



## The Gresham Special Lecture

# Towards Freedom from Hunger:

A Global Food for Sustainable Development Initiative

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For over 400 years Gresham Professors have given free public lectures in the City of London. The College is named after Sir Thomas Gresham, son of Sir Richard Gresham who was Lord Mayor in 1537/38 and who conceived the idea of building an Exchange modelled on the Antwerp Bourse. This was brought to fruition by Sir Thomas, on land provided by the Corporation of London, and was given the royal appellation by Queen Elizabeth I.

Sir Thomas was appointed Royal Agent in Antwerp by Edward VI, a position which he held throughout Mary's reign and the first nine years of Elizabeth's. Sir Thomas's fine mansion in Bishopsgate was the first home of Gresham College. It was there that the Professors gave their lectures until 1768, their salaries being met from rental income from the shops around the Royal Exchange which Sir Thomas had bequeathed jointly to the City Corporation and the Mercers' Company. This period saw the formation and early development at Gresham College of The Royal Society, and the tenure of chairs by a number of distinguished Professors, including Sir Christopher Wren.

In later years lectures were given in various places in the City until the construction of a new Gresham College, opened in 1842, in Gresham Street. The College has been based at Barnard's Inn Hall since 1991. Barnard's Inn was an Inn of Chancery associated with Gray's Inn, and was described by Dickens in *Great Expectations*. In 1892 it was purchased by the Mercers' Company to house the Mercers' School, which remained there until it closed in 1959. In 1985 the Chair of Commerce, funded by the Mercers' School Memorial Trust, was added to the seven ancient Professor-ships of Astronomy, Divinity, Geometry, Law, Music, Physic and Rhetoric. Professors generally have a three-year tenure.

Gresham College is an independent institution, governed by a Council and with the Lord Mayor of London as its President. Sir Thomas left his estate and control of his benefaction to the City Corporation and the Mercers' Company, which operate through the Joint Grand Gresham Committee. In addition to the free public lectures, the College also runs occasional seminars and conferences, and provides support to initiatives by the Gresham Professors and others which seek to reinterpret the 'new learning' of Sir Thomas Gresham's time in contemporary terms.

An independently funded educational institution, Gresham College exists

- to continue the free public lectures which have been given for over 400 years, and to reinterpret the 'new learning' of Sir Thomas Gresham's day in contemporary terms;
- to engage in study, teaching and research, particularly in those disciplines represented by the Gresham Professors;
- to foster academic consideration of contemporary problems;
- to challenge those who live and work in the City of London to engage in intellectual debate on those subjects in which the City has a proper concern, and to provide a window on the City for learned societies, both national and international.

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### Towards Freedom from Hunger: A Global Food for Sustainable Development Initiative

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I am most grateful for the privilege of delivering this year's Gresham Special Lecture. Sir Thomas Gresham's passion was in fostering a culture of 'new learning'. I have therefore chosen a theme which is as old as the human civilisation and yet even more relevant today, and shall try to explore what an attitude of new learning can contribute to finding a lasting solution to the human quest for freedom from hunger. In developing my contribution to the solution of this age-old problem, I shall follow Marcel Proust's exhortation, "The real voyage of discovery does not consist of seeking new landscapes, but in having new eyes."

#### **Looking Back**

From ancient times until today the relationship between peace and food has been stressed from time to time. The International Peace Research Institute at Oslo, in a carefully documented report titled 'To cultivate peace – Agriculture in a world of conflict', (Indra de Soysa and Nils Petter Gleditsc, 1999) found that violent conflicts in most cases could be traced to economic rather than ideological differences. The International Commission on Peace and Food which I chaired, in its report titled 'Uncommon Opportunities: an agenda for Peace and equitable development' (Report of the International Commission on Peace and Food, Zed Books, London & New Jersey, 1994, 210 pp) has suggested that investing in agriculture, which helps to promote food and livelihood security in many nations, is an effective strategy for preventing future wars, eradicating poverty, preventing environmental destruction and reducing violence. Unfortunately, even now, far too high a proportion of national GDP is being spent on arms and military equipment as compared to programmes designed for poverty eradication and meeting the basic needs of the underprivileged sections of humankind. Even a war hero like Dwight D Eisenhower had this to say when he became President of the United States:

"Every gun that is made, every warship launched, every rocket signified in the final sense, a theft from those who are hungry and are not fed, from those who are cold and are not clothed. The world in arms is not spending money alone. It is spending the sweat of its labourers, the genius of its scientists, the hopes of its children."

