

EXECUTIVE SUMMARY

Introduction

The Nutrition Foundation of India, New Delhi, with the support of the Government of India and the cooperation of the United States Department of Agriculture (USDA), organized a three-day meeting on Food and Nutrition Security in South Asia.

The participants from the seven South Asian countries discussed the ongoing programmes and initiatives aimed at improving nutrition security and nutritional status of the population, the progress achieved, problems faced and overcome, and proposed policies and strategies for improving food and nutrition security in their respective countries. They had wide ranging discussions on lessons learnt from experiences of different countries which could be of use in accelerating progress towards Food and Nutrition Security in the South Asian region.

In the First session, the presentations centred around the experiences of the countries in working towards food and nutrition security by giving appropriate nutrition orientation to food production policies. The Second and Third sessions were devoted to discussion of policies, strategies and ongoing programmes for accelerating poverty-reduction and improving access to food. Participants shared their experiences in improving targeting and coverage under these programmes, and enhancing the impact of these programmes on the prevalence of undernutrition. In the Fourth session, the health consequences of under/over nutrition and country programmes for combating these problems were discussed. In the Final session the rapporteurs presented summary of the presentations, discussions and the recommendations in each of the sessions. These were discussed and final recommendations were unanimously adopted. Summary of Inaugural address and presentations discussions and recommendations of the four sessions are given in the Executive Summary.

Inaugural address by Dr C Rangarajan

Food security in India has essentially meant food grain security for meeting the requirements of energy and protein. For nutrition security, food production should ensure availability of diverse foods, which can enhance the nutritional content, including micronutrients. Nutrition security is thus a broader term. It includes within it food grain security but goes beyond it.

Undernourishment has a deleterious effect on the life of people. Malnourished children grow up to become adults unable to operate at full potential. Development economists and policy makers need to take into account the effects of nutritional and health care deprivation on human productivity. The links between nutritional status and the work capacity have not so far been adequately incorporated in growth models. Poor nutrition and under nourishment result in low productivity leading to low wages which, in turn, results in poor dietary intake. Thus a vicious cycle is set in motion. One writer has described this as the 'poverty trap'.

Ensuring nutrition security requires attention to programmes aimed at:

- enhancing food grain production with a nutritional orientation;
- improving the food distribution system so that the poor have access to food grain at affordable costs;
- augmenting the purchasing power of the poor through special schemes in times of stress and vulnerability; and
- focusing on direct nutrition intervention programmes to address the needs of vulnerable groups.

Countries of South Asia have a common heritage. They were all under colonial rule till the middle of the last century. Newly independent, they face similar problems. Ensuring food and nutrition security is one such problem. All the countries in this region have

addressed this problem in similar ways. We need to know which programmes have been successful and which have not. This meeting will enable you to make an assessment.

All programmes aimed at ensuring food and nutrition security involves heavy expenditure by Governments. The conventional budget exercises focus on allocation of resources to different heads without assessing how these expenditures get translated into outputs and outcomes. Outputs are the direct result of government expenditure and outcomes are the final results. For example, in the context of education, opening a new school or appointing a new teacher is an output and raising literacy ratio is the outcome.

The emphasis must, therefore, be on output and outcome rather than allocation. Public expenditures must be guided by the criteria of economy, efficiency and effectiveness. These are particularly important in the case of programmes aimed at improving the nutritional status of the population, since the expenditures are large and goals are specific.

Session 1: Nutrition orientation to food production

The UN Millenium Declaration of 2000 and its Millenium Development Goals (MDG) have recognised nutrition and health as corner stones of development. This has resulted in commitments from several international agencies including the World Bank and from the governments of individual countries, to invest in nutrition. Emphasis has been on a food-based approach to combat malnutrition, and also on environmental safety and sustainability, and food safety. Nutrition is increasingly being viewed as a human right.

In all the countries of South Asia, agriculture remains the major sector providing employment and livelihood. Most of the countries are self sufficient in food production. There are, however, substantial differences between countries in terms of dependence on agriculture for livelihood ranging from 89 percent in Bangladesh and 70 percent in India to 35 percent in Sri Lanka and 42 percent in Pakistan.

With growing emphasis on a paradigm shift from mere freedom from hunger to nutrition security, and the increasing realization that crop diversification is critical not only for meeting the nutritional needs of the population but also for sustainability of soil health and productivity, all countries of the region are embarking on efforts to provide nutrition orientation to food production policies.

In view of the importance of the topic, both the sessions on the first day were allocated for presentations and discussions on this theme, and there were ten speakers.

The speakers were of the view that a three-A strategy of **Awareness, Access** and **Affordability** has to be adopted. Awareness regarding the need for a nutrition orientation to agricultural diversification and best farming practices has to be first generated among the providers - agriculture and health professionals, administrators, politicians, teachers, NGOs etc., so that right policies and programmes can be developed and transferred to the community. There has to be a two way dialogue. Attempts have to be made to learn from the community, from the farmers who have generations of experience, before injecting new ideas and technologies.

While covering aspects of nutrition orientation to food production as envisaged for the session, the speakers also touched upon various other aspects of nutrition orientation to food security in the larger sense.

Some of the areas covered were:

- enhanced production of a variety of foods to ensure a balanced diet, in a cost-effective, environment friendly manner;
- access to knowledge (awareness) regarding foods and nutrition as well as sustainable farming practices;
- availability of water, reliable planting material, fertilizers (organic and chemical), pesticides etc;
- credit facility;
- access to fertile land (land reforms);
- market linkages;

- prevention of wastage through post harvest technologies and value addition;
- food safety.

Country presentations

Sri Lanka

Dr Sarath Weerasena reported that in Sri Lanka, the domestic food production is inadequate to satisfactorily meet the demands of the growing population as well as the requirements of the animal feed industry. The country has achieved some degree of success in respect of the staple crop, rice. Most other field crops containing plant protein are in short supply due to the vagaries of the weather and limitations of the production environment. Inconsistent state policies, too, have exacerbated the situation to a great degree. For achieving food and nutrition security Sri Lanka has to follow a three-pronged strategy of:

- maintaining a high degree of self-sufficiency in rice;
- encouraging crop diversification for enhancing the productivity of other food crops such as vegetables and fruits;
- increasing the availability of and access to nutritive foods.

Bangladesh

Dr Mirza Altaf Hossain pointed out that the crop agriculture sector in Bangladesh contributes about 32 percent to the country's GDP, while the livestock and fishery sectors contribute 2.90 percent and 4.91 percent, respectively. The Bangladesh National Agriculture Policy was developed with the overall objectives of making the nation self-sufficient in food through increasing the production of all crops including cereals, and ensuring a dependable food and nutrition security for all. The speaker discussed issues relating to land use, crop production, agricultural credit, seed development, fertilizers, irrigation, pest management, agricultural mechanization, agricultural research, agricultural education, training and extension activities and agricultural marketing. He said that in order to achieve food and nutrition security:

- the country has to address the needs of the poor (50 percent) and the extremely poor (30 percent) whose diets are inadequate;
- Poverty Reduction Strategy Paper (PRSP) needs to be implemented properly to achieve Millennium Development Goals;
- development policies need to be assessed on a regular basis, for further action.

Bhutan

Dr Chime P Wangdi emphasized the great multitude of agro-ecological zones and very varied land-use patterns in Bhutan. The agricultural economy – which sustains about 79 percent of the population – remains relatively undeveloped, with little market orientation or use of modern production inputs. However, there are very few signs of abject poverty or deprivation among the population. Food insecurity in Bhutan results from low land holdings, low productivity, localized disasters such as hailstorms, pest and disease epidemics, damage by wild animals and flash floods due to incessant rains. The diets of those in the lower income groups tend to be less diversified and of a lower overall quality than those of higher income groups. Several strategies such as home gardening, small livestock, backyard farming, land pooling, and land swapping have been supported at the community and household levels in order to increase income and promote dietary diversification. Similarly, larger-scale programmes such as the school agriculture programme and the urban agriculture programme have been employed. Efforts have been targeted towards achieving the goals of food security, enhancement of rural income, generation of employment opportunities, and conservation and management of natural resources by the “triple gem” approach of improving production, access and marketing.

Pakistan

Dr Hashmi reported that the production of wheat and other major crops in Pakistan had increased to a reasonable extent during the last fifty years, whereas pulse production has dropped; among fruits, mango production has increased while

citrus has declined. The livestock population and its products have gradually increased, and poultry has emerged as a good substitute for beef and mutton. Poultry, meat and egg production has also increased. The major nutritional deficiencies affecting the various communities in Pakistan are iron deficiency anemia, iodine deficiency, vitamin A deficiency and sub-clinical zinc deficiency. The speaker suggested that:

- a nutrition oriented National Strategy and Plan of Action needs to be devised on the basis of the priorities set by the World Declaration on Nutrition and Plan of Action (1992);
- the poverty alleviation programme already in operation in Pakistan needs to be revitalized with funding as well as with a workable strategy ensuring an even distribution of its dividends among the poor;
- plans should be developed and incentives should be given to farmers to improve the acreage under production of leguminous crops; the consumption of legumes should be encouraged in order to mitigate protein deficiency; similarly, livestock production should be encouraged;
- fortification and supplementation programs (vit. A, iron, zinc and iodine) need to be accorded priority;
- education programmes for women should be started for imparting information on nutritional requirements and the locally available sources of such nutrients, in order to improve the use of balanced diets by families.

Dr Faqir Anjum pointed out that in Pakistan, agriculture is the single largest sector of the economy, contributing 23.3 percent of GDP and employing 42.1 percent of the total employed labour force. Agricultural production is dominated by livestock and crop production, which accounts for 49 percent and 47 percent of agricultural GDP, respectively. To meet food deficit, particularly in the case of edible oils, the country continuously depends on imports. Food safety is a matter of concern in Pakistan.

During the past few years the increasing

menace of food adulteration has seriously affected public health. Unauthorized and indiscriminate use of toxic chemicals, antibiotics and non-food-grade ingredients for producing commercial foods is a serious threat to health.

India

Dr V Prakash spoke of the fact that food technology helps nutrition security directly as well as indirectly, by reducing wastage and generating employment. It can contribute to food and nutrition security at different stages in the life cycle from paediatrics to geriatrics. Preserving micronutrients during processing is a challenge, and hence micronutrients are often added to processed foods. Iodised salt has made a tremendous impact on reducing the incidence of goitre. Iron and iodine double fortified salt has been developed in India, and is being tested. Iron-fortified wheat flour is commercially available. In Pakistan, the feasibility of fortifying 'chakki atta' with iron is currently being tested. The marketing of processed food is a big challenge for cottage, small and medium – scale industries because of competition from large and multinational industries. Ensuring safety with regard to biological and chemical contaminants while preserving the nutrient value is a big challenge. For the former, the HACCP approach needs to be used. There is scope for augmenting nutrition security not only through technically advanced methods such as bio-fortification, but also through community level efforts such as homestead food production.

