	10,207	6,294	61.7
4th 11,313-13,743	12,472	7,041	56.5
5th 13,744-16,494	14,999	7,620	50.8
6th 16,495-19,841	18,107	8058	44.5
7th 19,842-24,227	21,898	8,872	40.5
8th 24,228-32,143	27,654	9,433	34.1
9th 32,144-4,5676	38,213	10,662	27.9
More than 4,5676	98500	12559	12.8

Source : Household Income and Expenditure Survey Department of Census and Statistics, 2006/07 *Preliminary Report*

Table 6.5: Average Monthly Household Income and Expenditure on Food and Drink by Household Income Deciles- Sri Lanka 2009/10

Household Income Deciles (Rs.)	Average Monthly Household Income (Rs.)	Expenditure on Food and Drink (Rs.)	Expenditure on Food and Drink as a % of Income
All Deciles	36,451	13,267	36.4
1st Less than 8,627	5,723	8,120	141.9
2nd 8.6277-12,500	10,691	9,797	91.6
3rd 12,501-16.019	14,285	11,066	77.5
4th16,020-19,655	17,833	11,796	66.1
5th 19,656-23,746	21,712	12,491	57.5
6th 23,747-28,502	26,047	13,639	52.4
7th 28,503-35,167	31,656	14,364	45.4
8th 35,168-44,762	39,448	15,294	38.8
9th 44,763-64,443	53,192	16,971	31.9
10th64,444 and above	143,969	19,142	13.3

Source : Household Income and Expenditure Survey Department of Census and Statistics, 2009/10

Table 6.6: Average Monthly Household Income and Expenditure on Food and Drink by Household Income Deciles - Sri Lanka 2012

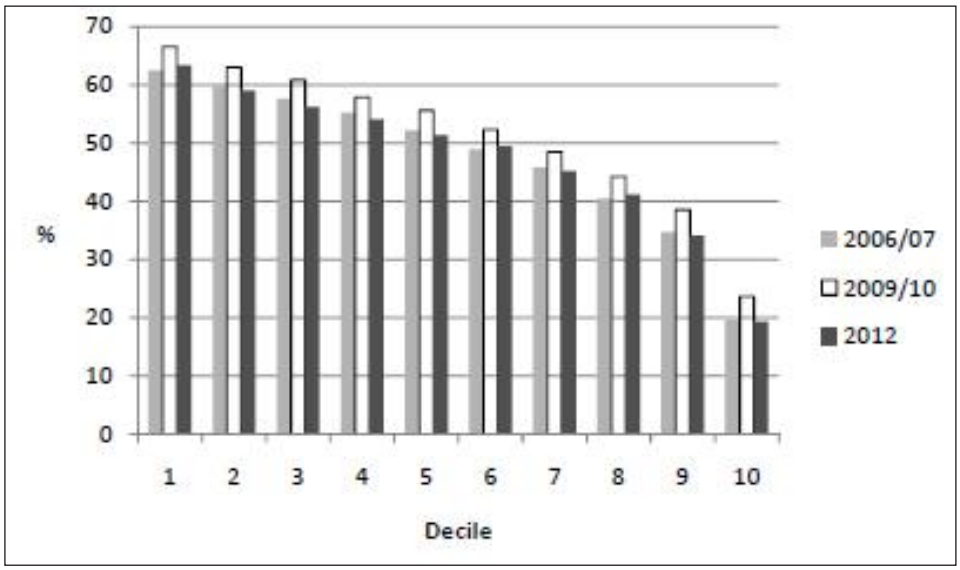
Household Income Deciles (Rs.)	Average Monthly House-hold Income(Rs.)	Expenditure on Food and Drink (Rs.)	Expenditure on Food and Drink as a % of Income
All Deciles	46,207	15,358	33.2
1st Less than 10,750	6,499	9,918	152.6
2nd 10,750-16,162	13,635	11,817	86.7
3rd 16,163-20,600	18,468	12,408	67.2
4th 20,601-25,467	23,083	13,159	57.0
5th 25,468-30,400	27,872	14,407	51.7
6th 30,401-36,576	33,377	15,693	47.0
7th 36,577-45,325	40,714	16,405	40.3
8th 43,326-574,99	51,147	17,032	33.3
9th 57,500-86,000	68,681	20,084	29.2
More than 86,000	178,709	22,672	12.7

Source : Household Income and Expenditure Survey, Department of Census and Statistics, 2012 *Preliminary Report*

One of the causal factors for the increase in the proportion of income spent on food between the HIES Surveys of 2006/07 and 2009/10 was undoubtedly the steep escalation in food prices experienced during the inter-survey period; particularly in 2008. In the four and a half year period spanning 2002 and 2006/07, food prices, as measured by the food sub-index of the Colombo Consumers Price Index, moved up by 46.7 percent amounting to an annual increase of around 8.8 percent. During the three year period spanning 2006/07 and 2009/10 the corresponding food price increase was 53.7 percent, which amounted to an annual increase of as much as 15.2 percent. There was a slowing down of food price increases during the period 2010 and 2012 and this is likely to have contributed to the reduction in the ratio of income spent on food.

The food ratio is defined to be the proportion of total expenditure devoted to food, which is a variable similar to the share of income devoted to food ,but not identical. It was found that 47.8 percent of the households had a food ratio above 50 percent in 2006/07. The food ratio in 2006/07 2009/10 and 2012 given in Figure 6.1 reflects deterioration in this indicator as well between 2006/07 and 2009/10 but an improving trend between 2009/10 and 2012.

Figure 6.1: Food Ratios by Expenditure Decile



Sources : Household Income and Expenditure Surveys 2006/07,2009/10 and 2012, Department of Census and Statistics

A slowing down in the rate of improvement of food security or even a deterioration of food security during the period 2007 to 2010 was a common experience shared by many countries. According to FAO's *State of Food Insecurity in the World*, the rate of decline of the undernourished in the world slowed down after 2007 (FAO 2012).

Under-nutrition

According to the FAO, under-nutrition is the result of prolonged low levels of food intake and/or low absorption of food consumed. Generally applied to energy (or protein and energy) deficiency, it may also relate to vitamin and mineral deficiencies. According to the Food Security Indicators in FAO's *State of Food Insecurity in the World,* the proportion of population in a state of under nutrition is estimated at 24.0 percent for Sri Lanka in 2011. This is a decline from that of 33.9 percent in 1991. The decline in the prevalence of under-nutrition in Sri Lanka has therefore been quite slow. Even now a quarter of the country seems to be vulnerable. Further, as this indicator is based on habitual consumption covering a one year period, it is likely that the vulnerable proportion may exceed this level temporarily when there are food price spikes.

The figures on the prevalence of under-nutrition are consistent with information obtained on per capita calorie consumption by household expenditure decile for 2006/07 (see Table 6.7). As the average per capita energy intake fell below 2000 calories for the first three expenditure deciles, it is reasonable to say that the poorest 20 to 30 percent of households are likely to suffer a significant energy deficit. Unfortunately, this information has not been tabulated for the latest surveys.

Table 6.7: Per Capita Energy Intake per Day by Household Expenditure Decile 2006/07

Household Expenditure Decile group	Dietary energy consumption (daily average) per capita		
	Total	Non poor	Poor
	kcal	kcal	kcal
Total	2118	2194	1696
First	1615	-	1615
Second	1867	1887	1848
Third	1985	1985	-
Fourth	2006	2006	-
Fifth	2108	2108	-
Sixth	2180	2180	-
Seventh	2242	2242	-
Eighth	2304	2304	-
Ninth	2379	2379	-
Tenth	2497	2497	-

Source : Household Income and Expenditure Survey, 2006/07, Department of Census and Statistics

On average, households among lower income groups in all three sectors do not obtain adequate levels of calories in accordance with the daily-recommended levels of the WHO. This is disclosed by the Calorie Adequacy Ratios (CAR) in Table 6.8, based on a sample survey of 183 low-income households.

Table 6.8: Calorie Adequacy Ratios for Children, Mothers, Fathers and Households in the Different Sectors

Group	Rural	Urban	Estate	Sri Lanka
Children	0.56 (124)	0.77 (66)	0.76 (152)	0.69 (342)
Mothers	0.77 (60)	0.87 (43)	1.06 (80)	0.95 (183)
Fathers	0.79 (60)	1.04 (43)	1.06 (80)	0.96 (183)
Households	0.69 (60)	0.88 (43)	0.97 (80)	0.85 (183)

Source : Rathnayake and Weerahewa (2005)
Note: The analysis was based on the data obtained from a sample of 183 low income households from urban, rural and estate areas.
Sample sizes are in parenthesis

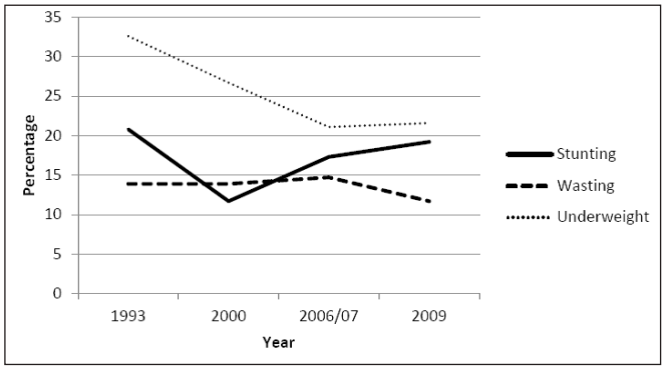
The above table draws attention to the intra-household food security situation in Sri Lanka as well. It indicates that children and mothers do not consume adequate levels of calories when compared to fathers among lower income groups in urban, rural and estate sectors. It suggests that, in common with most developing countries, females when experiencing price or any other shocks adapt by reducing their own consumption more than those of males. This is probably due to the perception that men - the bread winners, who typically engage in labour intensive activities need more energy. It is likely that price and other shocks would exacerbate the already existing imperfect intra-household distribution patterns. However, when interpreting the table one should note that the recommended daily allowances were not adjusted to the activity levels of the members of the household (Rathnayake and Weerahewa, 2005).

Anthropometric Measures

Food Security is a necessary but not a sufficient condition for good nutritional outcomes. Under-nutrition is generally reflected by growth faltering in the case of children, and reduced Body Mass Index (BMI) in the case of adults. The three anthropometric measures used to measure growth faltering in children are stunting, wasting and incidence of underweight

According to the Demographic and Health Survey (DHS) 2006/07, the percentage of children 5 years and below reported to be stunted, (height to age below the norm) wasted (weight for height below the norm) and underweight (weight for age below the norm) was estimated at 17 percent, 15 percent and 21 percent, respectively. In the DHS 2000 the relevant figures for stunting, wasting and underweight was 14 percent, 14 percent and 29 percent, respectively. The figures for DHS 2006/07 were calculated on the basis of a new growth standard published by the WHO in 2006/07. Data for under-nutrition in children for 2009 is available in the Nutrition and Food Security Assessment Survey (NFSS) Report. The trend in under-nutrition since the 1990s is given in Figure 6.2 below:

Figure 6.2: Trends in Under-nutrition Among Children Aged Under Five in Sri Lanka



Source : Demographic and Health Survey 1993, 2000, 2006/07 and *Nutrition and Food Security Assessment Survey 2009.*

One could surmise that significant progress has been made in reducing the proportion of underweight children over the years. However, there appears to have been a setback in the trend in improvement of stunting, in the last decade. Wasting has been largely unchanged during the period 1993 to 2006/07, but there has been an improvement lately. These trends are also reflected in the overall average figures for the period given in Table 6.9 below.

There is indirect evidence of malnutrition in all three sectors (urban, rural and estate) of the country. The estate sector fared much worse than the other two sectors with respect to stunting and prevalence of underweight. Stunting was observed to have declined during the period 1987 to 2000 in all three sectors, but in 2006/07 a setback has been observed. Stunting was as high as 40 percent in estates as compared with 14 percent and 16 percent in the urban and rural sectors in 2006/07. Wasting is however somewhat lower in estates than in rural areas and in 2006/07 even estates fared marginally better than the urban sector. An improvement in the indicator for prevalence of underweight has been observed in all three sectors. The relevant figures stood at 17 percent, 21 percent and 30 percent respectively in 2006/07, for the urban, rural and estate sectors respectively. Significant differences in stunting, wasting and underweight between Colombo and other urban areas, on the one hand and rural and estate sectors are clearly seen in Table 6.9.