The Right to Food has been recognised as a fundamental right in numerous UN meetings. Mrs Mary Robinson, United Nations High Commission for Human Rights, in a recent lecture in Rome, stressed the need for a right to food approach to agricultural trade in the framework of the WTO's Agreement on Agriculture. I hope this will lead to a Food Security or Livelihood Security Box in the revised WTO Agreement on Agriculture, the negotiation for which will start in Cancun next year. Some twenty countries have so far adopted constitutions that more or less explicitly refer to the right to food. One of the most explicit references is in the South African constitution that states in section 27, "Everyone has the right to have access to sufficient food and water." Norway is a world leader in this field. The Norwegian Parliament adopted a Human Rights Act on 21 May 1999, which adopts a rights-based approach to agricultural policy.

Many industrialised countries including the United Kingdom are now shifting their approach from food aid to enabling countries to build sustainable food security systems. This is because of the growing realisation that agriculture is not just a food-producing machine, but is the very backbone of the livelihood and ecological security system in most developing countries. Hunger is the extreme manifestation of poverty, since the poor spend over 70% of their daily earnings on food. Food aid can also become a powerful engine of sustainable economic development, as the experience of the World Food Programme in designing Food for Work programmes has shown. In spite of the growing awareness of the need to accord the highest priority to ending poverty induced hunger, progress in achieving internationally agreed targets has been deplorable.

The World Food Summit (WFS) convened by FAO in Rome in 1996 resolved to bring down the number of hungry and malnourished from 816 million in 1990-92 to 408 million by 2015. This involves reducing the number of undernourished people by 22 million every year. A meeting of Heads of States and Governments and Ministers for Agriculture was convened by FAO in Rome from 10-13 June 2002, to review the progress made since 1996 in achieving the targets set at the WFS. The survey at the 'WFS – Five Years Later' meeting in Rome indicated that the actual achievement in hunger reduction was only 6 million per year. Over 200 million persons or 28% of the entire population of Africa were found to be chronically hungry. 24,000 children, women and men die every day due to hunger related causes. The world population will be over 7 billion by 2015 and hence the estimates of WFS 1996 will have to be suitably adjusted upward, taking into account the increase in human numbers. The task before the WFS – Five Years Later meeting was to understand why the very modest target set in 1996 has not been achieved.

Both in 1996 and now, civil society organisations (CSO) and non-governmental organisations held parallel conferences and issued separate declarations. In 1996 the CSO declaration was titled 'Profit for Few or Food for All'. The 2002 CSO Forum declaration stressed that food sovereignty, right to food and agro-ecological models for agriculture are the key elements for any strategy towards ending hunger and malnutrition. This declaration further pointed out that "genetically modified organisms (GMO's) represent a threat to family farmers, other food producers, the integrity of genetic resources and human and environment health. It will affect particularly the rural poor, who cannot afford this costly alternative."

The official WFS Plus Five declaration titled 'International Alliance Against Hunger' urged concerted action to fulfil the 1996 commitments and stated, "we are committed to study, share and facilitate the responsible use of biotechnology in addressing development needs." The official participants in the Rome Plus Five meeting were largely Ministers of Food and Agriculture and senior government officials. The participating Heads of State or Government were largely from countries in Africa. OECD countries were mostly represented at the level of Agriculture Ministers or Senior officials, excepting Spain as well as Italy whose Prime Minister served as the Chair of the Conference.

In addition to chronic protein-energy malnutrition caused by poverty, two billion people in the developing countries, many of them being women and children, suffer from hidden hunger caused by one or more micronutrient deficiencies, like lack of iron, iodine or Vitamin A. Currently 34 countries are experiencing severe food shortages, the most seriously affected being countries in Southern Africa as well as Afghanistan and North Korea. Developing countries are likely to spend over 23 billion dollars this year for import of cereals, largely from rich nations.