International agencies

ICRISAT

Dr Cynthia Bantilan mentioned that despite the considerable progress made in crop production in recent decades, many developing countries still fall short of the goal of providing adequate food and nutrition for marginalized sections of society. While some countries in South Asia achieved food self-sufficiency through the Green Revolution, ensuring equitable access to food still eludes them. Her presentation analyzed the prevailing food production and availability scenario in South Asia, the nutrition reorientation in international agricultural

research, and policies to enable access to and affordability of food by the poor and vulnerable. ICRISAT's initiatives in nutrition enhancement through bio-fortification of coarse cereals and legumes were highlighted. This includes zinc and iron in sorghum and millets, vitamin A in groundnuts, and elimination of aflatoxin contamination. Achieving food and nutrition security requires innovative nutrition reorientation in agricultural research, access by farmers to coordinated advice on nutrition and production related issues, and complementing the research and development strategies with national and sectoral policies and programmes to improve household food security and promote sustainable livelihoods.

FAO

Dr B K Nandi stressed the fact that food insecurity and malnutrition result in serious public health problems and loss of human potential in developing countries. The major problems faced by the poor include low productivity, food insecurity and malnutrition. Adopting a nutrition orientation to food production offers greater possibilities for long-term sustainability of food resources in communities. He stressed the importance of:

- crop diversification in addition to horticulture, small livestock and fisheries production;
- ensuring that the national food policy works towards achieving balanced production and availability of a range of diverse foods;
- augmentation of production of pulses, vegetables and fruits;
- widening the reliance on a variety of foods and promoting dietary diversification;
- expanding and strengthening agro-based activities at household and community levels (nutritious food preparations, processing, preservation and storage of foods);
- strengthening implementation of nutrition education through Food Based Dietary Guidelines (FBDGs), School Nutrition Programmes and Information Technology at household & community levels;

- addressing intra familial food distribution issues, and strengthening nutrition education strategies in national and community level programmes;
- putting in place early warning systems – Food Insecurity and Vulnerability Information Mapping Systems (FIVIMS);
- promoting urban agriculture activities, and ensuring food availability within urban households, slum communities and urban labour sectors.

Helen Keller Institute

In his presentation, Dr Talukder mentioned that since the early 1990s Helen Keller Institute (HKI) is implementing a home gardening project covering 900,000 households in Bangladesh, Nepal, Cambodia and Philippines. Despite some scepticism about this approach and its economic viability, both the process and the outcome evaluations show a positive impact on production and consumption of vegetables, fruits and animal foods, nutritional status (especially vitamin A), health, the social status of women, household incomes, and the economy as a whole. Sustainability of the programme will depend on the local conditions, and the community's willingness to participate and contribute. In Bangladesh where there is a strong presence of NGOs and credit facility through thrift groups and Grameen banks there is greater willingness from the community to contribute towards the programme. On the other hand, in Nepal, initially the community demanded all inputs free, but later showed better cooperation.

Asian Vegetable Research and Development Centre

Dr Mubarak Ali was of the view that increased pulse production can solve the dual problem of malnutrition and environmental degradation. Feeding experiments conducted by the World Vegetable Centre (WVC) in India during late 1990s, showed that increased intake of pulses in the diet reduced the incidence of anaemia and improved the school performance of children. These important observations need to be reconfirmed. Technological breakthroughs are urgently needed in order to develop high-

yielding, input-responsive, short-duration, and pest-resistant varieties that can be grown in irrigated as well as in dry land areas.

Such varieties will encourage farmers to grow pulses even in irrigated areas instead of confining them to marginal, rain-fed areas. Mixed cropping with pulses has a favourable impact on the accompanying crop through improving the soil fertility. WVC in collaboration with other institutions has released 66 improved lines of Mung bean in 22 countries including Pakistan, Thailand, China, and Myanmar. According to Dr. Mubarak Ali, the decline in the intake of pulses is more due to disproportionate price rise than to availability per se. Since pulses are rich in fibre, their putative favourable impact on controlling degenerative diseases such as diabetes needs to be studied.

Review of major themes

Food grains

The Green Revolution has contributed significantly to keeping the wolf of starvation from the door of the countries of South Asia. Today most countries of this region are self sufficient with regard to the staple fine cereals such as rice and/or wheat. The exceptions are Bangladesh and Bhutan, which are still importing these grains. However, by promoting intensive, high-input (water, energy and chemical fertilisers), monoculture farming, the Green Revolution has had an adverse impact on the environment (depletion of water, salinity, water-logging, chemical pesticide load, etc.) as well as on micronutrient security. Legumes (pulses and oil seeds), and coarse cereals (millets), have been pushed to dry rain-fed and marginal lands, with low productivity. Because of this, the production of these nutritious grains has remained stagnant or diminished and their per-capita availability and consumption have declined. The high price of pulses has reduced their affordability for the poor. In vegetarian diets pulses are the major cost-effective source of proteins. A combination of cereals and pulses provides good quality protein with the right blend of essential amino acids. Pulses and millets are also richer sources of minerals like iron, calcium and zinc and vitamins particularly B-complex

vitamins. Besides being more nutritious, legumes are more environment-friendly, since they require less water and also enrich the soils by nitrogen fixation. Unfortunately, technological breakthroughs that have helped to improve the productivity of cereals through better varieties have not permeated to legumes and millets and they remain orphan crops.

New technological initiatives

New technological initiatives such as bio-fortification through molecular breeding and genetic engineering have opened up new vistas and show great promise. Nutritional enhancement research in international agencies like ICRISAT includes: bio-fortification of coarse cereals (sorghum and millets) and legumes (pigeon pea), with zinc and iron, groundnut with beta carotene (vitamin A), and elimination of aflatoxin contamination. CIMMYT (Mexico) has developed quality protein maize through Mendelian breeding. The development of 'Golden rice' enriched with beta -carotene (Vitamin A) through genetic engineering has proved to be promising. Indian scientists have developed protein-enriched potato, high in amino acids, and rapeseed/mustard lines that are low in erucic acid and/or glycosinolates. The latter can enhance the availability of safe oil rich in Omega-3 fatty acid (linolenic acid). The development of drought-resistant, salinity-tolerant and pest-resistant varieties is also being researched. Technologies such as Integrated Pest Management (IPM), organic farming, and precision farming (including micro-irrigation) can contribute immensely to improved productivity while conserving the environment.

Vegetables and fruits

Though the production of vegetables and fruits has gone up in recent years in many South Asian countries including India, it is still not adequate to meet the requirements of the growing population and is not reflected in the diet of the poor. Dietary deficits are marked even in the case of cheap, easy-to-grow vegetables like green leafy vegetables (GLV), which are treasure troves of micronutrients. This shows that there is a need for education and awareness not only in the community but also among the planners, who should give a nutrition

orientation to the selection of varieties. India is one of the top two countries in the world in the production of fruits and vegetables, but almost 30 percent is wasted due to lack of cold chain and food processing facilities. The situation is much the same in other countries of the region. Improved productivity and reduced spoilage may improve the access to fruits and vegetables among the poor. Among the countries of the region Bangladesh has the lowest consumption of vegetables and fruits.

Livestock

In South Asian countries, farming is mostly crop-based. Livestock is part of the farm system, surviving mostly on farm waste and food grain that is unsuitable for human consumption. This system should be made more efficient. Feeding food grains to animals for the purpose of fattening them, as is being done in developed and some developing countries is not a wise strategy because of poor conversion ratios particularly for larger animals like cattle. Among the countries of South Asia, Pakistan has the highest livestock wealth. In fact, almost half of the farm GDP of 23.3 percent in Pakistan comes from livestock. In contrast, in Bangladesh, out of 39.8 percent farm GDP, livestock and fish constitute only 2.9 percent and 4.9 percent respectively. Sri Lanka meets only 15 percent of its milk requirement. The rest is imported in the form of milk powder. Its dependence on fish as a major source of protein stands threatened after the devastation caused by the tsunami.

Nutritional status

Undernutrition and micronutrient deficiencies are widespread in all the countries of South Asia. However the degree of malnutrition, including anaemia and incidence of low birth weight tends to be lower in Sri Lanka, Pakistan and even Bhutan than in India and Bangladesh. Sri Lanka is unique among the countries of South Asia in having a high Human Development Index (HDI) and this may explain the lower burden of malnutrition despite dietary deficits. Even in India, the southern state of Kerala is like Sri Lanka in having high HDI and a relatively low degree of malnutrition despite dietary deficiencies. The possibility that the relatively lower malnutrition in Pakistan being

related to higher intake of animal products needs to be considered.

Environmental degradation

Like all countries of the world, particularly the developing countries, resources like water and land are fast dwindling in the countries of South Asia too, because of the population pressure and policies that fail to pay attention to preservation of environment and biodiversity. In this regard, Bhutan has taken a lead in linking development to 'Happiness Index', which takes into consideration preservation of biodiversity.

Government policies, and threat of globalisation/ privatization

Fluctuating government policies tend to confuse the farmers. Dr. Weerasena from Sri Lanka mentioned a case in point – the production of potatoes. Also he pointed out, privatisation of seed production resulted in short supply of some seeds which have relatively low economic value. Private producers prefer to produce seeds which have better economic value, and hence the government has stepped in to produce other seeds which have nutritional importance but perhaps not enough economic importance. Because of the high farm subsidy given to American and European farmers, and better productivity in those countries, many of their farm products are cheaper in international markets despite the high labour costs in those countries. While this may benefit the consumers, it threatens the livelihood of local farmers. Some participants felt that instead of reverting to protectionist regimes, technological solutions to improve productivity have to be found.

Recommendations

For nutrition orientation to food production, the most important factors are awareness among the stakeholders and availability of informed human resource i.e. scientific, technical and administrative. Knowledge among agriculture scientists, planners, policy makers, and extension workers including NGOs, about the nutritional needs of the population, components of a balanced diet, macro and micronutrient composition of different foods, (particularly the

ones locally available), will help to plan the agriculture policy, and give nutritional orientation to agriculture production. As it is agriculture is primarily seen as an economic activity, (which indeed it is), without giving adequate thought to household food and nutrition security. Agricultural practices, which are resource efficient and environmentally benign, also need to be developed and promoted. Right type of awareness will generate demand for access to right type of foods at affordable price. Short and long term strategies are needed to achieve these objectives.

The recommendations for 'Nutrition orientation to food production' have been grouped under awareness, and access, including economic access. Further grouping into short and medium to long term interventions has been attempted but that is mostly tentative and will depend upon each country's needs and preferences. Prioritisation between the recommendations has not been attempted since all the recommendations are important. The suggestions made are based on the presentations and the discussions that followed.