Table 6.9: Prevalence of Under-nutrition of Pre School Children by Sectors

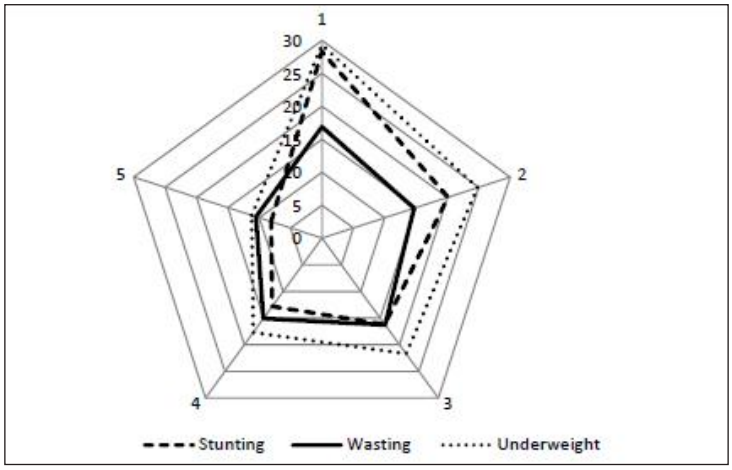
	Stunting				Wasting				Underweight			
	1987	1993	2000	2006 /07	1987	1993	2000	2006 /07	1987	1993	2000	2006 /07
Colombo	22	20	7		13	12	10		28	31	18	
Other Urban	16	17	9	14	10	17	6	15	27	30	21	17
Rural	26	23	13	16	14	16	16	15	39	38	31	21
Estate	60	54	34	40	7	10	12	14	53	52	44	30
All Island	28	24	14	17	13	16	14	15	38	38	29	21

Sources : Demographic and Health Survey, 1987, 1993 and 2000 and 2006/07.

The DHS 2006/07 has classified the nutritional status of children by wealth of households[1]. This data presented graphically in Figure 6.3, shows the level of stunting, wasting and incidence of underweight reported for each wealth quintile. The graph suggests that stunting and incidence of under-weight are strongly related to household wealth, whereas wasting is less sensitive to wealth. The figure confirms the fact that nutritional outcomes of children in poor households are relatively worse. According to the data given in Figure 6.3 a child belonging to a household in the poorest quintile is two and a half times more likely to be underweight than a child belonging to a household in the wealthiest quintile.

[1] For this purpose a wealth index based on household asset ownership and housing conditions etc. has been computed.

Figure 6.3: Nutritional Status of Children Below 5 Years by Household Wealth Quintile



Source : Demographic and Health Survey 2006/07

In 1994, the Ministry of Plan Implementation identified low birth weights, protein energy malnutrition and deficiencies in vitamin A, iron and iodine to be important problems (Ministry of Plan Implementation, 1994).

Regional Disparities

Regional disparities in nutrition are a significant characteristic of household food security. Table 6.10 that gives data on under-nutrition of children by province shows that the lowest prevalence of under-nutrition is in the Western Province. Provincial estimates of under-nutrition computed on the basis of data obtained under the DHS 2006/07[2] indicate that prevalence of underweight varied between 14 percent (Western) and 30 percent (Uva); stunting between 11 percent (Western) and 29 percent (Uva); and wasting between 12 percent (Western) and 22 percent (Eastern). These incidences are illustrated in Figure 6.4.

When compared to the data for 1995/96, as in the case of the island as a whole, prevalence of underweight has declined in all provinces. Stunting has reduced appreciably in the North Central, North Western and Sabaragamuwa Provinces while wasting has dropped significantly in the North Western and Sabaragamuwa Provinces. Uva Province which fared worst with respect to stunting has shown no improvement over the years.

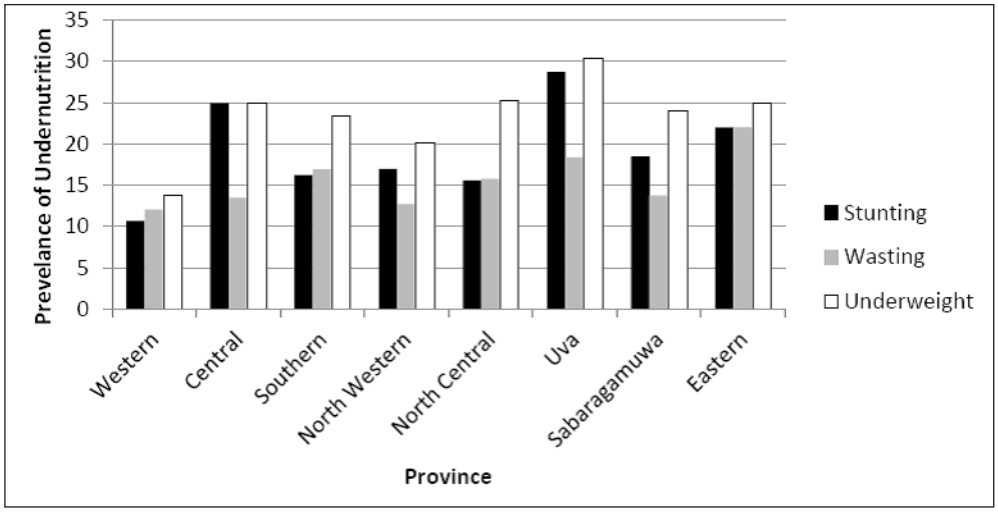
[2] Provincial data has been estimated as weighted averages of the relevant district data where the weights are based on the sampled population in each relevant category in the Consumer Finance and Socio-Economic Survey 2003/04

Table 6.10: Prevalence of Under-nutrition among Children Under 6 Years by Province

Province	Stunting		Wasting		Underweight	
	1995/96	2006/07	1995/96	2006/07	1995/96	2006/07
Western	12	11	10	12	24	14
Central	20	25	11	13	35	25
Southern	16	16	16	17	36	23
North Western	21	17	17	13	37	20
North Central	20	16	14	16	41	25
Uva	29	29	17	18	54	30
Sabragamuwa	22	18	23	14	39	24
Eastern		22		22		25

Source : Vitamin A Survey 1995/96, Medical Research Institute and Provincial Estimates from *Demographic and Health Survey* 2006/07

Figure 6.4: Prevalence of Under-nutrition, by Province 2006/07



Source: Provincial Estimates from *Demographic and Health Survey* 2006/07

Table 6.11: Prevalence of Under-nutrition Among Adults

Province	Undernourished Adults (BMI < 18.5)		
	Male	Female	Female
Western	24	28	12
Central	48	46	18
Southern	30	44	19
Eastern			15
North Western	29	22	17
North Central	31	45	18
Uva	37	36	21
Sabaragamuwa	33	36	19

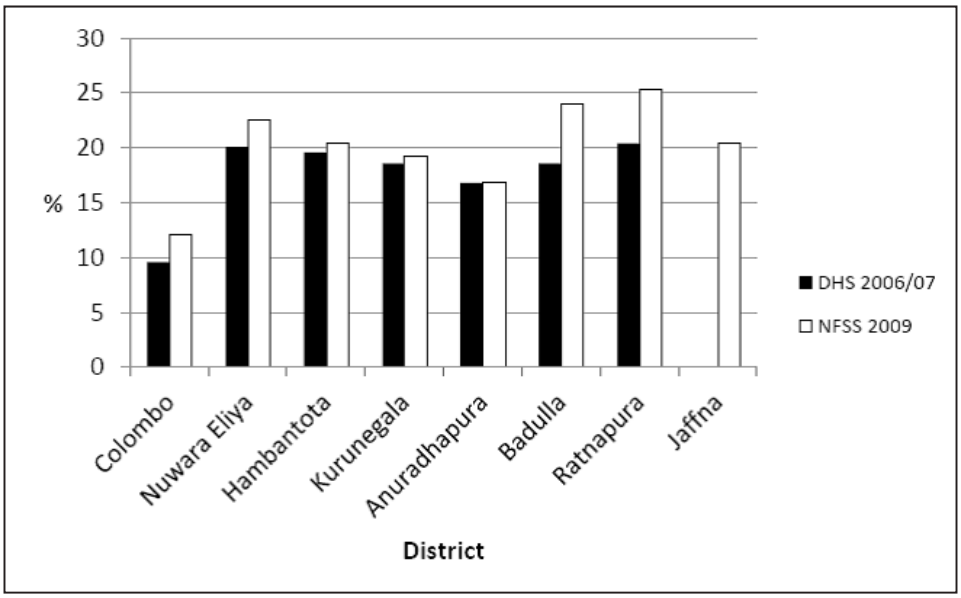
Sources : Ramanujan and Nestal, 1997, *Demographic and Health Survey* 2006/07
Note: The BMI, or the Quetelet index, is used to measure thinness or obesity. It is expressed as weight in kilograms divided by height in meters squared (kg/m2). A cut-off point of 18.5 is used to define thinness or acute under-nutrition

Provincial estimates of under-nutrition of females obtained from the DHS 2006/07 indicate that provincial patterns are consistent to that of child under-nutrition with lowest prevalence in the Western Province and highest prevalence in Uva Province. It is somewhat surprising that prevalence is relatively low in the Eastern Province. There has been a substantial improvement in female nutrition during the period 1995 and 2006/07 in all provinces according to this indicator.

There were variations in prevalence of under-nutrition among adult males and females across provinces according to the data for 1995. Differences are significant among males and females in the Southern and North Central Provinces, where under-nutrition was more prevalent among females as given by the Body Mass Index (BMI). It is noteworthy that there was no such significant gender bias in some of the backward provinces such as Uva and Sabaragamuwa (Table 6.11).

The NFSS also obtained data on adult under-nutrition for 9 districts covering all provinces. The information on underweight females (BMI<18.5) obtained for selected districts in the NFSS and the corresponding DHS 2006/7 figures are given in Figure 6.5 below.

Figure 6.5: Percentage of Underweight Females (BMI<18.5)



Sources : Nutrition and Food Security Assessment Survey, 2009 and Demographic and Health Survey 2006/07

It is clear that there has been no recent improvement in this situation in the selected districts. The Ratnapura, Badulla and Nuwara Eliya districts perform badly on this indicator according to the latest NFSS data.

Micronutrients

Micronutrient deficiencies have wide implications for health. They not only increase morbidity and mortality, but also retard the development of cognitive skills and impact adversely on learning abilities and productivity.

Sri Lanka has three noteworthy micronutrient deficiencies: iron, vitamin A and iodine. These have been identified as public health problems. Recent data on iron deficiency (anaemia) among children below 5 years is available from the NFSS. Table 6.12 provides this data together with data from two earlier surveys on the prevalence of iron deficiency among children under five and data from two surveys on vitamin A deficiency among children under six. Prevalence of iron deficiency has declined sharply during 1994-2001 for most age categories. However, data for 2009 indicates that anaemia is still acute among the 6 to 11 months age group at over 50 percent. There is also a high incidence of vitamin A deficiency in several children's age groups.

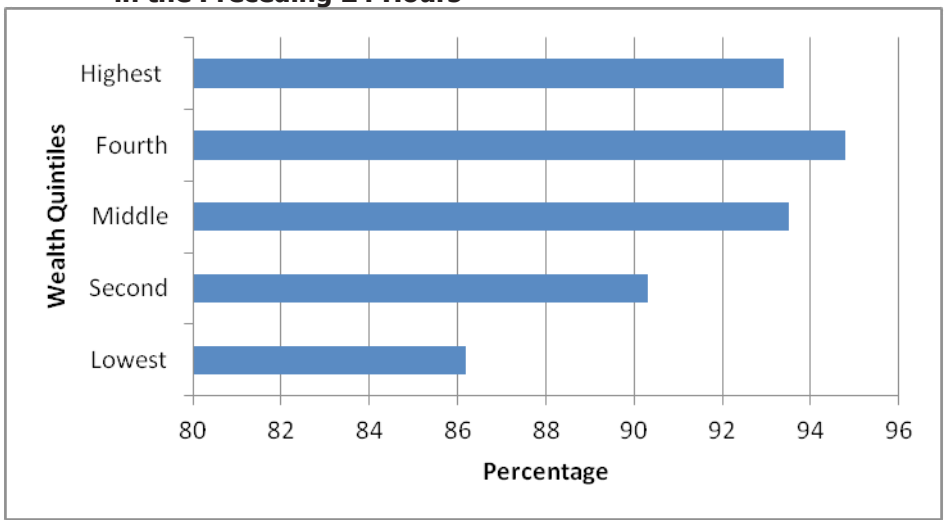
Table 6.12: Micronutrient Deficiency by Age Groups

Age groups	Iron deficiency			Vitamin A deficiency	
	Percent prevalence		Anaemia	Percent prevalence (1996)	
	1994	2001	2009	Age (months)	Percent
3-5	52.7	-		6-23	34.8
6-11	56.0	57.6	50.4	24-47	34.2
12-17	56.9	38.3	34.3	48-71	36.6
18-24	54.1	-		-	-
24-35	45.8	29.7	24.6	-	-
36-47	40.8	21.4	15.8	-	-
48-59	30.7	15.1	10.2	-	-
3-59	45.0	29.9	25.2		35.3

Sources : Nutrition and Food Security Assessment Survey, 2009, *Vitamin A Survey* 1995/96, Medical Research Institute, Mudalige and Nestal, 1996; *Anaemia Survey,* 2001, *Medical Research Institute*.

