



INTERNATIONAL FOOD POLICY RESEARCH INSTITUTE  
*searching for policies to feed the world and protect the earth*

June 10, 2002

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**Re: Quarterly Performance Report**

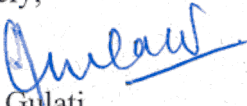
Dear Dr. Heesen:

We are pleased to submit the 2<sup>nd</sup> quarterly performance report for the project on 'Revitalizing Policies for Food Security and Poverty Alleviation in South Asia'.

If you need any further information please feel free to contact us.

Thank you very much for your support.

Sincerely,

  
Ashok Gulati  
Director, Markets and Structural Studies Division

Encl.

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# **Revitalizing Policies for Food Security and Poverty Alleviation in South Asia**

## **I. Introduction**

A major activity in the last quarter was the conference of the South Asia Initiative. This conference was able to bring together agricultural policy analysts and policy makers in south Asia to discuss the role of technology and trade issues related to economic reforms in addressing food security. Members of the Policy Analysis and Advisory Network for South Asia (PAANSA) along with other leading policy researchers from policy research and advisory institutions in south Asia attended this regional conference. The conference accomplished the key objectives of developing consensus through policy dialogue among researchers, policy advisors and policy makers.

## **II. Major outcomes of the conference**

The South Asia conference brought together almost 100 policy researchers, policy analysts and policy makers from six countries (India, Bangladesh, Nepal Pakistan, Bhutan and Sri Lanka). Attaining the objective of food security in the context of economic reforms and the role of technology and trade were brought out by 20 papers presented in 6 sessions.

Major outcomes of the two day conference include:

- In spite of advances made in increasing food production, South Asia remains a major hot spot on the food insecurity and poverty map of the world.
- As the south Asian countries are at different levels of trade liberalization, the implication of trade liberalization on food security needs to be understood in the specific context of the poor household at different levels.
- Technological revolution in the form of yield increasing and cost reducing technology is needed. Promises shown by bio-technology need to be appropriately tapped giving due consideration for the intellectual property rights and bio-safety regulations
- Water will be a major constraining factor for agricultural production in South Asia in the next 20 years. Improving the management of water resources through appropriate design of policies and institutions is important for improving the efficiency of water use. There is a need to examine the harmonization of policies and institutions in order to include the land and water management policy option in South Asia.

- South Asian agriculture needs to be diversified beyond the present focus on cereal crops. Although diversification has been steadily increasing, institutional and policy reforms are needed to increase the speed of diversification and increase the rural income of the small holder farmers which will contribute to reduce poverty
- In addition to growth oriented strategies it is important to design target oriented research that will increase the access of food to the vulnerable groups of the society.

A detailed report on the papers presented, followed by remarks from discussants and other participants is attached.

The members of PAANSA met in the second day to discuss the prospects made in their own countries.

In the afternoon of the second day, the members of PAANSA met at ICRIER to identify common themes of research that affects food, agriculture, and natural resource sector in South Asia. The meeting identified several future activities that PAANSA as a group can initiate and implement in the region. A major outcome of the meeting is the agreement among the participants that meetings similar to the New Delhi, India meeting should be held in the other South Asian countries in order to share the policy problems, research methods, and solutions. Isher Judge Ahluwalia and Ashok Gulati thanked the PAANSA members for their participation.

## **II. Conclusion**

The project activities are going on as planned. Three major collaborative research agreements have been signed with different institutes in India and Nepal to conduct target oriented research. No major constraints in achieving the project goals are anticipated in the next reporting period.