Women and children are the worst sufferers. A special session dealing with this issue, stressed the need for implementing in letter and spirit the provisions of Article 14 of the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW) adopted in 1979 by the UN General Assembly. This will involve providing equal access to and control of natural and productive resources and the full participation of rural women in policy making at all levels and throughout development activities.

The African Heads of State or Government identified civil strife and ethnic wars, debt servicing burden, trade barriers resulting in lack of market access, incidence of HIV/AIDS and drought as the principal causes for the widespread persistence of hunger. African leaders resolved to strengthen the recently formed 'The New Partnership for Africa's Development' (NEPAD) in order to promote a Marshall Plan kind of revitalisation of African economies. How far their hope for substantial additional development assistance from rich nations will be forthcoming, remains to be seen. Between 1900 and 2000, concessional assistance from developed countries and loans from the international financing institutions fell by 50% for agriculture. At the same time, the OECD countries increased farm subsidies to more than 300 billion US dollars, amounting to 12,000 dollars per farmer per year. The assistance given by OECD countries to farmers in developing countries works out to 6 dollars per farmer per year. The recently approved US Farm Bill envisages a further substantial increase in the already high subsidies given to US farmers. Thus, agriculture in the rich nations is supported by heavy inputs of subsidy, capital and technology. There is hence no level playing field in global agricultural trade.

The President of the European Commission, Mr Romano Prodi, announced at the WFS Plus Five meeting that by the end of 2006, EU official development aid will be raised to an overall rate of 0.39% of GDP. This is in contrast to the target of 0.7% set by the UN nearly 2 decades ago. He also announced that the EU will try to improve market access

to the farm products of developing countries. If trade does not become fair, in addition to being free, small-scale farmers' farming will be eclipsed by the factory farming enterprises of developed countries.

FAO has prepared a comprehensive Anti-Hunger Programme involving an additional investment of 24 billion dollars annually. This amount is equivalent to 2.5% of the subsidies paid to farmers in OECD countries. The FAO programme aims to address both hunger today as well as sustained progress in agricultural and rural development. FAO also presented an analysis of the progress made by different developing countries in achieving the WFS goals. China led the countries that had achieved the largest reduction in the population of under-nourished between 1990-92 and 1997-99. Others in the category of achievers included Thailand, Vietnam, Ghana, Mozambique, Kuwait and Peru. The worst performing nations include Iraq, Guatemala, Somalia, Venezuela, Tanzania, Cuba, Congo and North Korea. Out of the 116 million children, women and men saved from the hunger trap between 1990-92 and 1997-99, 76 million are from China. Unfortunately, the number of undernourished increased by 11 million during the same period in India, in spite of substantial grain reserves with the Government of India. This should be a cause for alarm and serious introspection.

The policies adopted by China, in achieving speedily the goal of food for all and for ever, involved priority to rural and agricultural development and to on-farm and non-farm employment. China's policy of a rural and agricultural development based economic growth strategy has obviously paid rich dividends in terms of human nutrition and well-being. The contribution of agriculture to GDP is going down in many developing countries, while the onus of providing jobs still remains with the farm sector. This explains why rural poverty is more acute in many poor nations, as compared to urban poverty.

## Looking Forward

Since the establishment of FAO in 1945, billions of pages of analysis on hunger have been written. Every conference organised at a cost of millions of dollars ends with a plea for converting words into action. If we heed the advice given 2000 years ago by the Roman farmer Varro and the Roman Philosopher Seneca, then we will not be discussing hunger but will be living in a hunger-free world.