Awareness generation and human resource development

Short term interventions include:

- interaction between different stakeholders through seminars, workshops, meetings;
- strengthening of the nutrition component of agriculture/horticulture/animal husbandry college education;
- orientation of nutritionists to agriculture/horticulture etc;
- innovative use of media in different languages to educate the public at large on the benefits of demanding diverse foods for balanced diets, as well as safe farming practices.

Medium/ long term interventions suggested were to:

- create nutrition cell in agriculture ministry/ departments at the level of the central as well as state governments. These cells would monitor not only the nutrition scenario

in different parts of the country and provide guidance, but also provide early warning about faltering in production leading to food gaps. The Nutrition Monitoring Bureau in India attempts to do the former to some extent;

- establish interactive farmer's schools, to advise farmers on new farming technologies including soil and water management and also learn and document the conventional farming practices, some of which are time tested and may still be relevant. Transfer of technology from 'lab to land' is very essential;
- 'agri-clinics' to advise and help the farmers with soil testing, sourcing planting material etc. This can provide employment to agriculture graduates;
- establish Agriculture Polytechnics and Training Institutes (ATI) to create grass root human resource from local youth.

Improve access to nutrient-dense foods at affordable price

Increased production of diverse types of foods, in a cost effective, environmentally friendly manner, coupled with appropriate post-harvest technologies, to reduce wastage, and effective distribution mechanisms will enhance access to food and improve food and nutrition security at household level. Technology driven, high-cost production is often resource- intensive and high cost. If it leads to glut in the market, with prices crashing, the farmers would not recover the cost of production, even if it helps the consumers. Thus while promoting new and high-end technologies, the cost of production should be factored in.

Short term interventions suggested were:

- diversify from wheat-rice cycle to legumes, millets, horticulture, and animal husbandry since the production of these foods is lagging behind requirement;
- identify and promote cultivation and consumption of micronutrient-dense local foods (vegetables, fruits, minor millets and legumes). This will also help to preserve the rich biodiversity of South Asia and

- reduce dependence on narrow spectrum of evolved varieties;
 - establish village level seed, grain and fodder, banks;
 - diversify production of vegetables in such a way that variety is ensured and seasonal glut minimised;
 - encourage homestead horticulture, (particularly production of green leafy vegetables, and yellow orange fruits rich in β -carotene besides other nutrients), and milk, eggs, fish etc.;
 - ensure supply of good quality planting material at affordable price, and ensure loan facility;
 - in irrigated areas, introduce micro irrigation-drip, sprinkler. In water scarce areas methods like pitcher irrigation, mulching, bunding etc can be used to conserve water;
 - reduce expenditure on fertilisers and pesticides by introducing organic fertilisers (vermi compost etc) organic pesticides, and integrated pest management. This will also help the environment;
 - promote simple home-level post-harvest technologies like zero energy cooling chambers, solar driers, mini mills etc. to prepare primary, value added products.
- in good land rather than confining legumes to dry lands. This will help to increase the production of legumes and bridge the gap between nutrition requirement and availability;
- careful planning for public private partnerships, which can benefit industry and farmer without adverse impact on environment due to intensive monoculture;
 - develop cold chain and food processing industry. To promote food processing, specific varieties of vegetables and fruits are needed. Excessive production of varieties not suitable for food processing can add to post harvest wastage;
 - countries of the region should develop consistent and wise policies to overcome the adverse impact of privatisation and globalisation;
 - need for early warning systems and disaster management plans to minimise the adverse impact of natural disasters like floods, earthquakes and tsunami has become poignant after the recent tsunami disaster.

Needless to say that the bottom line is **Good governance**, without which recommendations will remain as paper documents.

Session 2: Combating poverty

Medium and long term interventions recommended include:

- watershed development to conserve rain water;
 - land reform to ensure land for the tiller;
 - strengthen the analytical facilities in different institutions to facilitate decentralised analysis of local foods for macro and micronutrients;
 - intensify research to develop high yielding, nutrient dense, pest resistant varieties through molecular breeding and genetic engineering;
 - promote research to blend organic methods of farming with chemical methods;
 - develop and introduce inputs-responsive (water, fertilisers) legumes, and grow them
- Eradication of poverty is now one of the prime goals of the human race. Provision of a decent standard of living and creation of an environment that gives people an opportunity to develop their human faculties has become a prominent global agenda. The contract of the world community to eradicate poverty is manifested in the Millennium Development Goals (MDGs), which binds comity of nations to achieve quantitative targets by 2015 with regard to different dimensions of human poverty. These relate to reduction in the incidence of poverty and hunger, universal primary education, reduction in child and maternal mortality, empowerment of women, environmental sustainability and partnership of the rich and poor countries for development. Poverty eradication has been one the guiding principles of the planning process in South Asian countries. The performance of the South Asian

region in the eradication of poverty is crucial for achieving the MDGs. The region, which accounts for roughly 25 per cent of the world's population, is home to over 35 per cent of the world's poor. The indicators of social well being in this region prove that it is one of the poorest in the world (Table 1).

The nutritional indicators for the region also correlate to extreme poverty. Large proportions of the population are undernourished. Nutritional deficiency has long-term implications for the well being of the population. Poverty has direct links with nutritional intake within households. However, the relationship is not linear; a reduction in the incidence of poverty does not automatically translate into a proportional improvement in nutritional status. There are intra-household variations in nutritional intake. Women and girl children are more likely to be undernourished than the male members of the family.

The session on '**Combating Poverty**' had presentations from Nepal, Sri Lanka, Bangladesh and India on the prevalence of poverty, approaches to poverty eradication, poverty-nutrition linkages and responses of the national governments and civil society to the problem of tackling poverty.

Country presentations

Sri Lanka

Dr Ratnayake said that after independence Sri

Lanka has relied on two broad strategies to achieve the dual priority objectives of human resource development and poverty alleviation: a policy of free and equitable access to education and health care, along with a social safety net for the needy who could not avail of the policy measures. Successful implementation of these policies has enabled Sri Lanka to achieve excellent human development indices despite having a relatively low per capita income. However, Sri Lanka is currently confronted with extremely serious political and economic problems due to slow growth of the economy, rising unemployment and ongoing ethnic conflict, all of which contribute to a high incidence of poverty. The Government is attempting to resurrect the ailing economy through a time bound economic adjustment programme. A concerted attempt is being made to maintain a balance between the objectives of growth and equity, minimise the fallout of such adjustments on the living standards of the poor and continue to honour the nation's commitment to social welfare.

Bangladesh

Dr Firdousi Naher reviewed the determinants of food and nutrition security and the progress achieved in improving these in Bangladesh. She stated that despite impressive achievements in increasing food grain production and controlling instability in prices, long term food and nutrition security problems remain. Bangladesh is yet to achieve comprehensive food security to the extent of solving the problems of inadequate

Country	Human Development index (HDI)		Human Poverty index (HPI)		Gender Development index (GDI)		Gender Empowerment measure (GEM)	
	Rank	Index	Rank	Value %	Rank	Value	Rank	Value
Pakistan	138	0.510	71	41.9	120	0.471	64	0.416
India	127	0.595	48	33.4	103	0.572	-	-
Bangladesh	139	0.509	72	42.4	110	0.499	76	0.218
Nepal	140	0.504	69	41.2	116	0.484	-	-
Bhutan	134	0.536	-	-	-	-	-	-
Maldives	84	0.752	17	11.4	68	0.739	62	0.361
Sri Lanka	96	0.740	36	18.2	73	0.738	74	0.276
Sample size (countries)	177		177		177		177	

Source: World Development Report, 2004

food intake and chronic malnutrition among poor people. A better understanding of poverty dynamics and the linkages between nutrition and adverse shocks (such as massive floods and droughts), rural income and credit markets are important. Appropriately targeted income transfers, credit programs and insurance mechanisms in times of crisis may have very high payoffs in reducing poverty and improving food security in the medium term by minimizing debt and mitigating the effects of large declines in income in both the short and medium terms. These interventions should be part of a broader social protection strategy of safety nets that is cost-efficient and also achieves maximum coverage. Agriculture continues to occupy a dominant position in the Bangladesh economy and is likely to remain so during the early decades of the 21st century. A basic limitation of the agricultural sector in Bangladesh is its lack of diversification. To achieve the desired diversification there is a need for crucial public support measures. Continued facilitation of the import of new seeds and production technologies will be necessary if Bangladesh is to capitalize on the technological advancements made in international research centers. Public investment in agricultural research in Bangladesh has to be increased. The malnutrition problems of Bangladesh cannot be adequately addressed merely by ensuring increases in food availability and better household access to food. Coordinated programs involving nutrition education, food fortification, improvements in water quality and public health are needed.

Pakistan

Dr Aslam Khan said that tackling poverty requires an integrated approach, in order to eradicate both income poverty and non-income poverty. Malnutrition manifests itself throughout the life cycle, with serious repercussions on economic development, productivity, sustainable household income and quality of human capital, and is one the major factors responsible for poverty in Pakistan. Pakistan's growth performance, in recent years compares well with those of other countries in the region. The high growth in Pakistan has reduced poverty and malnutrition. Dr.Khan presented an overview of poverty trends, the nutritional

situation, and policies and programmes aimed at addressing the problem of poverty and reducing macronutrient and micronutrient deficiencies in Pakistani populations. He said that there has been significant improvement in the adult literacy rate and the percentage of children, especially girls, in primary school. There has also been a reduction in the fertility rate and child and maternal mortality rates. He said that there is considerable scope for policy interventions aimed at harnessing the development potential, and for improving livelihood opportunities for millions of people living in poverty and human deprivation by reducing nutritional deficiencies. He outlined strategies to rapidly reduce poverty and malnutrition in Pakistan.

Nepal

In his presentation, Shri Bishwamber Pyakural said that in Nepal poverty reduction was included as a development objective even at the beginning of the Seventh Plan (1986-1990), when an ambitious Basic Needs Programme for alleviating poverty over a 15 year period was introduced. The Eighth Plan (1993-1997) made poverty alleviation one of its major objectives. The Ninth Plan (1998-2002) had poverty alleviation as its sole objective. Nepal has identified "human poverty" (illiteracy, high infant and maternal mortality rates, and low average life expectancy at birth) as distinct from "income poverty", and it adopted a two-pronged strategy to address poverty alleviation programs for the "moderately poor" who constitute about 60 percent of the poor and other targeted assistance to the remaining 40 percent, namely, the "extremely poor" who do not possess assets and are excluded from mainstream economic activities due to geographic, ethnic or cultural factors. The Tenth Plan (2002-2007) is the country's Poverty Reduction Strategy Paper (PRSP) whose sole objective is poverty reduction. The development strategies in the Plan are broad based: high and sustained economic growth, development of the social sector and rural infrastructure, targeted programmes and social inclusion, and good governance.