The DHS 2006/07 also collected information on the proportion of children aged 6-35 months, who were given food rich in vitamin A during the 24 hours prior to the survey interview thus rendering them less vulnerable to vitamin A deficiency. The information ranked by wealth quintiles given in Figure 6.6 below indicates a significantly lower proportion of children in the poorest two quintiles have received vitamin A rich food than those in the richer three quintiles pointing to the greater likelihood of children in the poorest 40 percent of households suffering from vitamin A deficiency. This could be more due to a lack of awareness on good infant feeding practices, given the fact that educational attainment of poor mothers are lower.

Figure 6.6: Percentage of Children 6-35 Months Given Vitamin A Rich Food in the Preceding 24 Hours



Source : Demographic and Health Survey 2006/07

Conclusion

Although the previous chapter demonstrated that the availability of food at national level was adequate at current consumption levels and even at higher levels of food consumption, the evidence cited in this chapter disclosed that there were a significant proportion of households with inadequate food. Studies on nutritional status and anthropometric indicators of underweight, wasting and stunting are clear evidence of this inadequacy. There are also wide disparities in household food consumption in different provinces. The country also exhibits a problem of intra household food distribution with mothers and children getting relatively less food than adult male members.

These findings underscore the need for effective safety nets for those unable to obtain their basic food requirements. There is also a need to ensure food security of those who are handicapped, disabled, the aged and the unemployable, who are too poor to access adequate food. These are the critical issues that required to be addressed.

A programme of nutrition education could also mitigate under-nutrition of the poorer segments of the population.

CHAPTER 7

Projected Food Needs and Self-Sufficiency

The preceding discussion demonstrated that the country is at present food secure at the national level It was also demonstrated that national level food security was feasible even at a higher level of food consumption than at present. This has been attained by an increase in domestic production of food as well as through the diversification of the economy that has enhanced import capacity.

There are some concerns about national food security in the future arising from a serious deterioration in the terms of trade, reduced international competitiveness for industrial exports and the global food situation. The prospect of oil prices rising further in the next two decades has accentuated this anxiety. These concerns imply a need to look at the future needs of food and the prospects for their domestic production. This is crucial in order to suggest future directions in food and agricultural policies to ensure food security in the future.

The following section makes projections of future demand for rice, coconut, sugar, milk and fish that are locally produced and wheat flour that is wholly imported. As per capita incomes rise, the demand for several foods will rise progressively, if not exponentially. Declines in the consumption of some items could also occur due to changes in relative prices. There could also be changes in consumption patterns owing to the ageing of the population and changing lifestyles.

The assumptions on which the projections are made are given in the respective sections. Projections of domestic production for the main foods are then made and this is followed by a discussion of the likely levels of food self-sufficiency and food deficits till 2030.

Population Growth

Population growth in the next two decades is an important determinant of future food needs. Preliminary projections of population made in 2007 under three scenarios by W. Indralal de Silva (2005) are given in columns, 2, 3 and 4 of Table 7.1. The Census of Population indicated that Sri Lanka's population as at March 2012 was 20.278 million, which was below the standard projection made by W. Indralal de Silva. Subsequently the mid-year population in 2013 has been estimated at 20.483 million. This indicates that the population has been growing at a rate close to that of the low growth scenario. The DCS has now estimated that the population growth between July 2001 and March 2012 has been around 0.7 per cent, whereas according to the standard projection given below it had been expected to be between 0.9 and 1.0 per cent (*ibid.*). There has been no official re-estimation of population figures prior to 2012 by the DCS.

The population growth rate in the immediate future cannot be expected to dip below 0.7 percent given that Sri Lanka is recovering from a long drawn conflict. A somewhat higher growth in population could now be expected due to an increase in birth rates, especially in the war affected North and East, reduction in out-migration and lower death rates. For this reason food requirements have been estimated on the assumption that the population from 2013 onwards will grow at rates equal to those of the high growth scenario.[1] The relevant figures are given in column 1 of the Table 7.1.

According to this projection there would be an increase in population by about 1.7 million or 8.2 percent during the period 2013 to 2030. Even if we assume that per capita consumption of food does not increase, the food needs would increase by 8.2 percent by 2030. Since the population growth is faster in the first few years and decelerates later, the increase in food needs will flatten out in the latter years.

[1] An annual growth of 0.75 percent is assumed for the period 2011 to 2016, 0.54 percent for the period 2016 to 2021, 0.37 percent for the period 2021-2026 and 0.27 percent for the period 2026 to 2031.

Table 7.1: Projected Population, 20013-2086: Standard, High and Low Projections

(In thousands)

	Population estimates used for demand projections	High	Standard	Low
Census Mid Year Estimate 2013	**20483**			
2016	20,947	21,573	21,186	20,682
2021	21,519	22,162	21,580	20,697
2026	21,925	22,580	21,804	20,924
2031	22,224	22,888	21,883	20,776
2036	22,451	23,122	21,841	20,493
2041	22,606	23,282	21,712	20,102
2046	22,657	23,334	21,465	19,601
2051	22,603	23,278	21,104	18,992
2056	22,503	23,175	20,656	18,267
2061	22,368	23,036	20,145	17,476
2066	22,203	22,867	19,590	16,631
2071	22,048	22,707	19,030	15,778
2076	21,915	22,570	18,480	14,947
2081	21,810	22,462	17,944	14,139
2086	21,720	22,369	17,416	13,367

Note: Computed by applying the high growth scenario rate to the Census Mid Year Estimate for 2013

Prospects for Self Sufficiency: Projections of Demand and Production

In this chapter projections are made on consumption based on possible increases in consumption and population growth. It is difficult to make production projections of agricultural produce such as rice and coconut because a host of factors impact on production. However, an attempt has been made to project production using a linear trend and the level of future self sufficiency that could be achieved in respect of the major commodities: rice, coconut, fish and milk have been assessed. Projection is also made in respect of the future demand for wheat flour and sugar. Current per capita consumption figures were estimated on the basis of availability of rice, coconut, sugar and fish as reflected in the latest Food Balance Sheet (2011), consumption figures in HIES Surveys and data provided by the Coconut Development Authority. Table 7.2 gives the per capita nutrition availability of main food items as given by this Balance Sheet.

Table 7.2: Per Capita Nutrition Availability of Main Food Items

Commodity	Per capita availability-2011		
	Calories per day	Protein Grams per day	Fat Grams per day
Cereals	1383.4	29.46	1.37
Roots and Tubers	69.03	0.58	0.08
Sugar	324.37	0.00	0.00
Pulses and Nuts	99.05	6.88	1.49
Vegetables	78.11	3.66	0.52
Fruits	79.46	1.01	0.24
Meat (all products)	23.72	4.69	0.55
Eggs	15.20	1.16	1.16
Fish (all products)	67.53	11.80	1.79
Milk (all forms)	76.93	3.95	4.40
Oil and Fat	364.46	2.92	34.79
Total	2,581.26	66.11	46.39

Source : Food Balance Sheet, 2011

The per capita consumption of food is likely to increase as the country's levels of food consumption are relatively low, and per capita incomes are likely to be close to two and a half times today's income in real terms by 2030. This is on the basis that the economic growth rate averages about 5 percent or slightly more in the future and the population increase is at the assumed rate. In the next two decades there would also be a progressive ageing of the population that would have an effect on the consumption of some food items, that would off-set some of the increases in per capita consumption, especially of items like sugar. The increase in per capita incomes would also lead to shifts in the consumption patterns.

To capture possible income related changes, the per capita consumption of each food item has been assumed at around the current level and two higher levels of consumption in the case of rice, coconut, sugar and fish. The consumption patterns among deciles of households have been considered in making these projections in order to capture some element of the income elasticity of consumption[2]. In the case of milk, the analysis has been done on the basis of the milk consumption recommendation of the Medical Research Institute. A progressively increasing per capita consumption of milk and fish could be expected, as the usual experience is that consumption of animal-source foods increases significantly as per capita income increases. Household consumption data also confirm that their consumption is income elastic.

[2] The methodology used to determine the per capita consumption under the high consumption scenario was to estimate the percentage increase in household consumption that would occur if the consumption levels of the bottom 6 deciles of households rose to the level of seventh decile. This percentage increase was then applied to the present per capita consumption to obtain the high consumption figure. To arrive at the medium consumption scenario, the average of the present per capita consumption and the computed high per capita consumption figure was taken.

It should be noted, however, that income elasticity is not the only factor that would drive future consumption levels. Changes in relative prices of items and their substitutes would also be an important factor for which very little information is available at present. Also, the ageing of the population would impact on consumption of items like sugar. Preferences and tastes could change due to many factors such as greater health awareness, changing lifestyles etc.

The projections in production till 2030, given in the figures in the Appendix to this chapter, are based on a linear trend in production. It should be re-emphasised that a linear trend is a very crude method to project the production of agricultural commodities, specially as there is a cyclical pattern of production in some commodities such as coconut. Further, in using such a trend there is an implicit assumption that the area under cultivation expands at the same rate as it did in the past. This is not realistic due to limitations of land and other constraints.

Rice

The current level of per capita consumption of rice is around 121 kilograms per year. Consumption of rice is very much dependent on the relative prices of wheat flour and rice. When there have been increases in the price of wheat flour, rice consumption has tended to increase and the converse has occurred when rice prices have risen. In the recent past, the domestic price of wheat flour has risen substantially, while a price ceiling has been imposed on certain varieties of rice. As a result, rice consumption has moved up sharply. The relative prices are dependent on international prices for wheat, the exchange rate, import quantities of both commodities and the level of production of paddy each year. As there is a deliberate policy to discourage the consumption of wheat and wheat flour products by maintaining the relative price in favour of rice consumption, its consumption is expected to remain fairly high in the future. However, as rice is a basic staple, the increase in consumption due to increasing incomes would be limited. When the higher consumption level is computed as outlined above, per capita consumption is estimated to be around 132 kgs. The three projections of demand made based on the per capita consumption of 121 kgs, 127 kgs and 132 kgs respectively is given in Table 7.3 below.

Table 7.3: Projected Demand for Rice

('000 MT)

Year	Demand for Rice 1	Demand for Rice 2	Demand for Rice 3
2013	2478	2601	2704
2014	2497	2621	2724
2015	2516	2641	2744
2016	2535	2660	2765
2017	2548	2675	2780
2018	2562	2689	2795
2019	2576	2704	2810
2020	2590	2718	2825
2021	2604	2733	2841
2022	2613	2743	2851
2023	2623	2753	2862
2024	2633	2763	2872
2025	2643	2774	2883
2026	2652	2784	2893
2027	2659	2791	2901
2028	2667	2799	2909
2029	2674	2806	2917
2030	2681	2814	2925

Table 7.3 indicates that by 2030 demand for rice would be 2.7, 2.8 and 2.9 million metric tons under the low, medium and high per capita consumption scenarios. The total rice requirement by 2030 would expand by around 18 percent under the high demand scenario compared to 2013 estimated consumption levels.

Figure 7A1 in the Appendix to chapter 7 suggests that the country will be self-sufficient in rice, even if consumption increases and from 2020 onwards an appreciable surplus could also be generated. The surplus is projected to increase as the period extends.

The implication of achieving a surplus in rice is that alternate uses for rice require to be explored. The availability of ample supplies of rice provides an opportunity to develop rice based products that would lessen consumption of wheat flour and wheat flour products. On the other hand, the possibilities of exporting a large quantity of rice is unrealistic, as local production costs are high and the varieties of rice internationally demanded are different to those produced in the country.

Coconut

Coconut forms an important dietary source for fats and proteins. It is also the only food item that is entirely domestically produced. However, there is substitution of coconut oil by other vegetable oils that are mainly imported. The consumption of coconut too, is

determined by relative prices of coconut and other substitutes, though coconut in the form of milk and scraped coconut does not have cost effective close substitutes. Current per capita consumption of coconut is about 104 nuts per year.

Applying the above discussed methodology, the high level of consumption is estimated to be 118 nuts per capita. Accordingly, the demand projection is done on the basis of consumptions of 104, 112 and 118 nuts per capita. On this basis, demand for nuts would be 2304, 2482 and 2615 million nuts respectively, by 2030 (See Table 7.4 below). The requirement for coconut could expand by about 23 percent of present levels by 2030 under the high demand scenario.