**South Asia Initiative**

**Conference Report**

**Economic Reforms and Food Security:  
The Role of Trade and Technology**

**Jointly organized by:**

**Indian Council for International Economic Relations (ICRIER)**

**Indian Council For Agricultural Research (ICAR)**

**International Food Policy Research Institute (IFPRI)**

**April 24-25, 2002**

**Jacaranda Hall  
India Habitat Centre  
Lodi Road  
New Delhi-110003, India**

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## **Introduction**

Under the South Asia Initiative, the International Food Policy Research Institute (IFPRI), in collaboration with Indian Council for Research on International Economic Relations (ICRIER), and the Indian Council of Agricultural Research (ICAR) organized an international conference on “Economic Reforms and Food Security: The Role of Trade and Technology” in New Delhi on April 24-25, 2002. The objective of the conference was two fold: first, to identify the priority issues related to trade and technology policies facing the food economy of South Asia and second, to discuss and debate about what was being done or could be done to address those issues in the context of ongoing economic reforms. The conference consisted of several presentations, discussion, and question and answer sessions involving economic reforms, trade, technology, and food security. This report summarizes key issues raised during the conference and highlights the information gap and the need for future research.

## **Session I: Economic Reforms, Trade, Technology and Food Security**

**Chairperson: Isher Judge Ahluwalia, Indian Council for Research on International Economic Relations, India**

Dr. Manmohan Singh, former Finance Minister of India, delivered the keynote address entitled “Have economic reforms enhanced food security?” In his remarks, Dr. Singh said India has managed an average growth rate of 6 percent per annum over the past decade, but this is much less than expected, particularly in the industrial sector. He also said that until 1990, it was fashionable to say that there are two major constraints on India’s development – food production and foreign exchange. Ten years later, he said, both of these constraints do not appear to be limiting factors in India’s development. At the national level, India has food stocks of 60 million tons, yet 26-27 percent of its population lives below the poverty line. Although data show some progress in reducing poverty, poverty remains high because poor households do not have access to food.

In addition to access to food, India currently faces supply and demand side problems in Indian agriculture. Food grain production growth in India has slowed down. Food security is not only a problem of food supply keeping up with market demand, but also generating adequate employment in order to have means to purchase adequate food that will eliminate chronic malnutrition. Therefore, it is important to find ways and means to create job opportunities, particularly for those people living below the poverty line. To ensure adequate employment, policy instruments for creating employment opportunities need to be in place so that the increases in agricultural production are used for reducing poverty, which still affects a large proportion of the population in South Asia.

Generating one policy instrument for India, as a whole, may be difficult since India has several agro-ecological zones that may require viable policy packages to be designed in accordance to their specific social, economic, and physical constraints. There is also a need to prepare the countries of South Asia for the competitive global environment. This new environment will require an understanding of what types of international regimes are likely to emerge to handle agricultural problems in developed and developing countries. Furthermore, for IFPRI to assist developing countries in preparing themselves to take advantage of globalization, IFPRI has an

obligation to develop and share information with developing country partners in order for them to perform in the increasingly globalized world. Moreover, analytical capacity needs to be strengthened and policies need to take into account the social, economic, institutional, and political factors of a country because the credibility of these policies depends on the political realities that these policies are based on. Finally, Dr. Singh emphasized that this conference should examine the problems of the agricultural sector facing South Asia in the context of a globalized world.

Dr. Per Pinstrup-Andersen, Director General of IFPRI, presented a keynote address on “Food Security in South Asia: A 2020 Perspective.” Dr. Pinstrup-Andersen expressed great pleasure in being in India to meet old friends and to strengthen collaborations with South Asian institutions through the South Asia Initiative. He said that IFPRI’s obligation, which it takes pride and great pleasure in, is to generate information that will help developing countries, particularly in South Asia, to reduce food insecurity. He also mentioned that the Policy Analysis and Advisory Network for South Asia (PAANSA) Network, formed by IFPRI, offers tremendous opportunities to work together in a way that has not been done before. It provides an opportunity for South Asian institutions to come together to share their experiences in designing, implementing, and evaluating policy options in addressing food security in South Asia. He then provided an overview of the food security situation in South Asia and suggested that appropriate government policy and institutions are needed in ensuring food security for all in a manner compatible with sustainable management of natural resources. To be successful, action by governments must be based on comprehensive understanding of the interaction between technology, policy, and institutions.