"Agriculture is a science which teaches us what crops should be planted in each kind of soil, and what operations are to be carried out, in order that the land may produce the highest yields in perpetuity." – Varro

"A hungry person listens neither to reason nor cares for justice, nor is bent by any prayers." – Seneca

As I mentioned earlier, in most developing countries, agriculture, including crop and animal husbandry, fisheries, forestry and agro-processing, constitutes the backbone of the livelihood and ecological security systems. Household food security in such countries is best defined in terms of person years of jobs or livelihoods, rather than in terms of tons of food grains. A famine of jobs or of purchasing power leads to a famine of food at the level of consumption. Agricultural progress serves as the best safety net against poverty, hunger and unemployment. Therefore, sustainable agriculture is the foundation for sustainable human security.

The 'green revolution', a term coined by Dr William Gaud of the United States in October 1968, is a process which leads to higher production through improvement of productivity. In January 1968, several months before the term green revolution came into use, I emphasised in a lecture at the Indian Science Congress, the need for improving productivity in perpetuity without associated ecological and/or social harm, in the following words:

"Exploitive agriculture offers great dangers if carried out with only an immediate profit or production motive. The emerging exploitive farming community in India should become aware of this. Intensive cultivation of land without conservation of soil fertility and soil structure would lead, ultimately, to the springing up of deserts. Irrigation without arrangements for drainage would result in soils getting alkaline or saline. Indiscriminate use of pesticides, fungicides and herbicides could cause adverse changes in biological balance as well as lead to an increase in the incidence of cancer and other diseases, through the toxic residues present in the grains or other edible parts. Unscientific tapping of underground water will lead to the rapid exhaustion of this wonderful capital resource left to us through ages of natural farming. The rapid replacement of numerous locally adapted varieties with one or two high-yielding strains in large contiguous areas would result in the spread of serious diseases capable of wiping out entire crops, as happened prior to the Irish potato famine of 1854 and the Bengal rice famine in 1942. Therefore

the initiation of exploitive agriculture without a proper understanding of the various consequences of every one of the changes introduced into traditional agriculture, and without first building up a proper scientific and training base to sustain it, may only lead us, in the long run, into an era of agricultural disaster rather than one of agricultural prosperity." (Swaminathan, 1968; Swaminathan, 1993).

Later, I coined the term 'ever-green revolution' to highlight the pathway of increasing production and productivity in a manner that the short and long term goals of food production are not mutually antagonistic (Swaminathan, 1996).

Edward O. Wilson in his recent book, 'The Future of Life' (2002), has referred to my concept of ever-green revolution in the following words:

"The problem before us is how to feed billions of new mouths over the next several decades and save the rest of life at the same time, without being trapped in a Faustian bargain that threatens freedom and security. No one knows the exact solution to this dilemma. **The benefit must come from an evergreen revolution.** The aim of this new thrust is to lift food production well above the level obtained by the green revolution of the 1960s, using technology and regulatory policy more advanced and even safer than those now in existence."

How do we achieve this evergreen revolution? I would like to indicate some of the essential but integrated steps for achieving the goal of achieving a balance between human numbers and human capacity to produce food of adequate quantity, quality and variety.

**Fatigue of the Green Revolution:** The growing damage to the ecological foundations essential for sustainable food security, such as land, water, biodiversity, forests and the atmosphere is leading to a stagnation in yield in green-revolution areas. Compounding such problems is the threat of climate change leading to potential adverse changes in temperature, precipitation, sea level and ultra-violet B radiation.

An analysis of food insecurity indicators in rural India carried out by MSSRF with support from the World Food Programme (WFP), indicates that the Punjab-Haryana region, which today serves as India's food basket, may become very food insecure in another 20 years. The indicators used in measuring sustainability of food security are: land degradation and salinisation, extent of forest cover, ground water depletion and the nature of crop rotation. In all these parameters, Punjab and Haryana occupy a low position. The rice-wheat rotation has led to the displacement of grain and fodder legumes capable of enriching soil fertility. What is now happening is best described as a trend towards land and water mining and not sustainable farming.

Forewarned is forearmed. What can we do to launch global agriculture on the pathway of an ever green revolution, where advances in crop and farm animal productivity are not accompanied by either ecological or social harm?

### Converting know-how into do-how

The following suggestions are aimed at converting the vast know-how now available into field level do-how.