India

Shri Yugandar stated that India was the first

country to use calorie consumption as a yardstick for measuring poverty. There has been a progressive reduction in the poverty ratio in the country. It is, however, a matter of concern that in spite of economic growth, active poverty alleviation programmes, food supplementation programmes for vulnerable segments of the population, and improvement in access to health care, the prevalence of under nutrition and micronutrient deficiencies continues to be high. He stressed the importance of improving the efficiency of implementation of these programmes and emphasized the importance of good governance.

Review of major themes

The presentations were rich in country-specific details and brought out the poverty dynamics in the respective countries in the context of the macro-economic fundamentals of the respective economies. This review attempts to present broad features of the presentations made at the meeting, and to bring out similarities and differences in approaches to poverty alleviation in the South Asian region.

Macro-economic fundamentals in South Asia

The South Asian economies have been growing at a robust growth rate of over 4 percent for the last twenty years. Though there have been year to year fluctuations, there has been an increase in the long term trend growth rate. At various points in time, these economies faced severe economic crises and underwent structural adjustments with attached conditionalities. The high growth rate has translated into only modest increases in per capita income because of the simultaneous high growth in population. Though there has been a reduction in the population growth rate in the last two decades, the population continues to grow at more than 2 percent per annum. There are country specific differences in the population dynamics. Sri Lanka for example, registered a population growth of 1.2 percent as compared to a growth rate of 2.5 percent for Pakistan in 1990s. The growing population and consequent pressure on natural and capital resources is an issue that has a major bearing on poverty in the region.

The economic structures of the countries in South Asia have many similarities. The presentations also brought out major differences between countries, even when the broad macro parameters look similar. For example, agriculture accounts for less than 25 percent of the Gross Domestic Product (GDP) in all countries except Nepal. Services account for more than 50 percent of the GDP, the only exception being Nepal. The population dependent on agriculture continues to be high. Over 50 percent of the population depends on agriculture for a livelihood in India, Bangladesh and Nepal. This proportion was only 42 percent in the case of Pakistan. The contributions of different sectors to the agricultural GDP also show marked variations between countries. Dairying and animal husbandry contribute over 49 percent of the agricultural GDP in Pakistan whereas they contribute only 24 percent of the agricultural GDP in the case of India. It is evident that the structural transformation of GDP has followed broadly similar patterns in all the countries. The economies have moved from primarily agrarian to service sector dominant without going through the transition phase of dependence on manufacturing. This has implications for the employment intensity of the growth process and the ability of the people to participate in this growth, which is occurring largely in the services sector. Manufacturing could employ unskilled labour, whereas the services sector demands an educated and trained workforce.

The region has comparatively low levels of unemployment. It is also striking that the country with the lowest per capita income has the lowest unemployment rate whereas the country with the highest per capita income has the highest level of unemployment. The incidence of poverty bears no connection to the unemployment rate. This is surprising because, *a priori*, the unemployed are more likely to be categorized as poor. This paradox is generally explained in the literature by the explanation that the poor in South Asia are too poor to remain unemployed. In other words, they are willing to offer their services at whatever wages that may be available. Therefore, the challenge in the region is not so much of employment *per se*, but of creating opportunities for productive employment.

Incidence of poverty in South Asia

The estimates of the incidence of poverty in the region are available for different periods of time. India has a long tradition of estimating incidence of poverty based on household consumer expenditure surveys. Similar exercises have been undertaken in Pakistan, Bangladesh, Nepal and Sri Lanka at specific intervals. Based on the international definition of poverty (one US dollar consumption expenditure per capita on 1993 purchasing power parity), Bangladesh, India and Nepal had over 35 percent of their populations below the poverty line. Sri Lanka with 7.7 percent and Pakistan with 13 percent of their populations below the one US dollar poverty line, were considerably better placed compared to other countries. However, many have questioned the relevance of international poverty norms. Countries have defined their poverty lines based on the conditions specific to their context. National poverty lines in South Asia provide for a minimum calorie requirement norm. This norm, however, differs from country to country. For example, in Nepal adult consuming 2250 kcals per day would be considered non-poor. In Sri Lanka, this norm is 2500 kcals per adult. The basket of goods and services that are used as parameters in defining the poverty line also differs from country to country. In addition, there are differences in estimation procedures. Therefore, it is not possible to make any inter-country comparison on the basis of nationally accepted poverty lines. The incidence of poverty based on the various national poverty lines is reported in the Table 2.

The incidence of poverty in all countries of the region has declined during the 1990-2000 period, except in Pakistan where there was an increase in poverty. Recent estimates show that

in Pakistan too, there has been a reduction in poverty in the last five years. The reduction in poverty is more pronounced in urban areas than in rural areas. As a result, there is an increasing concentration of poverty in rural areas. Because a significantly large proportion of the rural population depends on agriculture for a livelihood, and because the share of agriculture in GDP is declining continuously, there is an increase in rural/urban disparity. The presentations clearly brought out the fact that mechanisms to transmit the growth process from urban areas to rural areas could have a significant impact on poverty. However, these mechanisms are currently weak and need to be strengthened. There are regional variations in the incidence of poverty even within countries. People in the remote rural areas, tribal communities and people residing in ecologically fragile zones are more likely to be poor.

The profile of the poor differs between rural and urban areas, yet is remarkably similar across the countries. The landless agricultural labourers, marginal farmers, unemployed people with limited skills, ethnic groups such as tribals, caste groups such as Scheduled Castes in India, forest dwellers, the old and infirm, the disabled and female headed households comprise the poor in the rural areas. In the urban areas, unemployed workers, casual workers, workers in the informal sector, families with low education levels, and specific caste groups, which perform functions categorized as socially impure, were the dominant groups among the urban poor. In both cases, however, the poor are not a monolithic group. People move into poverty and move out of poverty because of the specific circumstances that affect the households. These could be related to: income; environmental factors such as

Table 2: Incidence of Poverty in South Asia

Country	1990		2000		Poverty at* <1\$/day
	Rural	Urban	Rural	Urban	
Bangladesh	50.0	36.0	44.0	26.0	36.0
India	37.3	32.0	27.0	24.0	35.0
Nepal	-	-	44.0	23.0	38.0
Pakistan	33.0	15.0	39.0	8.0	13.0
Sri Lanka	29.0	16.0	25.0		7.7

*Source: National Presentations Source: *World Development Report, 2004*

floods, droughts, pest attacks on agricultural crops; market parameters, viz., high price of daily necessities, high prices of agricultural inputs and low prices for agricultural produce; and demographic, social and health factors. Therefore the presentations stressed that the policies that are formulated to eradicate poverty must examine the causes of poverty in greater detail.

Poverty and nutrition linkages

The economic growth in the region has been high. However, due to increases in the population, the impact of growth has not resulted in a proportional improvement in per capita income. The growth impetus to GDP has come from the services sector. This has provided fewer opportunities to the poor to participate in the growth process and improve their incomes. The rural/urban disparity has widened. In all the countries, the share of the bottom quintile in national income has gone down while that of the top quintile has gone up. The presentations pointed out that, though all the countries had attained near self-sufficiency in food grains, and the region as a whole was surplus in food grains, this did not translate into an increase in food grains consumption by the poor. On the contrary, the calorie intake of the poor in all the countries has declined over the years. This could be due to a diversification of the food basket. However, given the prevalence of high levels of malnutrition, this decline in calorie intake is a matter of serious concern and needs to be addressed through specific policies.

The indicators of nutritional status show that undernutrition rate in these populations are among the highest in the world. The proportion of under weight children under the age of 5 years was 47 percent in India, close to 50 percent in Bangladesh and Nepal, 38 percent in Pakistan and 33 percent in Sri Lanka.

So there is two disconnects in South Asia: (a) there is no direct relationship between incidence of poverty and level of unemployment; and (b) a reduction in poverty does not automatically translate into an improved nutritional status of the population in the region. The prevalence of malnutrition is extremely high compared to the incidence of poverty. What is surprising is that

even in Sri Lanka, which has very good IMR, MMR and other social indicators, the levels of child malnutrition continue to remain very high. This has been highlighted as a South Asian Enigma, because countries with similar income levels to those in South Asia have much lower levels of child and female malnutrition. The nutritional status of women is poor in all the South Asian countries. Close to 50 percent of pregnant women suffer from anaemia in India, Bangladesh and Nepal. The situation is marginally better in Sri Lanka. Yet, in comparison with the estimates of poverty, the incidence of under nourishment, even in Sri Lanka, was considerably higher.

The Asian Enigma, as pointed out by all the presenters, also shows that practically no reduction in prevalence of undernutrition took place in the region in the decade between 1990 and 2000. In every country, the incidence of poverty during the period declined substantially, but there was no change in the prevalence of undernutrition. For example, in Bangladesh, 35 percent of the people were undernourished in 1990-92. In 2000, the same proportion was categorized as undernourished, effectively indicating an increase in absolute numbers of undernourished people. During this time period, poverty had declined moderately in the country. This story was repeated in all the countries during 1990-2000, except in Sri Lanka where there was a 5 percent drop in the percentage of the under nourished. However, even in Sri Lanka, malnutrition levels continue to be very high. The 1990s could be termed as the 'lost decade' in so far as the nutritional health of these populations is concerned. The presentations suggested that the slower pace of reduction in IMR, MMR and prevalence of other diseases could also be attributed to the poor performance in ensuring adequate nutrition to the people.

Nutrition security and agriculture

The presentations pointed out that entitlement to productive assets such as land; availability of work at good wage rates; control in the prices of commodities that the poor consume, and fund transfers in the form of relief and subsidies provided by the Government have an important bearing on the incidence of poverty and the

nutritional well-being of a household. Availability of tangible productive assets, however, was highlighted as being the most significant variable affecting a household's food consumption. The availability of land and its productivity, therefore, are crucial in any attempt to fight malnutrition. Agricultural productivity in South Asian countries has increased substantially in the last 20 years. National Governments have made investments in agricultural research systems and extension facilities to increase productivity as well as diversify cropping patterns. The countries in the region have recorded impressive growth rates in cereal yields, as shown in Table 3.

However, the productivity per hectare continues to be substantially lower than in the European countries, which have per hectare cereal productions in the range of 6-8 tonnes. There are regional variations within the countries and also between the countries, and this indicates a potential for future growth, provide the requisite policy responses and investments are channellized to the sector. The agriculture sector suffers from various constraints. Availability of arable land per capita is extremely low. For example, in 1996, over 56 percent of rural households in Bangladesh owned less than 0.2 hectares of land. These households were functionally landless. A similar situation prevails in almost all the countries of the region with only minor variations. Low productivity is also a result of agrarian relations, which continue to be exploitative in nature. Tenancy is widespread. Tenant farmers have no protection in almost all these countries. Investment in land improvements has gone down. The pressures on public funds have prompted withdrawal of Government from provisioning of agricultural inputs and subsidies.