After presenting an overview of the food security, poverty, and malnutrition situation in South Asia, he outlined ten driving forces believed to be particularly important in the context of policies for food security in South Asia: accelerating globalization; sweeping technological changes for smallholder farmers; degrading natural resources; increasing water scarcity; emerging and reemerging health and nutrition crises including HIV/AIDS; rising urbanization; changing structure of farming; continuing internal and external conflicts; changing global climatic environment; and changing roles and responsibilities of key actors in addressing food security at the national, regional, and local levels. He also highlighted several policy priorities that are imperative to achieve food security for all in South Asia: public investment; investment in human resources; access to productive resources and employment; policies for pro-poor technological change; development of agricultural input and output markets; rural infrastructure, rural capital and labor markets; policies to reduce risk in agriculture and facilitate coping strategies; rural industrialization; improvement of environmental status in less favored areas; impact of HIV/AIDS on food security; and the role of the state and good governance.

Addressing the high level of poverty, food insecurity, and child malnutrition in South Asia is also urgent from an ethical point of view as well as good economic sense, given the high costs in lost productivity. The region is unlikely to make rapid progress towards food security for all unless there is a break with business as usual. The needed investments and changes in policies and institutions will require a substantial sum of resources, but there will be a substantial payoff in terms of economic growth, equity, and sustainable management of natural resources, which will benefit both the well fed and the food insecure in South Asia.

Dr. Sarfraz Khan Qureshi, Director, Mahbub ul Haq Human Development Centre, Pakistan, gave a presentation on “Economic Reforms and Food Security in Pakistan.” He said the theme of the conference is appropriate and relevant to South Asia. South Asia has introduced a range of economic reforms within the framework of the comprehensive package since 1990, but the impact on poverty and food security has been below the expectation of the policymakers. In the 1990s, poverty and food insecurity at the household level in Pakistan worsened. Dr Qureshi highlighted various reforms and development outcomes from these reforms in Pakistan. Pakistan has liberalized its trade and markets for agricultural products in addressing the role of agricultural growth in achieving national food security. Currently, there is a policy to phase out most of Pakistan’s commodity price supports and subsidies as well as promote private sector investment in agriculture. Furthermore, there is a strong case for reforming public investments in rural infrastructure, agricultural technology systems, and irrigation and drainage systems. Dr. Qureshi concluded by saying that in order to achieve food security in South Asia, it is imperative to have a balanced policy on price incentives, technological changes, and institutional support for accelerated agricultural growth. There is also a need to increase the role of the private sector and market signals in managing procurement, public distribution, stocks, and international trade in food crops.

In the panel discussion that followed these presentations, Dr. Vijay Vyas, Institute of Development Studies, India raised the issue of why much of South Asia remains in poverty in spite of several favorable features in the economies of South Asian countries. Furthermore, the governments in South Asia are serious about alleviating poverty, and they have spent considerable amount of resources to reduce poverty on focused programs. Also, economic growth has been reasonably good – 4 to 5 percent for the region as a whole in the last ten years. Then he mentioned three issues that need to be studied for alleviating poverty. They are:

- India’s inability to bridge the fiscal gap with economic reform.
- Why have the terms of trade in agriculture improved in the last ten years and the discrimination against agriculture has declined?
- Why have delivery systems largely focused on medium and large farms, neglecting small farms (with an average holding size of less than 2 ha.), who cultivate 36 percent of India’s agricultural land and comprise more than three-fourths of the peasantry in the country.

In addition to facilitating the role of markets, governance in terms of providing programs and policies that facilitate adoption of technology is important. In this panel discussion, Dr. Mohanman Sainju, Institute for Integrated Development Studies, Nepal highlighted three issues that are important for South Asia. First, South Asia has achieved agricultural production at the national level, but has not made food accessible to most of the needy people in the region. Second, there is a need for policy harmonization within South Asia. Third, applied research or problem-solving research is needed to address the food security, poverty, and natural resource problems of small and marginal farmers in order to increase their access to technology and markets.