#### 1. Integrated attention to the Components of Food Security

**Food Security** has three major dimensions:

**Availability of food** – a function of production

**Access to food** – a function of purchasing power/access to sustainable livelihoods

**Absorption of food in the body** – determined by access to safe drinking water and non-food factors like environmental hygiene, primary health care and primary education.

The capacity to support even the existing human and animal populations has been exceeded in many parts of the developing world. Hence, the future of food security depends upon population stabilisation, the conservation and care of arable land, through attention to soil health and replenishment of fertility, and the conservation and careful management of all water sources, so that more crop can be produced per every drop of water.

#### 2. Ownership and Sustainable Use

Much of the degraded and desertified land belongs either to resource poor families, or constitutes over used and

over-grazed common property. Ownership pattern of land and water determines the feasibility of introducing integrated and sustainable land and water management systems. Even where land is individually owned, locally acceptable systems of social management may have to be introduced through legislation, education and social mobilisation. Women's access to land is also important. Water, particularly ground water, should be a **social resource and not private property**. **Creating an economic stake in conservation is vital for ensuring the sustainable use of natural resources.**

### 3. Environmental Refugees

Degradation and diversion of arable land and the depletion and pollution of water resources result in the loss of rural livelihoods. This triggers the unplanned migration of the rural poor to towns and cities, resulting in the proliferation of urban slums. The rise in the numbers of such environmental refugees threatens peace and security. Norman Myers has chronicled the seriousness of the situation. Hence, there should be a monitoring mechanism for avoiding the loss of rural livelihoods. Development programmes should strengthen the linkages between ecological and livelihood security.

### 4. Grain Mountains and Hungry Millions: the growing paradox

There are now unique opportunities for launching a **Food for Sustainable Development Initiative**, in the form of a 'grain for green' movement. Such a programme could accord priority to the

- restoration of hydrological and biodiversity "hot spots", particularly in mountain ecosystems.
- coastal agro-aqua farms (planting of salicornia, mangroves, casuarina, palms etc. along with coastal agriculture and aquaculture).
- water harvesting, watershed development, wasteland reclamation, and anti-desertification measures.
- recycling of solid and liquid wastes and composting
- agro-forestry and other sustainable land use systems in the fields of resource poor farmers

A **Global Food for Sustainable Development and Hunger Elimination Initiative** could be launched by the **International Alliance against Hunger proposed by FAO**. About 25 million tonnes of grains would provide nearly 100 million person years of work designed to eliminate poverty-induced endemic hunger and at the same time restore and enhance environmental capital stocks.

The Food for Sustainable Development Initiative could be managed at the local level by Community Food Banks (CFB) operated by Womens' self-help groups. Such CFB's can be designed in a manner that they can address concurrently issues relating to chronic, hidden and transient hunger. The merit of CFB's will be low transaction cost and transparency. They can also help to widen the food security basket, thereby saving what could become 'lost crops'. Wherever animal husbandry including poultry farming, is important to provide additional income and nutrition to families living in poverty, CFBs can also operate Feed and Fodder Banks.

Conferring the right to food and thereby an opportunity for a productive and healthy life on those who go to bed undernourished now, is the fundamental duty of the State as well as of the well to do sections of the population. Thanks to both the spread of democratic systems of governance at the grassroot level and technological advances, we now have a unique opportunity to foster a Community Centred and Controlled Nutrition Security System. Such decentralised community management will help to improve delivery of entitlements, reduce transaction and transport costs, eliminate corruption and cater to the twin needs of introducing a life-cycle approach to nutrition security, and meeting the challenge of seasonal fluctuations in nutritional status. If such CFBs are operated by women, this will help to bridge the gender divide in the area of nutrition.