Table 7.4: Projected Demand for Coconut

(Mn Nuts)

Year	Demand for coconut 1	Demand for coconut 2	Demand for coconut 3
2013	2,130	2,294	2,417
2014	2,146	2,311	2,435
2015	2,162	2,329	2,453
2016	2,179	2,346	2,472
2017	2,190	2,359	2,485
2018	2,202	2,372	2,499
2019	2,214	2,384	2,512
2020	2,226	2,397	2,526
2021	2,238	2,410	2,539
2022	2,246	2,419	2,549
2023	2,255	2,428	2,558
2024	2,263	2,437	2,568
2025	2,271	2,446	2,577
2026	2,280	2,455	2,587
2027	2,286	2,462	2,594
2028	2,292	2,468	2,601
2029	2,298	2,475	2,608
2030	2,304	2,482	2,615

The country has been self-sufficient in coconut but there has been a decreasing export surplus. According to the projections in coconut production given in Figure 7A2 in the appendix, under the high demand scenario, production would be adequate to meet domestic demand till 2030, and the surplus would be fairly steady.

However, given the cyclic nature of production and uncertainty in weather conditions, one should not be complacent that the favourable situation suggested by the figure would prevail. The demand for coconuts could be subject to greater changes than assumed, as coconut oil is quite price sensitive and its consumption may increase if the relative price of substitutes increase. In any event, the export surplus could be reduced significantly during the cyclic downturns in production thereby eroding export earnings and the import capacity of food to a certain extent.

The government has recognised the need for increased coconut production and launched several programs including the extension of the area cultivated with coconut in the Eastern and Northern Provinces and a programme of encouraging cultivation in home gardens. If these efforts bear fruit, the exportable surplus could be higher than projected above.

Sugar

Present per capita consumption of sugar is around 30 kgs per annum. As household surveys indicate that consumption of sugar increases progressively with income, an increase in consumption could be expected in the future as income levels grow. However, the ageing of the population is likely to decelerate the rate of growth in sugar consumption in the future. Once more applying the methodology outlined above, the consumption under the high demand scenario is estimated to be 34 kgs per capita per year. Accordingly, the consumption projections are based on 30 kgs, 32 kgs and 34 kgs per capita per year respectively. By 2030 the country's sugar requirements would be 665, 709 and 753 thousand metric tons respectively, on the basis of those assumptions in per capita consumption. This means that at the high level of 34 kilograms per capita the projected demand would be about 23 percent higher than the present (2013) consumption (Table 7.5).

Table 7.5: Projected Demand for Sugar

('000 MTs)

Year	Demand for sugar 1	Demand for sugar 2	Demand for sugar 3
2013	614	655	696
2014	619	660	702
2015	624	665	707
2016	628	670	712
2017	632	674	716
2018	635	678	720
2019	639	681	724
2020	642	685	728
2021	646	689	732
2022	648	691	734
2023	650	694	737
2024	653	696	740
2025	655	699	743
2026	658	701	745
2027	659	703	747
2028	661	705	749
2029	663	707	751
2030	665	709	753

Domestic production of sugar is very low and annual production has been on average lower in the period 2007-2012 when compared to the period 2004-2007. In 2013, there was a significant increase in production. However, in general, the trend in sugar production since 2000 has been negative. Extrapolation of this trend would inevitably lead to the conclusion that the entire requirement of sugar would need to be imported in the near future. Nevertheless, sugar production rose significantly from 36 thousand metric tons - in 2012 to 53 thousand metric tons in 2013. If this increasing trend in sugar production could be sustained, then the dependence on imports could be reduced. Nevertheless, in the foreseeable future, the country would be highly dependent on sugar imports.

Fish

At present fish consumption, which is around 22 kgs[3], per capita per year is constrained by high prices. In Sri Lanka, fish is the preferred source of animal protein, and a high growth in demand could be expected with increased affluence. Therefore, there is a compelling need to make available higher amounts of fish at lower prices. The projections are based on the assumptions of per capita consumption of fish of 22, 24 and 27 kgs. By 2030, the country's fish requirements would be 487, 532 and 598 thousand metric tons, under the three assumptions in per capita consumption respectively. As the high demand scenario is realistic for fish, the country's requirements could expand by around 33 per cent from the present requirement by 2030 (Table 7.6).

Table 7.6: Projected Demand for Fish

('000 MTs)

Year	Demand for fish 1	Demand for fish 2	Demand for fish 3
2013	451	492	553
2014	454	495	557
2015	457	499	561
2016	461	503	566
2017	463	505	569
2018	466	508	572
2019	468	511	575
2020	471	514	578
2021	473	516	581
2022	475	518	583
2023	477	520	585
2024	479	522	587
2025	480	524	590
2026	482	526	592
2027	484	528	593
2028	485	529	595
2029	486	530	597
2030	487	532	598

[3] Dry fish consumption has been converted to the fresh fish equivalent using a factor of 1:2.5

Fish production in the country has faced serious difficulties in the last two decades owing to the war in the North and East. Production increased after the cessation of hostilities in 2002, but the Tsunami of 2004 affected the industry very seriously. Since 2009, with the complete cessation of hostilities and removal of security restrictions, fish production has risen substantially.

Sri Lanka was technically self-sufficient in fish in 2013. However, it should be noted that wastage is almost 30 percent and some varieties of fish such as shell fish are exported. Therefore, it has become necessary to import fish at present. According to the production projection graphically presented in Figure 7A3 fish production in 2030 would be 741 thousand metric tons while projected demand under the high demand scenario of 27 kgs per capita per year, would be 598 thousand metric tons. If the wastage is reduced even slightly, it would be possible to be self-sufficient in fish by 2030 even under the high demand scenario and maintaining today's level of exports. If wastage is reduced drastically self-sufficiency could be achieved earlier. If the industry is modernised, and modern technology is employed to address issues facing the fisheries sector including wastage, there is potential to reach, full self-sufficiency within the next decade. Further, there is a need to prevent foreign fishing vessels poaching in Sri Lankan waters. As deep sea fishing tends to be both risky and costly, the availability of loans to finance such expeditions and insurance products to mitigate the risk would be useful steps in promoting the industry.

Milk

Milk consumption too has shown a sharply increasing trend with income. Presently milk consumption is very low among the poorer sections of the population. The MRI of Sri Lanka has recommended that consumption of milk should be at least 100 ml per person per day. The milk requirement computed on this basis is given in Table 7.7 below.

Table 7.7: Projected Requirement of Milk

('Mn. Litres)

Year	Milk Requirement as per MRI recommendation
2013	748
2014	753
2015	759
2016	765
2017	769
2018	773
2019	777
2020	781
2021	785
2022	788
2023	791
2024	794
2025	797
2026	800
2027	802
2028	804
2029	807
2030	809

Domestic production of milk presently contributes about 43 percent of the country's requirement. According to the projection given in Figure 7A4 which was based on the extrapolation of the linear trend of production during the period 2000-2013, the self-sufficiency level increases to about 56 percent in 2030. It is unlikely that self-sufficiency in milk can be achieved within the next 20 years or so. However, it would be possible to pursue the goal of producing around two thirds of the country's milk requirement by 2030, but a much greater effort has to be made to develop the dairy industry in Sri Lanka. Introduction of high yielding strains of cattle, popularising modern animal husbandry practices, providing effective veterinary services and upgrading facilities available for veterinarians should all be part of the strategy for upgrading the dairy industry in Sri Lanka. It is necessary to pursue this goal not only to reduce the import requirement of milk and thereby conserve foreign exchange, but also to popularise the consumption of liquid milk which is nutritionally superior to imported powdered milk. A comparison of projected consumption and production during the period 2015-2030 is graphically presented in Figure 7A4.

Given the fact that it is not practical to contemplate self-sufficiency in milk within the next twenty years or so, serious consideration should be given to promoting the production of other cost effective sources of animal protein to ensure that the population would be able to access a nutritionally balanced diet. In this case, the production of eggs could be pursued effectively, as with the right incentives in place, the private sector would be

induced to participate effectively in the industry. For this purpose, it would be necessary to ensure that the market is not cornered by a few large producers, which could lead to an oligopolistic situation, squeezing the small producer out of the market causing price escalation. It is important to encourage the production of eggs at the home garden level as well, to ensure that the poor, in particular, be able to obtain animal protein cheaply.

Wheat Flour

In contrast to coconut, the demand for wheat flour is met entirely by imports. If relative prices favour rice consumption, a likely scenario if a surplus of rice is produced as projected, the increase in wheat flour consumption would be limited. Present per capita consumption is estimated at around 25 kgs a year. According to the above discussed methodology, the projection has been done on the assumption of per capita consumption of 25, 27 and 30 kgs respectively. Accordingly, the consumption requirement in 2030 under the three scenarios would be, 554, 598, and 665, thousand metric tons respectively Since the entirety of the requirement would have to be imported as flour or wheat grain, the estimated wheat flour imports by 2030 would be 17 percent higher under the medium growth scenario which could be considered to be more realistic under the background of the surplus in paddy production expected.

Table 7.8: Projected Demand for Wheat Flour

(000 MTs)

Year	Demand for wheat flour 1	Demand for wheat flour 2	Demand for wheat flour 3
2013	512	553	614
2014	516	557	619
2015	520	561	624
2016	524	566	628
2017	527	569	632
2018	529	572	635
2019	532	575	639
2020	535	578	642
2021	538	581	646
2022	540	583	648
2023	542	585	650
2024	544	587	653
2025	546	590	655
2026	548	592	658
2027	549	593	659
2028	551	595	661
2029	552	597	663
2030	554	598	665

Projected Food Self-sufficiency

The projections of consumption and production of the main food items presented earlier indicate that there are realistic possibilities of achieving self-sufficiency in a few commodities, while the country would have to be dependent on the import of others like wheat flour, sugar, and milk.

The country's export surplus of coconut could be reduced during cyclical downturns in production in the immediate future unless there are significant gains in production. The extent of land available for new cultivation of coconut is limited except for possibilities in the Eastern and Northern provinces, particularly as coconut land is increasingly being cleared for building construction. The increase in coconut production would have to be achieved by replanting with higher yielding varieties in existing coconut areas, higher levels of fertilisation and encouragement of coconut cultivation in home gardens, in respect of which an initiative is already in place. The latter strategy would have a direct benefit on improving household food security.

The country will continue to be highly dependent on sugar imports as the trends in sugar production have been generally unsatisfactory, whereas concurrently per capita consumption increases. However, in 2013 there has been a sharp increase in production which if sustained could noticeably reduce sugar import requirements in the future.

The current policy thrust to increase milk production by several strategies leads to an expectation that local milk production could be increased to meet about two thirds of the consumption requirements by 2030. However, much higher investment in the industry spurred by higher prices is needed to achieve this target.

The projections in fish production indicate that there is a possibility of self sufficiency by 2030 or even earlier now that the entire coastal area is conflict free. Since fish production does not have to contend with natural resource constraints, especially as the country has a right to a 200 mile ocean radius, the expansion and modernisation of the fishing fleet, improvement in fishing infrastructure and minimising poaching in Sri Lankan waters could help achieve self-sufficiency before this date. To achieve this target it is also vital to minimise wastage in this sector. Given the importance of fish in the Sri Lankan diet and the fact that fishing is undertaken by very poor people, increased production and productivity in fishing could play a significant role in ensuring food security for one of the poorest sections of the population. A significant push towards increased fish production would be very important for both national and household food security by increasing the incomes and nutrition of poor fishing communities.

Given that milk and fish production may be insufficient to meet the consumption requirements in the next decade or so, it would also be advisable to encourage the production of other cheap sources of animal protein such as eggs.

Production statistics of other foods consumed in the country such as vegetables and fruits are much less adequately dependable for projections. Currently, there is a very high level of self-sufficiency in these. It is, therefore, fairly reasonable to think that production could expand to cope with increased demand. Production-consumption trends in these are not likely to pose serious problems for national food security, but increases in prices with increased demand for them could affect the nutritional status of poor households.

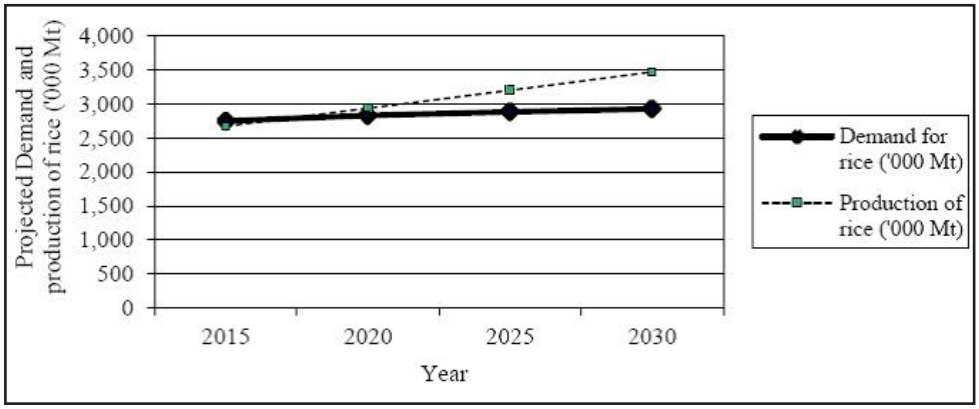
Since wheat is entirely imported, the projections in demand indicate that wheat flour/ wheat grain imports are likely to increase by about 17 percent in the next 17 years.