Open discussions followed the presentations of two panelists. During the open discussions, Prof. G. S. Bhalla intervened with the comment that agricultural growth in India has decelerated over



the past two decades. The GDP growth rate in agriculture has fallen from 3 percent in the 1980s. The foodgrain output growth rate has also decelerated from 4 percent in the 1980s to 1.8 percent in the 1990s. Although productivity has decelerated in India, he cautioned the participants about the role of multinationals in transferring biotechnology to small farmers. He also emphasized the need for developing countries to cooperate in order to control the role of big monopolies in the agricultural input sector.

Dr. G. K. Chadha, Commission for Agricultural Costs and Prices, Ministry of Agriculture, India reiterated that food security in South Asia depends on employment opportunities that provide avenues for earning and purchasing power to poor households. However, generating employment in the agricultural sector may be more difficult than expected because employment in the agricultural sector is currently a disaster even with agricultural wage rates increasing. In addition to employment generation, pricing system of agricultural commodities should be taken as a serious matter which has implications for food security.

Dr. Surjit Bhalla, ORIS, India pointed out that the wage rates for agricultural workers have increased 3.5 to 4 percent per annum for the past 17 years. Also, wages for female workers grew on average one percent higher than male wage rates during these years. It is not low wages that inhibit Indians from working in the agricultural sector, but the availability of employment in agriculture because pricing policies have contributed to increased food stock at the national level. Although food stocks are large, India has limited capacity to store this increased food and manageability of the stock remains questionable. He concluded by posing the question, “what would happen if developed countries eliminated their price supports and subsidies to their farmers in terms of food security in developing countries?”

Dr. Abusaleh Shariff, National Council of Applied Economic Research, India raised the issue that accessibility to food is the food security problem in South Asia, not sufficient production of food. He also cautioned about the growing disparity of income between the agricultural primary sector, secondary sector, and the tertiary sector.

Dr. Sukhadeo Thorat, Jawaharlal Nehru University, India said that growth in agricultural wages and rural nonfarm employment has led to the fall in rural poverty during the 1970s and 1980s. However, one in every four persons living in India live below the poverty line; therefore, investments in agricultural research, education, health, and infrastructure are key for increasing growth and alleviating poverty, but the efficiency of these investments needs to be improved. He finished his comment by emphasizing that bureaucracy will play a key role in addressing the problems of rural South Asia and reminded us that this role is changing.

Dr. Shaikat Ali of the Food and Agriculture Organization, Bangladesh mentioned that agriculture is not prominently featured in poverty reduction strategy papers prepared by developing countries. Also, he raised concern about the declining official development assistance from developed countries.

Mr. Sharad Joshi of Shetkari Sanghathana, India raised the issue of what is the right amount of government intervention in agricultural markets. He pointed out that since the initiation of market liberalization policies, the government not helped farmers to obtain good prices for their

commodities. For example, before liberalization in Maharashtra, India, the government controlled and purchased the crops at prices lower than international prices. However, when the international price fell drastically, the government in the name of liberalization, turned the problem back to the farmers to handle it by themselves. Thus, there is a need for balancing the role of government and free market liberalization policies in achieving sustained agricultural growth.

In response to these questions, Dr. Pinstруп-Andersen said public investment in agricultural research including molecular biology-based research is absolutely critical. In order for optimal benefits of public investment in agriculture, better partnership between the private and public sector in the development and transfer of technology is needed. He also commended the intellectual property rights approach being taken by India, which assures that farmers can use their own seeds and protects the intellectual property rights of the plant breeders. This approach could be a model for other developing countries. He also emphasized that the increasingly globalized world leaves little room for the question of food self-sufficiency. He concluded the session by stating that there is hope that developed countries will increase their official development assistance. However, more official development assistance is only a necessary ingredient, focused official development assistance along with trade liberalization of agricultural markets in Europe, North America, and Japan are sufficient ingredients.