### 5. Adopting a whole life cycle approach to nutrition security

#### a. Pregnant Mothers

Overcoming maternal and foetal under- and mal-nutrition is an urgent task, since nearly 30% of the children born in countries in South Asia are characterised by low birth weight (LBW), with the consequent risk of impaired brain development. LBW is a proxy indicator of the low status of women in the society, particularly of their health and nutrition status during their entire life cycle.

b. Nursing Mothers

Appropriate schemes will be necessary to provide support to enable mothers to breast feed their babies for at least six months, as recommended by WHO. Policies at work places, including the provision of appropriate support services should be conducive to achieving this goal.

c. Infants (0-2 years)

Special efforts will have to be made to reach this age group through their mothers, since they are the most unreached at present. Eighty percent of brain development is completed before the age of two. The first four months in a child's life is particularly critical, since the child is totally dependant on its mother for food and survival.

d. Preschool Children (2-6 years)

A well-designed integrated child development service will help to cater to the nutritional and health care needs of this age group.

e. Youth (6 to 20 years)

A nutrition based Noon Meal programme in all schools (public and private and rural and urban) will help to improve the nutritional status of this group. However, a significant percentage of children belonging to this age group are not able to go to school due to economic reasons. Such school 'push-outs' or child labourers need special attention.

f. Adults (20 to 60 years)

The Nutrition Safety Net to cater to this category should consist of both an Entitlements programme like Food Stamps and Public Distribution System (PDS), as well as a Food for Sustainable Development programme (also called 'Food for Work' programme). The Food for Sustainable Development programme can accord priority to the use of food grains as wages for the purpose of establishing water harvesting structures (Water Banks) and for the rehabilitation of degraded lands and ecosystems. In designing a Nutrition compact for this age group, persons working in the organised and unorganised sectors will have to be dealt with separately. Also, the intervention programmes will have to be different for men and women taking into account the multiple burden on a woman's daily life.

g. Old and infirm persons

This group will have to be provided with appropriate nutritional support, as part of the ethical obligations of society towards the handicapped.

The above whole-life cycle approach to Nutrition Security will help to ensure that the nutritional needs of everyone in the community and of every stage in an individual's life, are satisfied. Such an integrated approach is being adopted under the 'Malnutrition-free Tamil Nadu' programme, as shown in the following Table:

Pregnant Mothers Nursing Mothers	Special Support to prevent the incidence of low birth weight children. Appropriate support for 6 months
Infants (0 to 2 years)	Programme designed to reach the infant through the mother
Child (2 to 6 years)	Integrated Child Development Service
School Children (6 to 18 years)	Nutritious Noon Meal in Schools
Adults (18 to 60 years)	Food for Sustainable Development
Old and infirm persons (over 60 years)	Special Programmes

*Over 7 million tonnes of food grains (wheat and rice) have been allotted for the above programmes during 2001 and 2002 in India.*

6. Developing and spreading a Holistic Action Plan to achieve sustainable nutrition security at the level of each individual

The major components of such an integrated action plan are the following:



- *Identification*: Request the local families themselves to identify those who are nutritionally insecure. Trained Community Volunteers of the kind mobilised in Thailand will be useful for this purpose. Invariably, the ultra-poor who do not have any productive asset fall under this category.
- *Education and Information Empowerment*: Empower those who are not aware of their entitlements about the nutritional safety nets available to them and also undertake nutrition education. An entitlements database can be developed for each area and household entitlement cards can be issued, indicating how to access nutritional, health care and educational programmes. The educational programmes should also lay stress on culinary habits in relation to the conservation of essential nutrients in cooked food.
- *Overcome protein-calorie under nutrition*: The various steps indicated under the whole life cycle approach will have to be adopted. The problems of child labour and of persons working in the unorganised sector will need specific attention.
- *Eliminate hidden hunger caused by the deficiency of micronutrients in the diet*: Introduce an integrated approach including the consumption of vegetables and fruits, millets, grain legumes and leafy vegetables and the provision of fortified foods like iron and iodine fortified salt and oral dose of Vitamin A. The basic approach should be a food based one, with emphasis on home and community nutrition gardens, wherever this is socially and economically feasible.
- *Drinking water, Hygiene and Primary Health Care*: Attend to the provision of safe drinking water and to the improvement of environmental hygiene. Also, improve the primary health care and primary education systems. Non-food factors like health care and education are equally important for nutrition security.
- *Sustainable Livelihoods*: Improve economic access to food through market-linked micro-enterprises supported by micro-credit. Also, create an economic stake in the conservation of natural and common property resources. Ensure that agreements under the World Trade Organisation (WTO) provide a level playing field for products coming from decentralised small scale production (production by masses or farmers' farming) as compared to those emerging from mass production or factory farming often supported by massive inputs of subsidy, capital and technology. Promote job-led economic growth and not jobless growth.
- *Pay special attention to pregnant and nursing mothers and pre-school children*: Measure progress through monitoring MMR, IMR, incidence of LBW children and male-female sex ratio. Iron-folate supplements during prenatal care should be accompanied by steps to overcome protein-energy deprivation. A carefully designed maternity and child care code will help to bring down speedily MMR, IMR, LBW and stunting. Sex ratio is a good index of the mind-set of a society in relation to the girl child.