The broad implication of this analysis is that self-sufficiency could be achieved in only some areas of agricultural production. The country would have to continue to import substantial amounts of many significant items of food. Unless this reality is accepted, economic policy could be misdirected. Food security in Sri Lanka cannot be achieved by domestic production alone. It has to be realised by both an increase in domestic production and increased imports.

This discussion of self-sufficiency should not be misinterpreted to mean that self-sufficiency should be a goal in economic policy. It was argued in earlier chapters that the attainment of food security did not require the achievement of self-sufficiency. The projections in demand and the production possibilities were made in order to assess the realistic possibilities of domestic production, meeting future demand of some of the main foods. This analysis brought out very clearly that Sri Lanka would have to be dependent on imports of several of these commodities as well as other foods. However, wherever it is possible to increase domestic production efficiently, especially through improvements in productivity, this should be attempted as there are gains in household food security through such increased production. Further, pursuing the self–sufficiency goal when feasible would result in increases of employment and income as well.

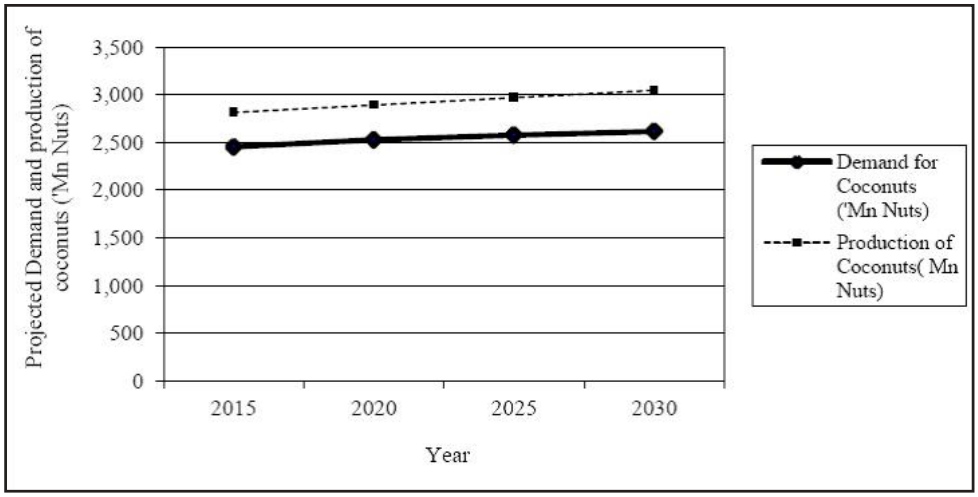
Appendix

Figure 7 A1: Projected Demand and Production of Rice, 2015-2030



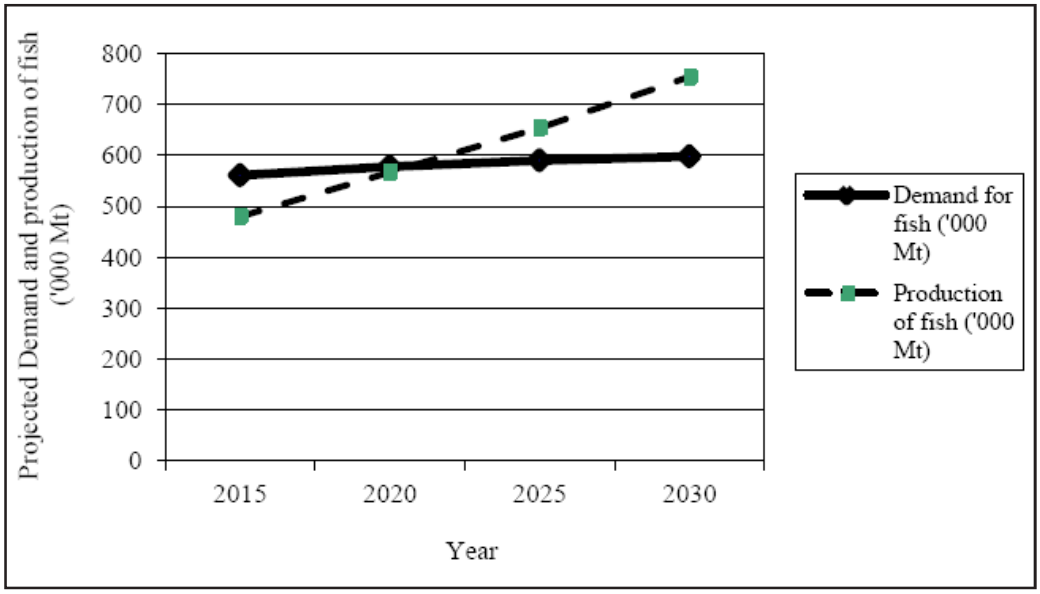
Note: Production Projection based on the linear extrapolation of the production trend during the period 1990-2013

Figure 7 A2: Projected Demand and Production of Coconut, 2015-2030



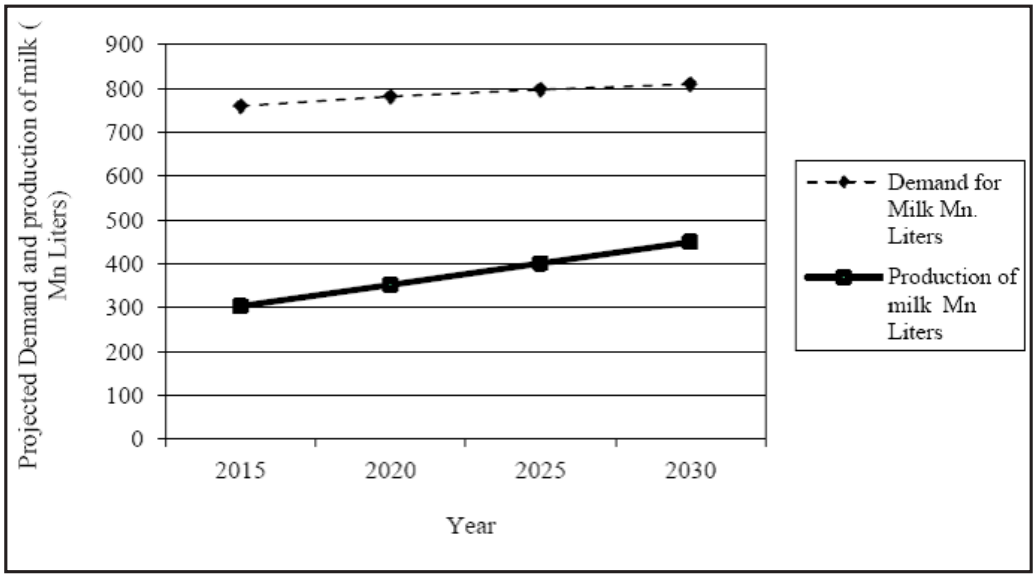
Note: Production Projection based on the linear extrapolation of the production trend during the period 2001-2013

Figure 7 A3: Projected demand and production of fish, 2015-2030



Note: Production Projection based on the linear extrapolation of the production trend during the period 2000-2013

Figure 7 A4: Projected Demand and Production of Milk, 2015-2030



Note; Production Projection based on the linear extrapolation of the production trend during the period 2000-2013

CHAPTER 8

Emerging Concerns in Food Security and Nutrition

Sri Lanka faces several concerns in food security. Being a food deficit country, the emerging global food situation of rising prices could have adverse impacts on national and household food security, as international prices have an important bearing on the country's capacity to import food. Weaknesses in the trade balance, critical levels of foreign reserves, high foreign debt, and weak macro-economic fundamentals, such as large fiscal deficits, high debt servicing costs and inadequate government revenue, have an important bearing on national availability of food and household food security.

There are also emerging concerns, *inter alia,* about food safety, food quality, unhygienic food preparation and sale, contamination of foods by insecticides and chemicals, drinking water quality and the nutritional content of basic foods. There is also a need for fortification of foods to ensure minimum nutritional requirements.

Global Food Situation

Global food supplies are becoming inadequate to meet growing global demand. This raises international prices of important food imports such as wheat, sugar, milk and dhal. The earlier discussion on the prospect of self sufficiency disclosed that the country would continue to be dependent on imports of these commodities in the foreseeable future. Therefore, the global food situation will have a significant bearing on the capacity to import.

The causes for the current and foreseeable rise in international food prices are many. Although most accounts of the food crisis place the primary causes as being due to supply factors, such as inadequate production of food, climatic change and shift of lands from food cultivation to bio fuels, increasing global demand for food in several regions

of the world, particularly in the large emerging countries of Asia, have been important causes for increases in food prices. The global supply of food has been inadequate to meet increasing world demand for food.

The underlying supply and demand factors make it clear that global food prices would be on an upward trend. In the last two decades or so, international food prices, especially grain prices, have been declining. This has been so in nominal terms as well as in real terms (i.e. in relation to prices of other commodities). Between 1974 and 2005, food prices fell by 75 percent in real terms, mainly due to increased global food production. In this context farmers had no incentive to increase their production of food.

The recent rise in food prices is also related to the sharp rises in oil prices. The sharp increase in the price of oil compounded the problem in several ways. The high cost of oil meant increasing costs of production of food owing to higher costs of fuel in the use of machinery, higher costs of fertilizer, insecticides and chemicals. Consequently, there was a shift away from growing food crops to other crops. For instance, in Australia, rice farmers sold their water rights for the growing of grapes for wine that was a flourishing industry in Australia. There were similar developments in Canada and the United States, where farmers are given subsidies for taking lands out of wheat and barley to prevent depressing prices.

The increase in oil prices also made it more profitable to convert land away from established food crops for bio fuels. In the United States, farmers were given subsidies to convert land to growing maize for conversion into ethanol. This too, meant a reduction of food supplies.

Global climatic change aggravated the situation particularly in 2007 and 2008. Parts of China, Australia, Canada and New Zealand experienced droughts. Large areas of China, Myanmar, Bangladesh and Sri Lanka faced floods. Weather conditions reduced the wheat crop in Canada by 20 to 25 percent, milk production in New Zealand fell drastically owing to drought, and rice production in Australia fell significantly. Therefore, the declining trend in food production was accentuated by climate changes.

The world food equation that had been in balance for sometime after the Green Revolution of the 1960s changed imperceptibly at first, and then sharply in the last few years, owing to both the supply factors outlined above and increases in international demand. This reduction in food production and increased demand resulted in an unprecedented rise in food prices. The declining trend in international prices was dramatically reversed when in 2005 alone food prices rose by 75 percent.

The demand side of the food equation is perhaps less understood. While supply factors diminished the supply of food, the demand for food was increasing. The two large emerging countries of Asia, China and India, were increasing their demand for food due to both increases in their population and rises in per capita incomes owing to rapid economic growth. Although both these countries had reduced their rates of population growth, (China more than India), the annual increase in population in each of these countries was huge, above one million more mouths to feed each year. With increases in their per capita incomes the demand for food increased sharply.

In China in particular, the increase in demand was not confined to staples. The increase in incomes led to a phenomenal increase in demand for meat and dairy products. Chinese annual per capita consumption of meat rose from 20 kilograms in 1998 to 50 kilograms in 2011. There were also increases in demand for food from oil exporting countries in the Middle East and from Russia and Eastern Europe.

These increases in demand for food would be sustained by population and economic growth in these countries. Therefore, one cannot expect the demand for food to subside. International food prices are not likely to decline in the foreseeable future. The underlying reasons for the rise in prices of food, especially the increase in demand for food, would ensure high prices. The climatic factors could be less severe in some future years and the increase in prices may reduce conversion of land from food crop production to other uses. However, inadequate water may continue to be a serious constraint to cultivation. The expectation is that the supply response would be inadequate to bring down prices appreciably. Prices may decline somewhat from what it is today, but will remain high. The *London Economist* conveyed this continuing price increase aptly with the caption: "Good- Bye to Cheap Food".

Implications for Sri Lanka

These international developments in the global food equation have an important bearing for Sri Lanka's food security as an importer of several basic food items, such as wheat and wheat flour, sugar, milk and basic foods such as lentils (dhal). The prices of all these commodities have risen sharply recently, and indications are that food prices would remain high. Besides, an increase in self-sufficiency in these is either impossible or, as it was shown limited. Since the increase in international prices is not a temporary phenomenon, it affects food security of poor households. This is especially so if the macro-economic conditions discussed below do not improve or they deteriorate.