Country / Region	1979-81	2000-02
Bangladesh	1938	3312
India	1324	2390
Nepal	1615	2179
Pakistan	1608	2266
Sri Lanka	2462	3520
South Asia	1510	2222
Europe	4035	5517
<i>Source: World Development Report, 2004</i>		

As a result, cereal production has barely managed to keep pace with increases in population. The low production of cereals in the region correlates with low per capita calorie intake, which has been estimated to be about 2200 kcal, and also a low protein intake of less than 50g.

The Governments are well aware of the important role played by pulses and oilseeds in ensuring adequate intake of proteins, fats and vitamins. They have therefore taken steps to increase the production of these crops, with limited success. In spite of sustained efforts by governments, the acreage under pulses and oilseeds has remained stagnant or has even declined. This has been reflected in the increasing price differential between the cereals and foods that provide protein and fats. For example, in 1990, the prices of pulses in Bangladesh were 1½ times that of rice. Fish prices were four times the rice prices. By the end of the 1990s, these ratios had increased to 2.6 and 8.8. The national governments have resorted to imports to bridge the demand–supply gap. However, lack of domestic availability has resulted in a decline in per capita consumption of pulses. This is especially pronounced in the case of India. Cheap imports and policies that are aimed at providing cheap food grains to urban populations has further adversely affected the profitability of agriculture and discouraged private investments in the sector.

All the presentations highlighted the centrality of agriculture in ensuring the nutrition security of the population. It was also brought out that countries had acquired self-sufficiency or near self-sufficiency as far as cereals were concerned. However, in order to increase production of oil seeds, pulses, milk and milk products, fruits and vegetables, the countries have to put in lot more efforts. The speakers recommended an increase in productivity through adoption of better farming practices. They also suggested adoption of a systems approach to farming, by which production of horticulture crops, vegetables, cereal crops, animal husbandry, and aquaculture is taken up in an integrated manner. They pointed out the need for diversification of cropping systems with

greater attention to oil seeds and pulses. Agricultural production depends largely on inorganic fertilizers, pesticides and irrigation facilities. Intensive agricultural development has created many environmental problems. These have assumed serious dimensions in parts of Punjab in Pakistan, Punjab, Haryana and Western Uttar Pradesh in India and intensively farmed paddy fields in Bangladesh. There is, therefore, a need to adopt practices such as integrated pest management and integrated nutrient management in order to make agriculture more environment friendly and sustainable.

Large parts of arable land in South Asian countries are being farmed using practices that are more suitable for dry or mountainous areas. The farming practices and input requirements of these areas need special attention. The speakers also stressed the need for better post-harvest management, because close to 10 percent of the actual agricultural produce in the region is lost due to lack of post-harvest management facilities. Investments in agricultural research and extension are known to yield very high rates of returns. However, due to the pressure on public resources, there has been a cut back on agriculture research budgets. These need to be stepped up significantly. The role of the rural non-farm sector in reducing under employment among agricultural labour and rejuvenating the rural economy were also highlighted in two of the country papers.

Strategy for poverty alleviation

As pointed out earlier, eradication of poverty has been a major concern of the countries in the South Asian region. This led to the establishment of the South Asia Association for Regional Cooperation (SAARC) in 1985. The SAARC has been a forum for articulating the commitments of the member governments to frame policies for tackling various dimensions of human poverty. It has also facilitated an exchange of views and ideas, and sharing of best practices for poverty alleviation. The SAARC countries have followed similar strategies, emphasizing economic growth, provision of basic services to the poor, investments in health and education and social

safety nets. All governments, to varying degrees, have emphasized the need to reform governance structures in order to eliminate corruption and prevent leakages, decentralize decision making and empower people. A major departure from this set of anti poverty programmes was evident only in Sri Lanka, which made a conscious choice in favour of redistributive growth as a strategy for poverty alleviation and emphasized investments in health and education as the fundamental pillars of its development process. Growth was important in this framework but it was not the driving force.

India, Bangladesh and Nepal have been implementing Wage Employment programmes in villages during the lean agricultural season. Bangladesh has also experimented with food for education and food for vulnerable group development. In recent years, the major focus in Bangladesh has been on girls' education, which correlates strongly with the incidence of malnutrition within the family. It has been established that higher levels of female education are associated with lower levels of malnutrition. The narrowing gap between boys and girls in secondary school enrolment reflects the importance attached to girls' education in Bangladesh. The Public Distribution System, which provides food grains to the poor at concessional rates, is a prominent programme in India and Sri Lanka. Programmes such as Zakat & Ushr are designed to assist the poor in Pakistan. Tawana Pakistan Project targets malnourished girls and mothers in poor districts. It provides nutrition, education and other requirements for of the reproductive age group.

In addition to the Wage Employment Programmes that seek to protect the consumption levels of the poor even in periods of no or low income, the Governments have taken up programmes for feeding children and pregnant mothers. The Integrated Child Development Scheme in India, and the Mid day Meal and associated programmes in India and other countries, provide nutrition to these vulnerable groups. Programmes have also been taken up for supplementation of diets with micronutrients. Provision of iron tablets, vitamins and folic acid through the public health system are a common feature in the region. A

novel programme in Pakistan with regard to nutrient supplementation is fortification of edible oils with vitamin A&D and fortification of wheat flour. The Pakistan Government identified 600 flourmills and started a programme of fortification of wheat flour with iron and folic acid with the assistance of Global Alliance for Improved Nutrition (GAIN). It has also sought to bring rural village chakkies under the programme by specially designing chakkies that can fortify wheat flour.

All the South Asian governments implement a number of poverty alleviation programmes. In spite of these programmes, a high incidence of poverty continues to persist in the region. One of the major constraints of these poverty alleviation programmes is their limited scale and outreach due to budgetary constraints. The programmes also suffer from other uncertainties and inadequacies. Issues of mis-targeting and 'elite capture' are quite common and widespread. The rich and the other influential sections of the society, to the detriment of the rural poor, corner the benefits. People are rarely associated in the planning and implementation of these programmes. As a result, the projects, conceived entirely at national and provincial levels, fail to internalize the local context.

The effectiveness of anti poverty strategies and programmes depends to a large extent on the availability of a committed and sympathetic bureaucracy. The experience in South Asia in this regard has not been very good. Instances of corruption are fairly common. In this regard, reform in the governance structures has emerged as a major agenda in the political discourse. There is a need to create institutions that play a pro-active role in poverty alleviation. The whole approach has to shift from expenditure for poverty alleviation and monitoring of expenditure to the monitoring of outcomes in terms of reduction in the incidence of poverty.

The empowerment of rural communities, especially women, has been attempted in all countries on the model of the successful experiments in Bangladesh. Both in India and Bangladesh, the concept of Self-Help Groups has become a major vehicle for empowerment of women. Self-Help Movements have

improved the economic well being as well the social status of women. Similar attempts on a more moderate scale have been made in Pakistan and Nepal. Sri Lanka again provides a different approach to transfer of resources to the poor. It is the only country in the region with a programme of direct cash transfer to the poor households. The food stamps and cash transfers under Samruddhi accounted for over 25 percent of the total monthly income in the lowest income decile households in 2002; 27 percent of all households in Sri Lanka were covered under the Samruddhi Programme. The average monthly receipt under Samruddhi accounts for nearly eight percent of the total monthly income of households covered under Samruddhi while in the case of the lowest decile it is as high as 20 percent. This is a unique scheme, which has not been implemented in any other country in the region. Given the level of corruption and leakages that have been highlighted by various organizations in the implementation of anti poverty programmes, it is an idea that is worth exploring by the other countries.

Recommendations

The presentations and the discussions clearly demonstrated that considerable progress has been made in alleviating poverty in South Asian countries. In spite of this progress, South Asia is home to over 35 percent of the world's poor. It is essential that countries of the region achieve substantial reduction in poverty rates within the next decade. The recommendations for interventions aimed at poverty alleviation in the region can be broadly classified as short term and medium/long term.

Short term interventions

It is imperative that the existing poverty alleviation programmes are strengthened and effectively implemented.

There should be transparency in criteria for selection of beneficiaries and procedures by which the most vulnerable do get access to poverty alleviation programmes.

Majority of the population in South Asian countries live in rural areas. Policies that

promote agricultural growth and rural non-farm employment are critical to the objective of removing poverty from the region.

Nutrition security at the household level remains a major concern. Past experience shows that even with a reduction in the incidence of poverty, there is no perceptible improvement in the nutritional status. This calls for specifically designed intervention that will address the differential needs of the households.

Medium /Long term interventions

Poverty cannot be treated as an issue of lack of income only. Poverty has many dimensions and it affects people in myriad ways.

There should be effective implementation of an integrated strategy that addresses issues of education, health, sanitation, and provision of other basic services to all. Equitable opportunities for employment, access to tangible productive resources should be ensured.

Efforts should be made to forge partnership with the poor in the development process through institutions that facilitate decentralized decision-making.

People's empowerment and social inclusion are critical to the success of poverty alleviation strategies and at least as important as material inputs. The importance of good governance in poverty alleviation is well recognized so every effort should be made to promote and protect good governance in all aspects of public life.

Session 3: Strategies for improving access to food

Achieving food security for all remains a major development challenge for South Asian countries. Many countries in the region have recognized that the food insecurity of the population stems not so much from production gap but due to poor access and inadequate purchasing power. Food insecurity is caused by the non-availability of food and insufficient purchasing power, inappropriate distribution of food between income groups and within the family not based on needs. The access to food

cannot be confined to food needed for freedom from hunger. It must include adequate quantity of staple, legumes/ dhal, fruits and vegetables, milk, sugar, fish and meat to meet the nutritional needs of the population. There has been a paradigm shift from food security at national and household level to nutrition security at individual level. Food insecurity, poor health and sanitation, inappropriate feeding practices are the major causes of poor nutritional status. Five South Asian countries—Bhutan, Nepal, India, Sri Lanka and Bangladesh made presentations in this session. In addition, a resource person from USDA outlined the strategies and options for South Asia.

Country presentations

Nepal

Dr.D. Paudyal, from Nepal said that, as per the Tenth Plan document, poverty reduction strategy and agriculture perspective plan are in agreement for reaching the millennium development goals, and the food and nutritional security aspects are interwoven in the plan. Nepal has different agro-ecological zones: the terai, hills and mountains, and these geographical factors play an important role in the availability of, and access to the food items produced. The food-deficit districts in Nepal are those that are very high up in the mountains, and not those in the terai regions, which are at a lower elevation. Although the percentage of areas under irrigation is growing, the percentage of agriculture dependent households and the average size of land holdings, are decreasing.

More and more farmers are attracted towards cash crops. Agriculture is the major occupation, and 90 percent of the population, mostly uneducated and poorly endowed with skills for alternative employment opportunities, live in rural areas.