#### 7. International Alliance against hunger: Establishing 100,000 Community Food Banks by 2005 (60th anniversary of FAO)

Community Food Banks (CFB) can be started at the village level, with initial food supplies coming as a grant from Governments and donor agencies like the World Food Programme. Later, such CFBs can be sustained through local purchases and from continued Government and international support for Food for Sustainable Development and Food for Nutrition programmes. The CFB can be the entry point to not only bridging the nutritional divide, but also for fostering social and gender equity, ecology and employment. They can also be equipped to cater to emergencies like cyclones, floods, drought and earthquakes.

The CFBs can be organised with the following four major streams of responsibilities:

- *Entitlements*: The benefits of all government and bilateral and multilateral projects intended for overcoming under- and mal-nutrition can be delivered in a coordinated and interactive manner (as for example those intended for overcoming the deficiencies of macro- and micro-nutrients.)
- *Ecology*: Food for Sustainable Development with particular reference to the establishment of Water Banks, land care, control of desertification and promotion of afforestation. Thus, grains can be used to strengthen local level water security.
- *Ethics*: This group of activities will relate to nutritional support to old and infirm persons, pregnant and nursing mothers and infants and pre-school children.

- *Emergencies:* This activity will relate to the immediate relief operations following major natural catastrophes like drought, floods, cyclone and earthquake, as well as to meet the challenge of seasonal slides in livelihood opportunities due to natural causes as well as human conflicts and mini-wars.

Each of the above four streams of activities can be managed by 4 separate self-help groups of local women and men. This will help to generate a self-help revolution in combating hunger. The overall guidance and oversight may be provided by a multistakeholder Community Food Bank Council. A CFB for 1000 persons may need annually about 250 tonnes of food grains. The International Alliance against Hunger can sponsor immediately 100,000 Community Food Banks in the hunger, biodiversity and hydrologic 'hot spots' of the world. The food grains needed for this purpose could be mobilised through the World Food Programme.

8. Institutional Structures for extending the extrapolation domain of successful experiences and efforts

Without appropriate institutional structures, isolated success stories will remain just talking points. Based on local cultural traditions and socio-economic conditions, institutional structures should be fostered which can take new technologies to the unreached and which can give the power of scale to small producers at the production, post-harvest and marketing phases of farming. The following are some of the structures which have given promising results in India. They are based on a 'win-win' situation for all, as otherwise the efforts will not be sustained over time.

S.No.	Sector	Institutional Mechanism
1.	Dairy	Co-operatives
2.	Poultry	Egg and Broiler Coordination Councils
3.	Integrated on-farm and off-farm employment	Biovillages
4.	Power of scale to small producers	Small Farmers' Agri-business Consortium
5.	Technological upgrading of production and post-harvest sectors	Agri-Clinics Agri-business Centres
6.	Group action for micro-enterprises supported by micro-credit	Self-help Groups
7.	Timely and affordable credit	Kisan (Farmer) Credit Cards, Integrated Informal and Formal banking system
8.	Ensuring minimum support price	Food Corporation of India and State Corporations; Buy-back arrangements with the private sector

Without socially compatible and socially owned institutional structures, the extrapolation domain of successful experiences and development efforts will remain limited. Community involvement will ensure low transaction costs and a high percentage of success and help to convert *unique* examples into more *universal* ones.