Macro-economic Conditions

The rise in food prices affects the trade balance adversely and in turn the capacity to import food. The weakness of the country's external finances due to large trade deficits compounds this concern. The corrective action to reduce the trade deficit has included higher tariffs and depreciation of the currency. Both these measures have increased prices of basic food commodities such as dhal, sugar, milk, wheat flour and potatoes. The increases in import duties of essential food items in 2012-13 were due to both weaknesses in the trade balance and a means of increasing government revenue.

Fiscal weaknesses have serious implications for food security as shortfalls in revenue lead to the imposition of tariffs to collect revenue that in turn increases food prices, as has happened in 2012-2013. The imposition of higher direct or indirect taxes or withdrawal of subsidies on other essential expenditure items such as transport could reduce poor households' income availability to access adequate food needs.

Fiscal weaknesses also impair the government's capacity to implement interventionist programmes to assist the poor. The weakening of public finances could result in the shrinkage of social security benefits. Large fiscal deficits are inflationary and the rise in prices affects the food security of poor households.

For these reasons a healthy balance of payments, adequate foreign exchange reserves and manageable fiscal deficits are important to ensure adequate food supplies and the access of households to food at reasonable prices.

Poor Quality Food

An increasingly important issue is the accessibility to wholesome and hygienic food. Emerging urban life styles and increasing dependence on prepared and fast foods require that consumers be protected from unhygienic, contaminated and nutritionally poor quality foods. Regulations to protect consumers from poor quality foods, sale of unhygienic food preparations and the introduction of harmful extraneous substances require to be enacted; existing regulations should be strengthened and implemented effectively.

Foods sold in small restaurants, cafes and on the sidewalks are not subject to an effective surveillance to ensure their hygienic preparation. Furthermore, they are often exposed to dust and motor fumes. Although there are no specific studies to support these assertions, newspaper reports and reported incidents provide ample evidence of these deficiencies.

These foods are also likely to contain, *inter alia,* a higher than permissible proportion of lead, pesticide residues and coliform bacteria (Wickramanayake, 2002). The existing laws that are expected to be implemented by municipal and urban councils are well known to be practiced in the breach. There is also a need to revise and modernise the regulations pertaining to food preparation and contamination.

Fresh vegetables and fruits sold by wayside vendors, shops and in markets are also often contaminated with pesticides due to excessive use of these in cultivation. Furthermore, harmful chemicals such as carbide are used to expedite ripening of fruits, while formalin is used to preserve fish sold in wayside stalls. Apart from regulations and inspection of sales points to ensure that such practices are penalised, there is a need to increase consumer awareness of the dangers of consuming such foods. The problem is compounded as it is often difficult to identify fresh foods which contain harmful chemicals. Where this is possible, consumers should be made aware of factors that help to identify tainted produce. They should also be advised on how such produce could harm them and how they could minimise it through proper cleaning, washing and cooking of fresh produce.

In 2012, media exposed instances of contamination of imported milk powder and sugar. There should be some mechanism to prevent contaminated imported foods entering the market. Imported foods should be subject to regulations that prevent contaminated and sub standard foods entering the market. There should be quality certification from the importer and more frequent testing of samples of imports.

It is important to ensure, by law, the sale of food containing minimum nutritional ingredients as well as the prohibition of foods whose nutritional ingredients have been extracted. A clear case of the latter is the 74 percent extraction wheat of Prima Mills that is mostly available to the consumer. The law should prohibit such extraction of nutrients, on the one hand, and ensure introduction of nutritionally fortified foods on the other hand. There is a growing need to ensure wholesome, nutritious, clean and unpolluted food by regulatory mechanisms that are effectively implemented.

Owing to deficiencies in micro-nutrients, iodine and iron, there is a need for fortification of foods and advisory services on food and nutrition. Many food items that are commonly consumed have unhealthy additives, are inadequately or inaccurately described or have nutrients extracted. In order to minimise these deficiencies there is a need for effective surveillance of marketed foods and regulations to ensure wholesome food.

The rules and regulations governing the preparation and sale of food require to be revised to incorporate new health hazards. The system of surveillance and enforcement of food safety regulations need to be strengthened; and new regulations to ensure quality food should be included. This would include accurate description of foods, including nutritional values. The composition of food parcels may require certain minimum quantities of vegetables, greens, fish or meat. There should be minimum standards in packing such parcels. The current practice of packing with newspaper should be prohibited as these contain lead that is poisonous.

The fortification of foods is another means by which the nutritional levels of the population could be improved. Salt is already iodized in Sri Lanka. Similarly, there is a possibility of fortification of basic foods with vitamin and micronutrient elements. Additionally, the sale of foods with nutrient extraction should be prohibited, as is the case of wheat flour being of 74 percent extraction in Sri Lanka.

Summing Up

The prospects of sharp increases in international food prices have created anxieties about food security in the country. Weak external finances and fiscal difficulties have compounded the problem by reducing the capacity to import food. Macro-economic weaknesses have resulted in increased tariffs on basic food imports to correct both the trade and fiscal balances. These measures increase food insecurity of poor households.

There are serious concerns in accessibility to wholesome, nutritious and hygienic food. Consumers must be protected from poor quality foods, unhygienic preparation and sale of food and the introduction of harmful extraneous substances. Many foods contain, *inter alia,* a higher than permissible proportion of lead, pesticide residues and bacteria. Existing laws require revising and implementing more effectively. Foods that contain unhealthy additives should be prohibited.

It is also important to ensure by law the sale of food containing minimum nutritional ingredients and the prohibition of foods whose nutritional ingredients have been extracted. There is a need for fortification of foods as there are widespread deficiencies in micro-nutrients, iodine and iron. Advisory services and awareness programmes on food and nutrition could play an important role in improving the nutritional status of the population.

CHAPTER 9

Needed Policy Directions to Enhance Food Security

Introduction

Economic performance and social policies determine the degree of food security of a country. While overall economic growth and diversification are important in ensuring national food security, agricultural development, especially enhanced agricultural productivity, has a vital role to play in ensuring food availability at household level by improving incomes of rural households that are a significant proportion of the population. Good governance is a determining factor in achieving these conditions for food security.

A strong economy is a necessary condition as it provides the means of achieving food security. Economic growth, diversified economic activities that provide better employment and income generating opportunities, strong public finances and external finances are necessary conditions to ensure that a high proportion of the population is food secure. The capacity of a government to have adequate safety nets depends on its fiscal capacity, macro-economic stability and its expenditure priorities.

While overall economic development is a precondition to enhance food security, strategies to achieve economic growth and income distribution have important bearing on the attainment of food security. Economic conditions alone are, however, inadequate to achieve a high level of food security. The distribution of incomes has an important bearing on food security of households. Social policies are needed to make certain of all inclusive food security and to ensure food security to those who are too poor, such as the unemployed, the unemployable, the handicapped, disabled and the aged, to access adequate food to meet their basic food requirements.

A pre-condition for ensuring food security is the national availability of adequate food stocks year-in year-out. This is particularly relevant for Sri Lanka as she is a food deficit country. There is a need for the country to be self-reliant (not self-sufficient) in food by either domestic production or imports. Agriculture too has a vital role in ensuring food security, especially as agricultural development enhances household food security of a significant proportion of the population that is dependent on agricultural incomes and increases employment.

Sustained Economic Growth

The earlier analysis demonstrated that the current economic situation was one in which the country had a capacity to import the deficit food needs even at much higher levels of consumption than at present levels of consumer demand. Yet, it also pointed out that there were several features of the economy that threatened the capacity to meet these needs in the future.

Sustained economic growth is a necessary condition to achieve food security. It is the foremost condition to achieve a high level of food security. On the one hand, economic growth ensures a high rate of employment and incomes and, on the other hand, the capacity of the government to assist households and individuals, who are food insecure, is enhanced when government finances are strong. A developed economy has a lesser burden to ensure food security and a higher capacity to adopt economic and social policies that would benefit the food insecure. Owing to these reasons, it is vital that Sri Lanka achieves a much higher level of sustained economic development.

Macro-economic Imperatives

The country's macro-economic weaknesses are a threat to food security. Recurrent large fiscal deficits, a large public debt and huge debt servicing costs are disadvantageous to ensuring food security, as they distort public expenditure, increase taxes on essential foods and reduce the capacity of the government to intervene to ensure food security to the vulnerable.

Fiscal consolidation is essential as the large excess of public expenditure over income reduces the capacity of the government to pursue socio economic policies that would benefit the poor who are food insecure. Large public debt and debt servicing costs, inadequate revenue and unproductive expenditures have resulted in regressive taxation policies. There are high duties on essential foods that are imported. This raises the cost of living of the poor who have to spend a large proportion of their income on basic foods. Weaknesses in public finances and external finances have led to policies that are detrimental to food security. Stronger public finances would strengthen the capacity of the government to assist the poor to access required quantities of food.

> It is vital that the country achieves a greater degree of fiscal consolidation by curtailing unproductive expenditure and enhancing revenue. Fiscal consolidation would enable the prioritisation of expenditure that would benefit poor household's food security. Proper prioritisation of expenditure is needed not only for immediate concerns in food security, but to strengthen the economy to achieve long term economic growth that would enhance food security and enable social welfare programs that would mitigate food insecurity.

Being a food deficit country, the state of external finances has an important bearing on food security, as it affects the capacity to import needed food. The current situation of massive trade deficits impairs food security, as tariff measures designed to reduce the trade deficit, as well as increase revenue, increases the costs of basic food items. Therefore, it is vital that the trade deficit be reduced significantly to enable a strong balance of payments position that would avert regressive tariff and fiscal measures that increase the costs of food.

Economic Diversification

While economic growth is a necessary condition to achieve food security, it is not a sufficient one. Strategies to achieve economic growth and income distribution have important bearing on the attainment of food security. The distribution of incomes and social policies are significant in ensuring food security of the poor.

The diversification of the economy is an important strategy to achieve food security. As was demonstrated in chapter 4, the objective of food security has been better served by the diversification of the Sri Lankan economy than might have been achieved by attempting to produce more food domestically, as alternate opportunities in plantation agriculture, industries and services have generated higher earnings. However, owing to the nature of the country's exports and the lack of diversification in exports, the country's food import capacity is vulnerable to international factors over which the country has little control.

For instance, over 50 percent of the country's merchandise export income is derived from garments exports. These exports account for about two-thirds of industrial exports indicating both the non-diversified nature of industrial exports, as well as the low value added and low technology based nature of most industrial exports. The concentration of export markets in Europe and North America has also added a further vulnerability.

The export performance of the last two and a half years has raised the issue of whether the country may be losing its competitive edge, especially owing to higher wage costs than that of its competitors. The culmination of the Multi-Fibre Agreement in 2005 and the withdrawal of the GSP plus concession by European countries posed further threats.

These developments in exports underscores the need for more stable and higher domestic value added industries, the diversification of exports, increasing exportable surpluses and expanding exports in non-traditional markets. Achieving such objectives requires development of skills, a better investment climate to draw in foreign investors, labour reforms and infrastructure development. The discussion of these factors is outside the scope of this book, but their importance has to be underscored.

Agricultural Policies and Food Self-sufficiency

The problem of food security is due to the under-development of the economy and not necessarily due to the performance of the agricultural sector alone. Food security is not dependent only on the amount of food produced in a country, but also its capacity to import food needs adequately. However, agricultural production has an important bearing on the capacity of a country to meet food needs, especially of the rural poor.

While overall economic growth and diversification are important factors in ensuring national food security, agricultural development has a vital role to play in ensuring food availability at household level. Increased agricultural production by improving incomes of rural households could enhance household access to food considerably, as a large proportion of the country's population is dependent on agricultural incomes, directly or indirectly. The improvement of agricultural productivity through technological change is an essential strategy to achieve food security of a significant proportion of the population.

Agricultural policy and performance have an important bearing on household food security, both directly and indirectly. Since about one half of the country's households are rural and derive incomes directly or indirectly from agricultural activity, the level of agricultural production, the productivity of crops, the cost structures of agricultural production, land tenure systems and prices of agricultural produce have an important bearing on the capacity of a sizeable proportion of households to be food secure. In Sen's (1982) terminology, these conditions in agricultural production affect the "entitlements" of farm and rural households. Increases in agricultural production, especially an increase in agricultural productivity, would enhance food security of rural and poor households. There lies a strong logic for a sustained thrust in agricultural production to ensure their rights to food.