The land holdings are not productive and have low commercial value. Agricultural growth has hardly kept pace with population growth in the past three decades. Socioeconomic, physical and nutritional status indicators are poor in the region, with very high IMR and under five mortality, and low life expectancy at birth. Nepal's physiographic constraints are an

impediment to physical access to all services. There is an urgent need to strengthen the access by building appropriate transport links. The best approach to improving the nutritional status of all sectors of the population is by empowering people, in addition to ensuring production of foods appropriate to each region, and effective policy reforms. The recommendations are centred on improving agricultural productivity, along with better information, management, support systems and access to technologies for improving access to food, and thereby accelerating the attainment of food/nutrition security. Empowerment, and mobilization towards effective participation of stakeholders, particularly women, development of roads, marketing systems, post harvest management and ecological management with appropriate support to improve natural resources are some of the major activities suggested. Targeting the needy sectors of the population, mobilization of resources, poverty reduction and social mobilization are the steps suggested, with special emphasis on pro-poor programmes to improve access to food.

Sri Lanka

Dr.C. Piyasena, from Sri Lanka focused her presentation on methods to attain the goals of food security, quality, safety, and appropriate distribution. She expressed the opinion that different policy objectives by different political regimes have to some extent compounded the existing problems. Sri Lanka has low birth rates compared to other countries in the region, and this has changed the profile of its population. Life expectancy has increased and so has the percentage of the aged population. Problems such as unemployment, low income and declining purchasing power are most acute among agricultural labourers, crafts workers, unemployed non-wage earners, machine operators and technicians. The gap between the rich and the poor remains wide even though the economy has enjoyed a relatively stable growth. Recent statistics show that 28 percent are still below the poverty line. The literacy rate in both men and women has improved to 91.8 percent in 1998. Nearly 22 percent of the country is urbanized and the sedentary life styles and low physical activity have contributed to problems of overweight and obesity.

Women's participation in economic activities has weakened the traditional role of the woman as the preparer of food at home. In nuclear families where both parents are working there have been marked changes in dietary pattern with increasing demand for processed and convenience foods. There has therefore been an increase in the intake of animal fats and sugar. Families pay less attention to the need for a balanced diet.

In rural regions, poor access to food, health and sanitation, and inappropriate feeding practices appear to be the major causes of poor nutritional status. The household consumption patterns in such areas indicate low per capita intake as a whole, showing inadequate access to food. Nutrition security too is inadequate, as judged by the irregular intake of fruits and vegetables. Intra household food distribution is inequitable in rural families. Several nutrient deficiencies have been noted in the diets of Sri Lankans as a whole.

Mainly because of its high female literacy, Sri Lanka is better than its neighbours in the region in almost all the parameters of social development. However, the country is experiencing a nutrition transition, caused by urbanization and a newly prosperous section of the population who have family members working abroad and repatriating their earnings to their families. Preservation, transport, storage and distribution of food have yet to improve adequately, and hence modern technologies are important for improving food security and accessibility.

Bangladesh

At the very start, Dr.F.Naher from Bangladesh stressed that inadequate dietary diversity is a major problem in developing countries including Bangladesh, and that per capita income and household food security in Bangladesh are probably the lowest in the world, with 40 percent living below the poverty line. The poorest 14 percent in the rural areas are recognized as 'ultra' poor. Rice is the major cereal grown and the rice-centric diet, with no animal products, vegetables and fruits, is responsible for poor nutrition security. The situation is further exacerbated by rising prices of non-staples

relative to rice. Availability of vegetables is seasonal, and therefore both macro and micro nutrient deficiencies are widely prevalent, with 50 percent of children being underweight and stunted. Vitamin A, iron and zinc deficiencies are widespread.

Using a food diversity index, socio economic and other correlates were arrived at. The salient features of the study suggested that female-headed rural households and households that are economically better off have better indices of nutritional awareness and purchasing capacity. This was not true in urban areas, as a higher percentage of the income was spent on non-food items. With increasing household size the diversity index score decreased, and Muslims scored least on the index. Similar findings emerged in relation to the availability of facilities such as electricity and sanitation. Occupation, per capita income, land ownership, etc., also influenced the score on the food diversity index. Further, the paper highlighted the importance of micronutrient deficiencies. In conclusion, the speaker again stressed that dietary diversification must be made central to all policies and programmes that are designed to improve nutritional status and security.

India

The presentation by Dr. Abhijit Sen from India on the public distribution system (PDS) and food subsidies traced the history of PDS as a tool to improve food accessibility. The PDS system in the country facilitated the transfer of food grains to several geographical regions to improve accessibility to food by the poor. However, the procurement, pricing policies, stocking and distribution of food grains, and the retail price structures were not found to be cost effective. Hence there are moves to restructure the PDS. Alternative and innovative ideas such as decentralized procurement, food stamps, and food credit/debit cards are being discussed to achieve the goal of eliminating hunger in a more cost effective manner. The Tenth Plan has given special attention to various aspects of the PDS. Dr. Sen pointed out that the distribution must match the off take from fair price shops, which is obviously related to the purchasing capacity. There were several disadvantages of fixing support prices at relatively higher levels. Further,

preference for non-cereal foods complicated the issue. Hence the country is facing a paradoxical situation, and he suggested that we shift from targeted PDS back to universal PDS with retail prices being higher than the procurement prices. This move should be accompanied by adequate income generation activities and food for work programmes in order to improve accessibility and ensure a cost effective and sustainable PDS.

Bhutan

The last presentation was that of Dr. Kinley Dorjee from Bhutan. Bhutan is a sparsely populated mountainous country, which has declared gross national happiness as its primary pursuit. It has 5 national developmental objectives including human and cultural development. Its development programmes are balanced and equitable, environmentally sustainable, and backed by strong institutional support. The people of Bhutan want to preserve their unique biodiversity and natural environment and, within this framework, the government wants to provide expanded choices and opportunities to its people, consistent with greater self reliance, while simultaneously promoting cultural heritage and spiritual development. Bhutan wants the benefits of modernization to be shared equitably among its entire people. It is trying to strengthen institutions and promote good governance so as to reduce dependence on foreign aid. However, 32 percent of the country's population is below the poverty line, with large urban-rural differences. The Ninth Five Year Plan has specified food security as an important goal, with special emphasis on cash crops, rural enterprise development and preservation of natural resources. The cereal production has to meet the needs of the rapidly growing population, emerging urban non-farming communities and increasing per capita consumption. The World Food Programme is improving access to food through food aid to schools, improving road workers' access to education and health services, and rural households' access to agricultural services. In addition they have all encompassing development policies and programmes, which have political backing and community participation. Further, there is emphasis on rural

industrialization, in order to slow the migration from rural to urban areas. The availability of fair price shops in multiple locations enhances accessibility to food. It is, in effect, welfare state and exports electricity in exchange for food grains. The future challenges are to raise income levels, address wider social issues and improve quality of services. Bhutan is interested in indigenous human resources, public-private partnerships and relevant education. A taxation system also exists for raising revenue. The focus is on rural employment generation schemes, and on ensuring that rural households have access to food and nutrition, the ultimate aim being a sustainable economic growth with targeted food and nutritional programmes for the vulnerable sections of the people.

International Food Policy Research Institute (IFPRI)

Dr.S Babu, from IFPRI, gave an overview of the current status of food production in South Asia, the challenge of improving food security in the region, the evaluations of program implementations and the future course of action. From 1985 to 2002, the economic growth in these countries had a downward trend, even though the human development index across South Asia was improving. On the agriculture front, all the countries except Bangladesh (i.e., India, Pakistan, Nepal and Sri Lanka) showed a positive balance, indicating that national food security has been achieved. The South East Asia and Pacific region, however, still has a population of 323 millions living on less than one US dollar per day; and the percentage of people below the poverty line ranges from 25 percent in Sri Lanka to 42 percent in Nepal; the malnutrition rates range from 33 percent to 53 percent; and the reduction in under nutrition ranges from 16 percent in India to 34 percent in Malawi. At present 40 percent of the food-insecure population lives in South Asia, and this can explain the scenario of malnutrition. This obviously indicates that food security at the national level has not yet been fully translated into household food security.

The speaker pointed out that the productivity of both crops and livestock is still low and better technologies (such as biotechnology and

remote sensing technology to minimize the effects of weather fluctuation) are yet to be popularized. More efficient use of information technology and transfer of knowledge across countries is the need of the hour. The speaker spelt out various aspects of access to food, in the context of ensuring household food security. These are summarized later in this report, together with other presentations.

Recommendations

It is obvious from the presentations that population growth and poverty lead to poor purchasing capacity, which in turn results in food/nutrition insecurity particularly among the rural poor. The reasons for poor access to food are indicated in the Text Box 1.

All the South Asian countries except Bangladesh are reported to have food security at national level but this has not been translated into household food security. Earlier, all the countries in this region concentrated on production of major cereals with little emphasis on protective foods such as pulses, animal foods, vegetables and fruits, which are needed for nutrition security. Now, the countries have structured their plans to achieve the Millennium Development Goals and improve the Human Development Index with balanced and equitable distribution of foodstuffs (Figure 1). Environmental safety and eco-balance are also in focus.

Measures to improve access to food can be broadly classified into direct and indirect ones. In each there are short-term interventions to alleviate the current problem and medium/long term interventions to ensure equitable access to food for all.

Text Box 1: Reasons for poor access to food

- Poor food availability
 - Inadequate production
 - Inequitable distribution
- Poverty-Low purchasing capacity
 - Small land holding, landless, share croppers
 - Unemployment
 - Wage earners
 - Illiteracy
 - Lack of vocational skills
- Rural urban migration
- Remote areas-with no transport facility
- Natural disasters

Direct interventions

The countries in South Asia are concentrating on programmes to enhance the accessibility of food in rural areas, with some specific interventions for the urban poor. Direct measures to improve access to food especially in rural areas are summarized below.

Short term interventions suggested include:

- targeted or universal public distribution is one of the ways of reaching the needy. It will provide food grains at affordable costs, provided decisions regarding procurement prices and supply prices are properly worked out;
- geographical targeting is also required, because of the variability of the terrain within many of these countries;
- food-for-work programmes/food subsidies are essential for the poor out of work persons;
- the food-for-work programme should provide employment that will help to enhance the infrastructure facilities in the rural areas especially rural roads and water shed development;
- strong and sustainable efforts are needed to promote dietary diversification and equitable intra family distribution of food;

- direct food supplementation programmes for the vulnerable must continue.