9. National Alliance against hunger

FAO has proposed an international alliance against hunger. To make such an alliance effective, every country should form a *National Alliance against hunger*, with the alliance partners reaching the remotest village and hamlet based on Mahatma Gandhi's principle: "To the hungry, God is bread; this God should be present in every house and hut of the country." The strategy of a hunger-free nation could consist of the following three inter-related groups of activities:

- Ensuring a whole life cycle approach to nutrition security at the level of each individual by providing the needed horizontal linkages among ongoing vertically structured programmes (often operated by different national, bilateral and UN agencies).
- Organisation of a National Board for the Management of Change in the Farm Sector with multi stakeholder participation (government, NGOs, Academia, Womens' and Consumer groups, business and industry, media representatives and bilateral and UN partners). Such a Board can help to foster consensus on issues relating to:

Technology (with particular reference to biotechnology and GM foods)

Ecology (desertification, water, biodiversity and climate)

Trade (World Trade Agreement in Agriculture including sanitary and phytosanitary measures and food safety standards)

- Promoting the establishment of Community Food Banks at the local level, to serve as the focal point for accordng concurrent attention to ending poverty induced **endemic hunger**, micro-nutrient deficiency induced **hidden hunger** and **transient hunger** caused by human conflicts and natural calamities.

The National Alliance against Hunger can provide policy oversight and undertake resource mobilisation (financial, technical and managerial) for achieving the goal of 'food for all'. While the above approach would help to alleviate hunger today, we can avoid hunger tomorrow only by sustaining advances in agricultural production through an ever-green revolution approach using environment-friendly eco-technologies. There is no time to relax on the agricultural production front.

## Conclusions

To sum up, agriculture in most developing countries is not just a food producing enterprise, but is the backbone of sustainable ecological and livelihood security systems. In addition, it is the foundation for national sovereignty. Agricultural progress represents the best safety net against hunger and deprivation because of the greatest good it confers on the largest number of people. Therefore national and international public policies should recognise that food is a powerful tool for socially meaningful development. At the national level, prime farm land **should be conserved** in the same manner as National Parks and Protected Areas. **Agri-reserves** are as important for safeguarding food security as **Biosphere Reserves** are for conserving biodiversity. Unfortunately, the importance of conserving prime farmland for food production is yet to receive the attention it needs and deserves. All good farmland should be declared as **Agri-reserves** and regulations put in place that will make it difficult to convert prime farm land for non-farm uses, without convincing reasons. Agri-reserves and biosphere-reserves can become mutually supportive – agri-reserves being the guardians of food security and biosphere reserves of ecological security. Both food and ecological security are essential for the survival of life on earth and hence the need for land and water for either of them should not be treated in an antagonistic manner.

Community Food Banks can help to make food a powerful instrument of compassion and love, leading to the spread of a caring and sharing culture. The spread of the CFB movement **in the hunger hot spots** of the world will be the speediest and low cost method of achieving the goal of food for all and for ever. The uncommon opportunity provided by a food grain surplus world, should not be missed.

The World Summit for Sustainable Development scheduled to be held at Johannesburg in August-September this year provides a unique opportunity for strengthening existing partnerships and promoting new ones. It is in the long term enlightened self-interest of the rich that they should match the words they will speak and the sentiments they will express at Johannesburg with action as expressed by a firm commitment of financial and technical resources for fostering sustainable human security of which sustainable food security is the foundation.

I would like to end with a poem by W H Auden, in the hope that we will see during this decade the emergence of a global corps of hunger-fighters, in whose dictionary the word 'impossible' does not occur with reference to ensuring that every child, woman and man has an opportunity for a healthy and productive life.

*"Hunger allows no choice  
To the citizen or the police.  
We must love one another or die . . .  
Defenceless under the night  
Our world in stupor lies;  
Yet, dotted everywhere,  
Ironic points of light  
Flash out wherever the Just  
Exchange their messages;  
May I, composed like them  
Of Eros and of dust,  
Beleaguered by the same  
Negation and despair,  
Show an affirming flame"*