Mellor and Adams have pointed this out in their paper *The New Political Economy of Food and Agricultural Development.* In their words:

> Shipping food from more developed 'surplus' countries to still developing deficit' countries might seem to represent the easiest solution to the world's food problem...
>
> Such a simple-minded solution would, however, neglect one very important factor, namely the lack of purchasing power in many Third World countries. In this context it becomes advisable for many developing countries to place a far greater emphasis on agriculture than they have in the past. In most cases increased agricultural production can play several important roles in the development process. First, it can help increase overall domestic food supplies. Second, it can boost overall rates of economic growth. Third, as part of accelerated growth, it can help increase the poor's access to expand food supplies. Accelerated agricultural growth increases the income and employment opportunities of rural producers. This is important - inasmuch as the bulk of the rural population in many developing countries lives in the rural sector. Expanded opportunities for these people therefore help to facilitate broad-based employment and income growth in other sectors of the economy (Mellor and Adams, 1986, pp. 289-290).

Increased agricultural production means improved food availability to about one-half of the population either directly or indirectly. Directly farm households would have more income, especially the subsistence farm households. Indirectly farm households would have greater access to food through increased incomes or "entitlements". Other poor rural households would have a better access to food because of the likelihood of lower prices.

A strategy to enhance agricultural production is an equity approach to economic development and addresses the problem of household access to food more directly than through industrial development and exports. The latter strategies no doubt contribute to food security at the national level, but their contribution at household level could be more limited and certainly more indirect.

Mellor and Johnston in their paper, *The World Food Equation: Interrelation Among Development, Employment and Food Consumption* have argued that "Agricultural growth not only satisfies the need for food to meet nutritional requirements ... but fosters a favourable employment-oriented demand structure as well" (Mellor and Johnston, 1984, p. 568). They have argued that in "the face of population growth and limited land area, land augmenting technological change (is) essential to agriculture playing its productive role" (Mellor and Johnston, 1984, *Ibid*.)

Their observation that "The employment-oriented effective demand is most likely to arise from a small holder agriculture, which is also fully consistent with high rates of technological change," is especially relevant to Sri Lanka at its present stage of agricultural development.

Increased agricultural production could be conceived of as an effective strategy for poverty alleviation, reduction in unemployment, increase in rural incomes and improvement in income distribution. All these improvements would enhance food availability. This is especially so, as adequate alternate avenues of employment are not available in the country as a whole and in rural areas, in particular.

Therefore, the attainment of food security requires agricultural support policies that would enhance productivity in rice and other food crops where the current levels of yield are far below the technologically achievable levels as well as the productivity in comparable producing countries. Enhancement of research capability, revamping of the extension system and improvements in marketing and rural infrastructure are needed to achieve this.

Research and Extension

One of the key pre-conditions for agricultural development is investment in research. The amount expended on research has been declining in recent years, and is grossly inadequate at a fraction of one percent of the value of agricultural output. Increases in yield can be achieved only if research develops high yielding varieties adapted to soil and other climatic conditions. Without an effective extension service research expenditure is wasted and high levels of productivity cannot be achieved. The agricultural extension service that has been severely neglected over time is now, for the most part, the responsibility of provinces. It has to be revamped to achieve significant increases in productivity. The current gap in yields between the potential yields and the actual yields is to a good extent due to inadequate extension services.

Marketing

The marketing of agricultural produce has been a perennial problem. At harvest time farmers are unable to sell their produce at remunerative prices that cover their costs of production. In a context where the costs of agricultural inputs are rising and wages

are increasing owing to inflation, it is vital for farmers to obtain good prices for their produce. Prices of agricultural commodities are high at consumer levels but often low at farm gate. The reduction of marketing margins could contribute much to both reducing consumer prices of agricultural commodities and farmers receiving better prices. The development of storage and milling capacity, refrigeration and canning facilities, promoting competition and improving transport facilities are needed to benefit both farmers and consumers.

Rural Infrastructure

The development of rural infrastructure by the repair and maintenance of rural roads, bridges and irrigation works are important determinants of productivity in agriculture. Poor infrastructure in rural areas is a severe constraint to farmers obtaining their inputs and more so for the marketing of their produce.

Without these improvements in vital areas serving agriculture, yields will remain low and agricultural incomes depressed and rural poverty would persist. The rhetoric of a priority for agricultural and rural development must be transformed into an institutional reality.

Policies to Achieve Self-sufficiency

The economic problems of the country and increasing food prices have strengthened the argument for food self-sufficiency in Sri Lanka. This is especially so as food prices are expected to continue to rise for the reasons discussed earlier. Since the country is food dependent and international prices of food are expected to continue to be high, the country would have to import essential food items at high prices. Therefore, there is a need for a national response to cope with this reality.

An unrealistic cry for self-sufficiency will not get the country out of the crisis, either in the short run or in the long term. Although the country has achieved self-sufficiency in rice and several other foods, food self-sufficiency in all foods is not an attainable goal for Sri Lanka. There are items of food that we cannot grow in the country such as wheat and dhal. Then there is the unrealism of expecting to increase production of items of which we produce very little to meet all our needs even in the long run. Milk and sugar are good examples. We produce only about 5 percent of our requirements of sugar and about 40 percent of our current requirements of milk. The words "current requirements" are used carefully to denote the fact that the demand for these two commodities has been rising in recent years and the demand for them will rise with increases in population and incomes. It is possible to increase production of these items to meet a higher proportion of our needs, but not be self-sufficient in them. There are limitations in land availability and other resource constrains. The high costs of production in the country may make it economically better to import these commodities rather than produce them locally.

On the other hand, there are commodities where increased production could satisfy our needs. The most notable and important of such items is rice. In the case of paddy production, the country is near self-sufficient in a good year and there is a possibility of increasing paddy production by increasing yields as the current yields of around 4.3 metric tons per hectare is much below the potential yields, particularly in the dry zone areas. If the correct cultivation practices are adopted, fertilizer applied in the correct proportions and good seed material are available, then yields could be enhanced significantly.

An increase in rice production is needed not only to meet the immediate needs but also to have an adequate stock to meet short-falls in bad years, increases in demand for the increasing population of about 200,000 persons per year and to substitute rice for wheat. A national policy to maintain food stocks, especially rice stocks, must be formulated and implemented by increasing the capacity to maintain stocks. Increased storage facilities are vital to enable such stocks to be maintained.

Farm gate prices must be attractive for paddy farming and excessive interventions to placate consumers have to be avoided. High prices for paddy are an effective incentive to adopt good cultivation practices, invest in required inputs and to cultivate lands that have not been cultivated. Paddy producers should be able to obtain a price that is above the cost of production. The increased incomes should help in reducing debt and increasing incomes of rural communities. It could have a beneficial impact on reducing poverty as well. However, climate change could negate these benefits. Droughts and floods could impoverish paddy and food crop farmers.

There should also be efforts to increase the production of other grains such as finger millet (kurakkan), cowpea, soya, and local varieties of lentils. Such increases in production matched by a higher consumption of these, are means by which the supply of food could be enhanced with advantage to the country. And at the same time, such varied consumption could improve nutrition. There should also be efforts to increase consumption of easily available foods such as jak and breadfruit through an advocacy of consumption of these commodities and ready availability of them in easily packed forms. There have already been such developments in response to the price increases of rice and bread, but these responses are inadequate and should be enhanced.

The recent increases in tariffs on food items while affecting the food security of low income households adversely could be incentives for higher domestic food production in the long run. The campaign to increase food production through home gardens is also a step in the right direction.

In spite of all these strategies, there would be a need to import several items of food. This is why a realistic attitude could help. The cost of all food imports in recent years was less than 10 percent of imports. It was demonstrated earlier in this study that the country's current food import requirements are almost fully met by tea export earnings alone. The earnings from industrial exports finance food imports, several fold. What this implies is that the country's food needs, even at these high prices, could be met by a diversified and robust export sector.

The food needs of the country cannot be met by local production alone, but by domestic production supplemented by an increase in export earnings from agricultural, industrial and services exports. Therefore, it is vital that all sectors of the economy should develop rather than think narrowly about agricultural production alone meeting the food needs of the country.

Interventions to Assist the Food Insecure

Overall economic growth and diversified economic activities that provide better employment and income generating activities are the best means to reduce the number

of households not obtaining their basic food requirements. However, in the foreseeable future economic growth opportunities are not likely to ensure that the proportion of the population unable to access food would be drastically reduced. Even with a better overall economic performance there are likely to be people left behind. These persons have to be provided with safety nets to enable them to obtain their basic food requirements. Therefore, there has to be state interventions that ensure their food security. This in turn, implies a capacity on the part of the state to intervene effectively in terms of resources and implementation capacities.

There have been three broad strategies adopted in the past to ensure food security of the poor and vulnerable. The first was the ration scheme that succeeded in providing the staple and a few essential foods. This was not a programme targeted to the poor alone. The entire population obtained food on the ration. It had the merit that most poor households obtained a minimum quantity of food. The deficiency was the very high cost of such an untargeted general subsidy that rendered it financially unviable and unsustainable. The high cost of this welfare programme also impeded economic growth.

The second strategy was the food stamps scheme intended to reduce the cost of the food subsidy and target it to only those who are too poor to be provided with their basic food requirements. This scheme had deficiencies in targeting with some of the poor not receiving food stamps and the entitlements through the food stamps being eroded by a rapid increase in food prices. Therefore, the objective of providing food security for the poor was not fulfilled.

The third approach was one of income support to the poor through the *Janasaviya* and *Samurdhi* programmes. This was expected to be a targeted programme for the poor. Yet it has ended up with as many as 58 percent of households receiving the income support in 2000. In 2012 as many as 35 percent of households received *Samurdhi* benefits, when the proportion of the population below the poverty line is officially estimated at 8.9 percent. While the proportion of households receiving the income support is excessive, the poverty count is likely to be an underestimate.

Even with such a large proportion receiving the benefit, many of the really poor do not necessarily receive the income support. Unintended beneficiaries are large, political interference and corruption are rife and the cost of the schemes for the government very high. In 2013 government expenditure on the *Samurdhi* programme was Rs. 13.9 billion (Central Bank 2013, p.101).

The implications of this experience is that the interventionist programme must be more adequate in the provision of incomes to access a larger basket of foods, on the one hand, and on the other, be targeted to only around 20 percent of total households. Targeting has indeed been a serious problem in Sri Lanka, especially owing to political interventions. However, if the food security of the poor and vulnerable is to be achieved in the context of Sri Lanka's poverty situation, a well targeted programme is essential.

New Concerns

The previous chapter pointed out serious concerns in accessibility to wholesome, nutritious and hygienic food. Consumers must be protected from poor quality foods, unhygienic preparation and sale of food and the introduction of harmful extraneous substances. Consumers must be protected from foods containing higher than permissible proportion of lead, pesticide residues and bacteria. It is important to ensure the sale of food containing minimum nutritional ingredients and the prohibition of foods whose nutritional ingredients have been extracted. There is a need for fortification of foods as there are widespread deficiencies in micro-nutrients, iodine and iron.

Existing laws require revising and implementing more effectively. At present there is inadequate capacity in institutions that are expected to regulate and be vigilant in the enforcement of the laws and regulations to ensure wholesome food. There has also been inadequate attention on food quality standards and fortification of foods. These are areas that require strengthening.

There is a need for effective surveillance of marketed foods and regulations to ensure wholesome food. The rules and regulations governing the preparation and sale of food require to be revised to incorporate new health hazards. The system of surveillance and enforcement of food regulations need to be strengthened and new regulations to ensure quality food should be introduced. This would include accurate description of foods, including nutritional values.

The fortification of foods is another means by which the nutritional levels of the population could be improved. The possibility of vitamin fortification requires exploration. The sale of foods with nutrient extraction should be prohibited as in the case of wheat flour which is of 74 percent extraction.

Summing Up

Sustained high economic growth, a robust economy, sound public finances and a healthy balance of payments are the best means of achieving food security. Economic growth, diversified economic activities that provide better employment and income generating opportunities would ensure that a high proportion of the population are food secure. However, food security is not only determined by economic growth but also determined by the distribution of incomes and social policies that are significant in ensuring food security of the poor.

Social interventions are needed to ensure food security to those who are too poor, the unemployed and the unemployable and those who are handicapped, disabled and the aged and have inadequate means to access adequate food to meet their basic food requirements. The capacity of a government to have adequate safety nets depends on its fiscal capacity, macro-economic stability and its expenditure priorities.

The national requirements of food are met by domestic production and food imports. Therefore, there is a role for agriculture in ensuring food security, especially as agricultural development has an important bearing on household food security. A pre-condition for ensuring food security is the national availability of adequate food stocks year-in year-out. A programme to build up adequate stocks during good years is vital to ensure food during lean years owing to drought or floods or other catastrophes.

Food self-sufficiency is an unrealistic and unattainable objective. What is needed to ensure food security in the country is a several-pronged strategy in which an increase in agricultural production through enhanced productivity of major crops is important. This applies not only to food crops but also cash crops that are exportable, as these earn valuable foreign exchange that goes a long way in enabling the import of the deficit of domestic food requirements.