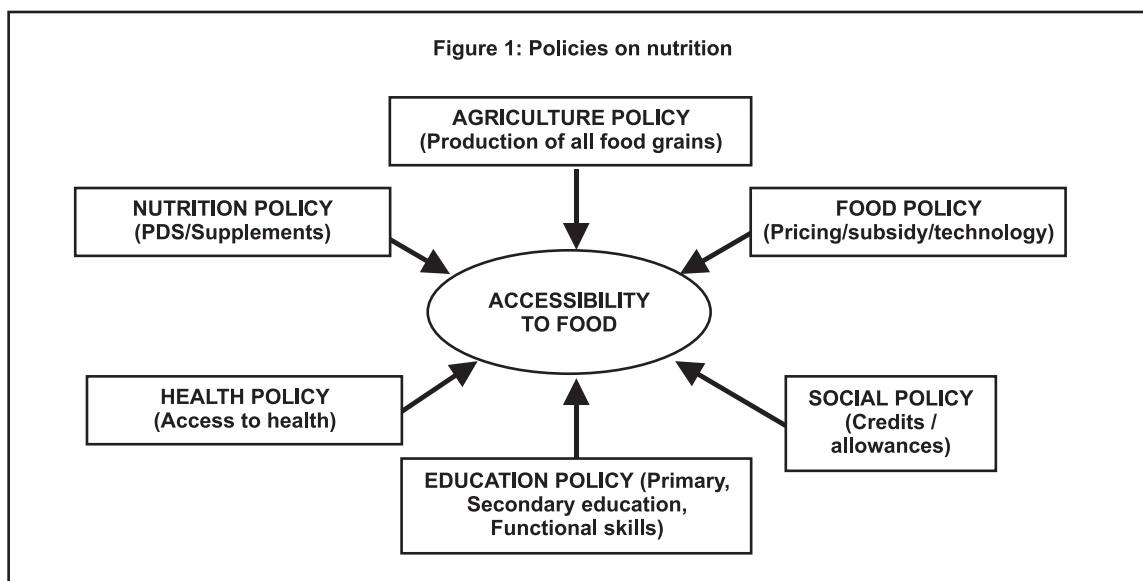
Medium/ long term interventions

recommended were:

- economically viable homestead production programmes can help to increase horticulture production;
- information management systems with effective monitoring, evaluation and mid-course correction capabilities have to be put in place for ongoing programmes;
- participation of local institutions for inter-sectoral coordination and convergence of services;
- building up a consistent policy framework for agricultural subsidies are essential to ensure substantial improvement;
- appropriate and effective use of valuable water resources for sustaining productivity.

Indirect interventions

Short term interventions should focus on poverty alleviation programmes through creation of opportunities for skilled and unskilled work force. Rural based technologies, bank credit for setting up self-employment schemes, and community participation in setting up local food grain banks, co-operatives and self help groups will improve income and access to food.



Medium/ Long term interventions include:

- strengthening of infrastructure (roads), transport facilities, access to market services, trade liberalization, private sector participation in developmental activity, social security programmes, land reforms, and institutional strengthening in general are needed;
- utilising NGOs as social animators can enhance the functioning of these various systems, build up community awareness and participation and make the rural poor more self reliant;
- empowering of women and better access to health and education services are long term measures in promoting sustainable development of rural areas;
- improving access modern technologies, both biotechnology and information technology in order to improve the food chain system in the rural areas;
- ensuring national policies on agriculture, nutrition, food, health, education and social policy as development goals;
- establishing linkages between them to improve food and nutrition security, through the delivery of various services and investment in physical and social infrastructure;
- ensuring that the policies they have consensus and convergence in order to enhance public health and nutrition. Thus, the parameters that impact on access to food, namely, physical, economic and socio-cultural, can be tackled by a strong political will, committed policies and appropriate human resource development;
- providing an enabling political environment, continuous information and awareness generation processes, goal-specific planning, implementation and monitoring, are all parts of the road map for successfully attaining food/nutrition security;
- building on existing structures and processes that address aspects of diet, health and nutrition;
- coordinating programmes of different

ministries to facilitate the multi-pronged approaches;

- promoting the government, private industries, the NGOs and the community partnership because all have to play crucial roles in achieving the much needed improvements in public health, and ensure their sustainability;
- providing needed support for effective implementation, adequate funding, monitoring and evaluation as well as suitable legislation.

Session 4: Primary health care and nutrition security

Undernutrition increases susceptibility to infections, and infections aggravate undernutrition. The countries of South Asia have a very high prevalence of low birth weight, under nutrition among under fives, adolescents and adults, and anaemia. It is a matter of serious concern that in terms of prevalence of many of these indices of under nutrition South Asia fares worse than even Sub-Saharan Africa. Merely improving access to food without simultaneously improving access to health care will not enable countries to achieve the Millennium Development Goals for nutrition and health. The importance of access to health care is demonstrated by the example of Sri Lanka, where substantial reduction in mortality rates and in severe grades of under nutrition have been achieved by ensuring better access to primary health care. Many countries in the region are undertaking a policy shift to ensure horizontal integration and convergence between nutrition and health programmes at the level of service delivery. Four presentations, one each from Sri Lanka, Bangladesh, Nepal and India addressed primary health care interventions to improve nutrition security. The last presentation dealt with HIV/AIDS, agriculture and food and nutrition security.

Country presentations***Sri Lanka***

Dr. Priyani Soysa's presentation was on the role of primary health care in effective implementation of health and nutrition

interventions and achieving nutrition security and impressive health and demographic indices in Sri Lanka. She stated that Sri Lanka build up an effective functional primary health infrastructure long before the Alma Ata declaration. She then outlined major interventions implemented by the primary health care system.

Intervention under maternal health include:

- good functioning antenatal clinics at the peripheral level, providing antenatal care including charting of maternal weight gain during pregnancy, provision of supplementary nutrition and ensuring safe delivery;
- birth spacing;
- administration of Vitamin A to the mothers postpartum.

Child health interventions implemented include:

- promotion of breast feeding, implementation of the code for promotion of breast feeding and marketing of breast milk substitutes, extension of maternity leave;
- promotion of complementary feeding with a gruel mixture prepared from household resources;
- identification and management of infections, including dietary management during infections especially gastroenteritis;
- prevention of infections through immunizations;
- administration of Vitamin A to infants.

The following public health measures were implemented:

- ensuring equitable intra family distribution of food; providing potable water and access to sanitary latrines to more than 75 percent of households;
- distribution of chemically impregnated mosquito bed nets in malaria prone areas.

Sri Lanka has invested in providing:

- health facility within 2 miles;

- one family health worker for every 600 households and a field health worker for every 6000 of the population;
- village level nutrition programmes through Jansavya.

Areas that require further strengthening are:

- maintaining the cultural practice of caring of elderly in the context of the increasing trend for women to work outside their homes;
- geriatric services at primary health care level;
- nutrition education, especially for mothers, about the use of growth charts, the need for complementary feeding and the conflicts caused by the traditional concept of hot and cold food;
- promotion of home gardens which could also be a source of income generation;
- promotion of appropriate technology and training (especially of women) in the areas of food storage, solar drying, rainwater catchments and rearing of small animals;
- awareness building on gender violence as a cause of malnutrition and training of field midwives to assist and suitably refer physically abused women;
- political support, and integration of poverty alleviation programmes with primary health care.

Bangladesh

Dr. Halida Akhtar’s presentation dealt with primary health care in Bangladesh and the impact of ongoing intervention programmes on the nutritional status of vulnerable groups. Protein, energy and micronutrient malnutrition in Bangladesh are amongst the most severe in the world. The nutritional problems in Bangladesh are due to chronic food deficit; maternal malnutrition and anaemia leading to low birth weight. Faulty breast feeding practices and inappropriate practices with regard to complementary feeding of weaning-age children lead to protein-energy and micronutrient deficiencies.

She traced the establishment of the first

comprehensive nutrition intervention project – the Bangladesh Integrated Nutrition Project (BINP)– in 1992 and its gradual expansion in scope and coverage leading to the National Nutrition Project (NNP). Originally projected to cover just 40 upazilas, the scope of the project has now extended to cover 60 upazilas under the NNP in 2002 to cover almost one fourth of rural Bangladesh with nutrition activities. In 2004 the nutrition programmes were further consolidated and integrated with health programmes to form the Health Nutrition and Population program (HNPSP), under which the coverage expanded to 120 upazilas. The HNPSP consists of area based community nutrition services, national level nutrition services and institutional support. Partners in implementation include government and quasi-government organizations, development partner NGOs such as CARE and Helen Keller International, and national level NGOs. The nutrition services including area based community nutrition services under HNPSP include the following service:

Maternal services consisting of:

- monitoring and promotion of weight gain during pregnancy;
- counselling for self care;
- supplementary feeding for malnourished pregnant women and breastfeeding mothers;
- micronutrient supplementation –Vitamin A to mothers in the postpartum period;
- referral to health services where necessary.

Child health services including:

- growth monitoring and promotion of optimum breast feeding including exclusive breast feeding up to 6 months and counselling of mothers regarding complementary feeding;
- special care for low birth weight infants;
- micronutrient supplementation –Vitamin A to all children in the age group 1 to 5 years twice yearly during National Immunization Day and National Vitamin A Week, and therapeutically to children suffering from

malnutrition, diarrhoea and infections such as measles and pneumonia, and to all under five children during calamities such as flood or cyclone;

- referral to health services where necessary.

Adolescent nutrition services include:

- monthly nutrition education forum;
- micronutrient supplementation;
- weight monitoring;
- de-worming.

The newly married couple’s nutrition services include:

- registration of newly married couples and nutrition counselling;
- home-based weighing for pregnant women.

Address equity:

- at the national level nutrition services to meet immediate nutritional needs in areas not yet covered under community nutrition services;
- major focus of interventions on the poor.

Health education components consist of:

- communication programmes at the national level to bring about behavioural changes relating to appropriate caring and feeding practices;
- promotion and protection of breast feeding;
- support of interpersonal communication in area-based programmes;
- policy communication, advocacy and social mobilization.

The BINP established Community Nutrition Centres (one for every 1250 to 1500 persons) run by part time Community Nutrition Promoters (CNPs). The CNPs are supervised by Community Nutrition Organizers (CNOs). Nutrition Management Committees at village, union and upazila levels undertook community mobilization and intersectoral coordination. The implementation of the programme was contracted to NGOs.

As a result of these intervention there is:

- increased effectiveness of community based structures;
- positive change in knowledge and practices relating to maternal and child nutrition in intervention areas;
- improved community participation and NGOs have taken responsibilities for implementing the project to sustain activities beyond period of BINP;
- tangible results through strong community motivation.

Areas requiring strengthening include:

- effectiveness of inter sectoral programmes;
- BCC/IEC programmes;
- delays in commissioning of NGOs in the programme, thereby limiting exposure to target beneficiaries.