Development of other sectors in the economy plays a vital role in food security. The higher value industrial products bring in a significant amount of foreign exchange that enables the import of food. Therefore, the objective of ensuring food security requires both an increase in domestic food production, as well as the development of the non-agricultural sectors. It is by the development of all sectors in the economy that national food security could be attained. The state of public finances, external finances, expenditure priorities, agricultural policy and good governance are important in ensuring the country's food security. The problem of food insecurity is not an agricultural problem. It is a problem of economic development.

CHAPTER 10

Summary and Conclusions

One of the central conclusions of this study is that food insecurity is due to the under-development of an economy. The attainment of food security is dependent on a country's economic development, distribution of incomes, the capacity of the government to assist households and individuals who are food insecure, and economic and social policies. Although food security is not dependent on the performance of a country's agriculture, the amount of food produced in a country could have an important bearing on the capacity of a country to meet food needs, especially of the rural poor.

Food security is the availability of an adequate supply of food, which people can access to obtain their food needs at prices they can afford. Food security is achieved when people 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 at all times.

Food security needs are generally defined as the basic requirements of food rather than the satisfaction of all food wants. It is often discussed in terms of a staple or a few commodities as these comprise a high proportion of calorie intake. Food security is often discussed as adequate supplies of rice or rice and wheat. However, food security is not adequacy of one or two commodities. It is the availability of a basket of basic commodities that all persons could access. The issue of food security becomes more complex when one attempts to define such a basket of food. Yet any meaningful concept of food security in the contemporary world should not be confined to cereals alone. It should include other essentials like sugar, milk, vegetables and perhaps some minimal quantity of eggs, fish or meat.

It is necessary to be clear as to whether food security should focus on only basic food needs for survival or be concerned with the availability of adequate food supplies to

ensure a nutritionally adequate diet. The inclusion of foods to ensure a nutritionally adequate supply of food is indeed a broadening of the concept of food security that is pertinent for development. A nutritionally complete diet does not necessarily mean larger quantities of presently consumed food or addition of expensive foods. Nutritional needs are often better met by a better nutritional awareness leading to better choices in foods. National policies on food should include nutritional needs as well and include nutrients and micro nutrients as well.

Food security is often confused with food self-sufficiency, especially in Sri Lanka. Food security is not synonymous with food self-sufficiency. Many developed countries are not self-sufficient in food, but enjoy food security, as they are able to import their requirements of food. A country need not achieve self-sufficiency in food to achieve food security, if it could bridge the food deficit through imports. Food security at the national level is the capacity to have the required quantum of food, either by domestic production or imports rather than the ability to produce all the country's food needs.

Household food security may require social interventions to ensure that the poorest segments of a population receive adequate food. Although the national food supply situation has a relation to whether people have adequate food, it is not solely determined by it. While people are not likely to have adequate food in a situation of inadequate national food supplies, some people may not have adequate food even when there is no overall shortage of food. Individual and household food needs are met when they have adequate means to access their food requirements at prevailing prices.

The distribution of incomes and poverty are of much relevance in attaining individual and household food security. Poverty and skewed distribution of incomes may lead to large segments of the population being unable to purchase their nutritional needs. Governments with weak economies may not have the financial and administrative capacity to ensure that those deprived of adequate food are provided their food needs. This underscores the need for economies to be strong to be able to achieve food security for all their people and have effective administrations to ensure an effectively targeted programme to ensure food for the poor and deprived.

Household Food Security in Sri Lanka

Sri Lanka is a food deficit country but could at present afford to import her full requirements of food at market demand. However, in the recent past, about one fourth of Sri Lanka's population have been below the poverty line and unable to purchase their basic nutritional requirements of food. Although this proportion has come down more recently with economic growth, reduced unemployment and poverty, a significant proportion of the country's population is deemed as not having the purchasing power to purchase their requirements of food. The prevalence of under-nutrition is evidence of this.

The analysis of the previous chapters disclosed that Sri Lanka is food secure at the national level, though there are some concerns. However, there is a serious problem of food security at household level. Surveys on nutritional status and anthropometric indicators of underweight, wasting and stunting provide clear evidence of household food insecurity and chronic deprivation of food.

There are also wide disparities in household food consumption in different provinces. The country also exhibits a problem of intra household food distribution with mothers and children getting relatively less food than adult male members. These are the issues that require addressing.

Interventions to Ensure Food Security

Several policy approaches have been adopted to ensure household food availability in Sri Lanka with varying degrees of success. The food ration scheme that operated from 1942 to 1978 ensured that all households obtained at least a basic minimum quantum of food, especially of the staple, rice. It was particularly significant in ensuring access to basic foods of rice, wheat flour and sugar during the war years, when the country was a substantial food deficit country and international supplies were dislocated.

Its universal applicability and effective administration ensured food security. Post-world war two and particularly in the latter part of the 1950s, the economic and financial strain of a universally applicable food ration scheme necessitated modifications. The competitive political system ensured its continuance, even though overall economic considerations necessitated a drastic modification, until 1978, when the food stamps scheme was introduced.

The experience of the food ration scheme underscored several lessons. A universal subsidy was not an economically feasible one and once such a subsidy is given, its withdrawal in a competitive political system was difficult, almost impossible. The financial strains of a huge food subsidy could constrain economic development expenditure. In a food deficit import-export economy, the terms of trade had an important bearing on the capacity of the country to provide such a universal food subsidy.

While the universal applicability of the subsidy had these deficiencies, the subsequent experience with an attempted targeted system of income support appears to have failed both in its targeting and in ensuring adequate food for poor households. The food stamps scheme that attempted to target the poorer sections of the population failed owing to its design (by all accounts purposely) to not ensure an adequate quantum of food; its monetary value resulted in a progressive decline in the quantum of food purchased with sharp rises in prices. The targeting too was defective with many poor households not receiving food stamps.

The income support programmes, the *Janasaviya* and *Samurdhi* failed to restrict it to the really needy and therefore became unwieldy and too costly. While becoming a huge burden to the public finances of the country, its politicisation resulted in many of those needing an income support not having access to its benefits. The fact that as much as 35 percent of households get the benefit when the official estimate of poverty is only 8.9 percent implies that there is a huge leakage of benefits to the not so needy. While the *Samurdhi* programme does not reach many of the poorest households, a high proportion of the beneficiaries who are not entitled to its benefits receive them. Once again, this experience demonstrates the practical difficulties of targeting a welfare programme in Sri Lanka's political culture and context. It also casts doubts as to whether the income support approach could achieve food security as there could be a diversion of funds for other uses, especially in poor households dominated by undisciplined and irresponsible husbands.

Recent experience highlights the fact that employment and income generating opportunities have been inadequate to reduce significantly the proportion of the population without access to adequate food. This implies that overall economic growth and more diversified economic opportunities are needed to ensure adequate household access to food.

Concerns

Increased domestic production of food and the diversification of the Sri Lankan economy have ensured adequate food supplies at the national level. In fact, it is possible to support an even higher level of consumption than at present at national level. Yet a food deficit country like Sri Lanka is highly vulnerable to international price movements. This is particularly so, as Sri Lanka's industrial exports are low value added highly competitive products. In the last two years there has been a declining trend in exports. Agricultural exports are inelastic in demand and supply. Imports, on the other hand, are essential items and these too are inelastic. Therefore, food security could be subject to the vagaries of international developments. The country should reduce its vulnerability to international forces by increasing the domestic food supply, especially as there is a considerable gap between potential and realised yields in most agricultural crops.

The current economic situation should not lead to complacency in national food production. Increases in agricultural productivity would also strengthen food availability for a significant proportion of rural households.

Ensuring Food Security

Rapid economic development is the means towards attaining food security. Economic growth diversified economic activities, which provide better employment and income generating opportunities, and safety nets to those unable to obtain their basic food requirements, are essential strategies to reduce the number of households not obtaining their basic food requirements.

There is also a need to ensure food security of those who are handicapped, disabled, the aged and the unemployable, who are too poor to access adequate food. The role of agriculture in ensuring food security has an important bearing on household food security.

Food security in Sri Lanka could be strengthened by increased national production of food, increased diversification of the economy, increased employment and income generating opportunities and better management of the economy to achieve higher economic growth. Yet even with such an achievement, there would be a proportion of the population left behind whose entitlements would be inadequate to meet the right to food. This implies a need for an interventionist programme to ensure their access to adequate food. The issues raised earlier come into play in the nature and design of such a programme.

Sri Lanka has reached a stage of economic development when providing only the staples is inadequate. Households would deem a varied food basket as a right. Therefore, there is a need to go beyond the provision of basic items but include milk, fish, vegetables, fruits and even fish and meat. However, achieving such a higher level of food security that the

UN considers a right to food would be difficult to achieve until economic development reaches a higher level.

Food Safety

The need to protect consumers from unhygienic foods, contamination with dangerous substances, and the extraction of vital nutrients are another area of enforcing not only an adequate quantum of food, but also healthy and nutritious foods. Another positive dimension would be the reinforcement of foods with vitamin and mineral components to enrich their nutritional quality.

Suggestions for Achieving Food Security

The analysis and discussion in this book leads to recommending proposals for the attainment of a progressive improvement in food security in Sri Lanka. Such a strategy has to be broad based and comprehensive, encompassing overall economic development strategies, public expenditure priorities, social security interventions and agricultural policy.

Macro-economic policies should aim at a greater diversification of exports by moving into higher value-added industrial products. Such diversification from the current over-dependence on garment exports would reduce the vulnerability to international fluctuations in prices and possible contractions in demand for a few low value added export items. The further diversification of the economy would strengthen the county's self-reliance on food and capacity to access food to meet a higher per capita consumption of a variety of foods. The diversification of exports should go hand in hand with the diversification of export markets that are currently excessively concentrated in North America and Europe.

The increased diversification of the economy does not imply a reduced emphasis for food crop cultivation. In fact the preceding discussion has pointed out both the possibility and need for increased productivity in agriculture. The low yields in food crops points to a possibility of increasing rural incomes through increases in productivity. Such a strategy increases the country's food supply, reduces prices and enhances the "entitlements" of the rural population. It would also reduce the vulnerability of the right to food arising out of changes in global food supply and demand and international terms of trade of the country.

Increased agricultural productivity would reduce rural poverty, rural unemployment and increase rural "entitlements" to food. Increased national food availability and access of rural households to food would enhance food security. However, the analysis has pointed out that the possibilities of self-sufficiency in several key foods is limited, and that the country would remain dependent on imports of food commodities such as wheat, sugar, milk and a few other foods. This dependency on food imports strengthens the case for a stronger export performance.

However successful the above strategies are, there are those who would be left behind. Therefore, there is a need for an effective state interventionist program that reaches the poor and ensures their food security. The discussion has pointed out that a universal programme would be too costly and in the current economic context impractical.

Therefore, a well-targeted programme reaching the deprived, that may be around 15 to 20 percent of the population, would be needed.

The designing of a proper system of targeting poses considerable difficulties, owing to problems in assessing household incomes, political interventions and the welfare culture of Sri Lankan society. Despite these difficulties, planning and implementing a method for screening the needy and targeting welfare to them is difficult but needs to be done. Experience suggests that an income support or supplement is more open to abuse than a food entitlement that could include foods that are locally produced, cheap and yet nutritionally rich. The entitlement could be a variety of foods and yet contain many items that are not easily re-sold.

At the present stage of the country's economic and social development it would be quite inadequate to define food security as the staples and basic foods like rice, wheat flour and sugar. Food needs include a variety of foods such as fruits, vegetables, fish, lentils, eggs, milk and meat. This may not be achievable immediately in full measure, but should be an objective of policy to ensure food security defined as a more comprehensive nutritional food basket rather than only a minimum calorie requirement.

Emerging urban life styles and food marketing methods require precautions to ensure that consumers are not subject to unhygienic, contaminated and nutritionally poor quality foods. Action requires to be taken on at least three fronts. The rules and regulations governing the preparation and sale of food require to be revised to incorporate new health hazards; the system of surveillance and enforcement needs to be strengthened; and new regulations to ensure quality food should be included. This would include accurate description of foods, including nutritional values.

The composition of food parcels may require certain minimum quantities of vegetables, greens, fish or meat. The fortification of foods is another means by which the nutritional levels could be improved. The possibility of vitamin fortification requires to be explored. On the other hand, the sale of foods with nutrient extraction such as the case of wheat flour being of 74 percent extraction should be prohibited.

> The attainment of food security in the country requires a multiplicity of actions. Economic development and good governance are the most fundamental factors. A well targeted food intervention programme to ensure food security of the poorest, deprived and vulnerable is crucial.

The core lesson brought out by this study is that food insecurity is a problem of underdevelopment that requires an array of actions. Sri Lanka could achieve food security by overall economic development, social interventions and increased agricultural production. Each of these is a necessary condition though each of them is not sufficient. A threefold strategy is required to achieve food security.

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