Nepal

Dr. Suniti Acharya presented 'Review of Primary Health care and Nutrition Interventions in Nepal.' Though not recorded as such, malnutrition is implicated in over half of all child deaths, contributes significantly to morbidity and delays cognitive development. The paper reviewed the existing policies and strategies for primary health care and nutrition interventions, examined the trends in infant and child mortality and nutrition status in the Nepalese population and made recommendations for achieving nutritional security in Nepal.

The Tenth Plan Poverty Reduction Strategy Paper aims at ensuring universal access to Primary health care, and emphasizes affordability and quality of services. Within the PHC it has also identified Essential Health Care Services. She then indicated the nutrition intervention implemented through primary health care.

Child health interventions such as:

- promotion of exclusive breast feeding and supplementary feeding;
- improving overall nutritional status, and controlling anaemia and worm infestation

by working with schools. It includes provision of iron sulphate tablet (300mg.) once a week to children with haemoglobin levels below 11 g/dl, along with de-worming (mebendazole);

- vitamin A supplementation with intense support for the first two distribution rounds; use of monitoring data for programme advocacy. UNICEF is also carrying out a project combining de-worming and Vitamin A distribution;
- treatment of ARI; health facilities and community health workers play an important role;
- implementation of Expanded Program on Immunization; programme has good rural outreach;
- control of diarrhoeal diseases.

Family Planning and Reproductive Health initiatives including:

- ongoing Family Planning programme since the 1950s; gradual shift in policy from sterilization to integrated reproductive health and, later, to focus on birth spacing;
- providing iron supplementation to women during pregnancy.

Public Health measures such as:

- adoption of universal salt iodization as a long term strategy and iodized oil capsule for the short term;
- social marketing campaign of iodized salt launched in 2000;
- enactment of legislation for registration and licensing of salt trade, quality control, record keeping, government inspections and enforcements;
- periodic survey of households for adequacy of iodization.

Health education including:

- nutrition education about breast feeding and supplementary feeding;
- awareness building about need for iodized salt;
- awareness building about anaemia and the

need for iron supplementation;

- effective communication to achieve behavioural change in the matter of administering appropriate fluids to manage diarrhoeas.

Efforts to improve access through:

- network of health infrastructure such as health posts and sub-health posts;
- over 45,000 female community volunteers.

Enabling factors across health programmes such as:

- focused guidelines for the community and community based workers to follow;
- participatory training and emphasis given to improving quality of care at the community level;
- visible success in the eyes of the communities and providers;
- application of broad, resource-intensive social mobilization strategies and partnership with other sectors;
- sustained flow of external resources for introduction and expansion of programmes, effective donor coordination;
- strong national leadership.

Areas requiring strengthening include:

- nutrition programmes such as promotion of infant and young child feeding practices and growth monitoring did not achieve scale in Nepal. It will be difficult to sustain the mortality reduction if efforts to improve nutritional status are not accelerated;
- programmes designed to improve understanding and articulation of the health and nutrition problems by the community especially women who provide food to the family as well as serve as the primary care givers during illness, is one of the pre-requisites for attaining food security and improving health and nutritional status;
- training of female community health volunteers should be strengthened. Networks of community health volunteers

should teach mothers appropriate and adequate infant care;

- due to the current conflicts, special efforts need to be made to reach the unreached.

India

Dr. Prema Ramachandran made a presentation on the role of primary health care in improving the nutritional status of the population. India undertook surveys to document prevalence of undernutrition and micronutrient deficiencies; research studies were focused on investigating factors responsible for the high prevalence of undernutrition. Interventions were designed on the basis of these data and implemented through urban and rural primary health care infrastructure and infrastructure of Integrated Child Development Services (ICDS).

In India primary health care infrastructure and the ICDS infrastructure work closely together and have, over the years, played an important role in reduction of severe forms of macro and micronutrient deficiencies and their adverse health consequences through improvement in antenatal care, care of the low birth weight infant, infant feeding and caring practices, prevention, detection and management of under nutrition in childhood, prevention of nutritional consequences of unwanted pregnancy through contraception, and prevention, detection and management of undernutrition. She then indicated ongoing interventions to achieve these goals.

Maternal health intervention such as:

- provision of antenatal care (although coverage is still poor);
- giving food supplements during pregnancy to women who weigh less than 40 kg. are monitored for weight gain, and given appropriate antenatal, intrapartum and postpartum care;
- screening and early detection of anaemia in pregnant women, appropriate management of anaemia, the implementation of which remains poor;
- detection and management of clinical Vitamin A deficiency in pregnant women as part of antenatal care;

- increasing the role of Panchayati Raj to ensure that women get food supplementation throughout pregnancy.

Child health services aimed at:

- improving the survival rates of low birth weight babies by increasing institutional deliveries and providing better intra partum and neonatal care;
- ensuring that for all home deliveries, the Anganwadi worker checks birth weight and refers all babies with birth weight below 2.5kg to a hospital;
- promotion of exclusive breast feeding in the first 6 months;
- detection of growth faltering and targeted nutrition supplementation by AWW.AWW will assist ANM in effective management of undernutrition and infection;
- providing adequate treatment for infections;
- vitamin A supplementation at 9,18,24, 30 and 36 months.

Public health interventions include:

- providing safe drinking water;
- improving environmental sanitation;
- ensuring synergy between health and nutrition programmes;
- ensuring that in primary health care intervention only good quality iodised salt is available for human consumption; introduction of iron and iodine fortified food as soon as it is available.
- accelerating efforts to meet unmet needs for contraception in all States in order to reduce higher order births. This would have indirect benefits on child nutritional status, especially in terms of reduction of severe grades of undernutrition

Health education efforts include:

- imparting nutrition education for the introduction of low cost energy dense complementary food at 6 months of age;
- imparting health and nutrition education at primary health care level and at the Anganwadis as a major input for reversing

inadequate food intake by pre-schoolchildren;

- imparting nutrition education to promote dietary diversification.

The Tenth Five-Year Plan has set the following goals:

- reduction in the prevalence of under-weight in children under three years from the current level of 47 percent to 40 percent;
- reduction in prevalence of severe under-nutrition in children in the 0-6 years age group by 50 percent;
- reduction in prevalence of moderate/severe anaemia by 50 percent and anaemia by 25 percent;
- elimination of Vitamin A deficiency and Iodine Deficiency Disorder (IDD) as public health problems.

USAID/USDA

Food as the first medicine—HIV/AIDS, agriculture, food and nutrition security

The presentation by Cheryl Jackson focused on the vicious cycle of malnutrition and HIV. The paper addressed the impact of food and nutrition interventions on susceptibility to HIV, and described the condition of those infected with HIV/AIDS in sub-Saharan Africa. People with HIV infection have to cope with extra nutritional depletion caused by the infection itself. Lack of sufficient or appropriate food can affect the efficacy of antiretroviral drugs (ARV) therapy; conversely, treatment with ARVs can affect the patient's consumption of food, and nutrient utilization; ARVs, if combined with certain foods, can create undesirable side effects. In Africa HIV/AIDS has resulted in reduction in land under cultivation, decline in range of crops grown and in production, crop yields and animal numbers; and a shift to less labour intensive crops, subsistence farming and production of less-nutritious foods. In addition, there is continuing loss of key staff including agricultural extension workers, weakening of rural agricultural institutions, and loss of agricultural assets and tools; there is an increase in involvement of women in agricultural production. The speaker suggested that:

- nutrition interventions to combat the adverse impact of HIV infection should include dietary diversification, incorporation of nutrition within home-based care programmes, provision of a nutrition safety net to the acutely food insecure, and combining nutritional interventions with ARV treatment to mitigate side effects;
- food security and livelihood interventions should include:
 - building community resilience such as through farmer life school models as in Cambodia;
 - developing HIV-aware gender-proactive agricultural extension capacity;
 - providing incentives for children to go to and stay in school (such as food for education, fee waiver);
 - providing vocational training and apprenticeship;
 - maximizing efficacy of labour and time through pooling community labour and ensuring effective management of labour;
 - ensuring access to land and finance through land tenure and credit policies, access to inputs and giving women inheritance rights;
 - preserving traditional knowledge.
- research should be undertaken on the inter-relationship between HIV/AIDS food and nutrition security- rural livelihoods; research on gender-sensitive labour-saving technologies and on appropriate farm systems is also necessary.
- there is similarity in the type of interventions at primary health care level in all the countries of the region; there are, however, some differences in focus, and in some countries there are additional target groups (such as nutrition for newly married couples in Bangladesh) or additional intervention (such as de-worming in Nepal). There are substantial variations in coverage of services;
- involvement of village level workers (paid and voluntary) is crucial for improving access to services;
- community participation is essential for sustainability of the programme.

Interventions can be broadly classified as health related interventions and nutrition interventions. All countries have ongoing programmes in both these sectors.

Health interventions

The short term interventions to improve content, quality and coverage of programmes for family planning and maternal and child health include:

- ensuring good coverage and quality of antenatal care;
- food supplementation throughout pregnancy to those who are underweight.
- monitoring for weight gain in pregnancy, identifying causes of sub optimal weight gain and instituting remedial measures;
- increasing institutional deliveries and providing better intrapartum and postpartum care;
- checking birth weight in all home deliveries and referring low birth weight babies to centres with neonatal care facilities;
- identification and prompt treatment of neonatal and childhood infections;
- improving immunization coverage;
- identification and appropriate nutrition and health intervention for 'at-risk' groups and undernourished children;
- intensifying efforts to meet unmet needs for contraception in order to reduce higher order births.

Recommendations

In all countries there is recognition that

- primary health care is an essential component of interventions for attaining nutritional security at individual level. Access to primary health care can reduce severity of infections, improve acceptance of contraceptives and reduce the prevalence of severe grades of undernutrition;

Medium and long-term interventions aim at strengthening and improving the existing health care system, ensuring effective implementation of programmes and promoting intersectoral coordination. Major interventions under this would include:

- strengthening primary health care services;
- development of health management information systems (HMIS);
- monitoring of programme implementation through routine reporting through HMIS and appropriate mid course correction;
- networking of community level workers to act as social mobilizers;
- ensuring better focused for multisectoral targeted interventions;
- strengthening community involvement;
- integration of poverty alleviation programmes with primary health care;
- Making special efforts to reach the unreached.

Nutrition interventions

Short term interventions such as:

- recording undernutrition as a contributor to

mortality in routine paediatric practice;

- scaling up efforts to improve nutrition status to sustain the pace of mortality rate reduction;
- promotion of exclusive breast feeding upto 6 months, nutrition education for low cost energy dense complementary food at 6months;
- better implementation of growth monitoring and greater efforts to address micronutrient deficiencies;
- targeted intervention to reach the nutritionally vulnerable may sustainably help in improving nutritional status.

Medium/Long term interventions required include:

- continuous training and skill up gradation of community level workers as they are the key functionary and form the link with the Government system;
- imparting nutrition education to women on the use of simple technologies at household and community level;
- promotion of home gardens.