## **Session II: Trade Liberalization and Food Security in South Asia**

**Chairperson: Shaikut Ali, Food and Agriculture Organization, Bangladesh**

Dr. Eugenio Diaz-Bonilla, IFPRI, presented the first paper in the session on “Trade, Food Security, and WTO Negotiations: Some Reflections on Food Security Boxes and Their Uses.” He mentioned that the Doha Declaration of November 2001 renewed the commitment stated in the WTO Agreement to take into account food security concerns in the forthcoming negotiations. After a brief presentation on the notion of food security boxes and a short background on food security trends in South Asia, Dr. Diaz-Bonilla discussed in great detail three issues related to WTO negotiations: country classification for food security reasons; protectionism and subsidies in industrialized countries; and domestic policies for food security in developing countries. His presentation highlighted the imbalances among industrialized and developing countries. Industrialized countries have enough legal room under the WTO to subsidize their own agriculture sector as well as the financial resources to provide subsidies while many developing countries lack the financial, human, and institutional resources to invest in food security. This imbalance should be recognized by ensuring that agriculture trade negotiations proceed in parallel with increased funding for agriculture and rural development, food security, and rural poverty alleviation by international and bilateral organizations.

Professor Anwarul Hoda, Indian Council for International Economic Relations, India and Dr. Ashok Gulati, IFPRI, presented a paper on “Indian Agriculture, Food Security, and the WTO Agreement on Agriculture.” Even before India joined the WTO in 1995, a question was raised whether the liberalization envisaged in the WTO Agreement on Agriculture would destroy India’s food security. This question formed the basis of their presentation, which focused on various issues facing India under the Agreement on Agriculture in achieving food security. To ensure food security is safeguarded in India, for securing a level playing field international

negotiations by reducing high levels of support in developed countries must be a priority. This reduction would lead to a worldwide production shift to relatively more efficient economies, therefore, benefiting more countries in South Asia. In this context, apart from price reform, institutional reform in both procurement and distribution must be undertaken to ensure better household food security. Also, proper targeting of food subsidies, which could eventually evolve into a food stamp system should be pursued along with the negotiations of agreement on agriculture in the WTO.

Dr. Garry Pursell, World Bank, United States and Dr. Sarfaraz Qureshi, Human Development Centre, Pakistan presented the third paper of the session on “Trade and Food Policies in Pakistan.” It provided a background to Pakistani agriculture, which detailed various policy reform measures undertaken by the Pakistani government in liberalizing the agricultural markets and trade sector. In addition to discussing the reforms, the impact of agricultural trade liberalization, the removal of input subsidies for farmers, and the role of the private sector in enhancing agricultural development were highlighted. They review a case study of the wheat industry in Pakistan that summarized several consequences of agricultural and trade policy reforms. They concluded by announcing the government’s tendency to move towards targeted subsidies such as food stamps for consumers and targeted interventions for smallholder farmers.

Dr. Paul Dorosh, IFPRI, presented the fourth paper on “Trade Liberalization and Food Security in Bangladesh.” Following a poor harvest in 1997 and a massive flood in 1998, the private sector traders in Bangladesh imported several million metric tons of rice from India. Evidence shows that domestic supplies and stabilized prices in Bangladesh at import parity levels were maintained because of trade liberalizations in India and Pakistan in the early 1990s. However, the positive contribution of trade liberalization to short-term food security in Bangladesh in times of domestic production shortfalls does not minimize the importance of increased agricultural productivity and rural economic growth in providing rural poor households with sufficient incomes to acquire food. The Bangladesh experience illustrates the potential benefits of trade liberalization for national food security because it enabled rapid increases in food supplies when domestic production falls short of demand. However, a flexible trade policy may be needed to protect the producer interests and long-term food security, particularly in the face of export subsidies or steep decline in world food prices.

Mr. R. C. A. Jain, Ministry of Agriculture, India, was the first discussant. He emphasized that national food security and food security at the household level need to be identified separately in the discussions on trade negotiation. He said that domestic food production in a developing country has to be the mainstay of food security since many of the poor households in the rural areas depend on small pieces of land for their food security. There are limitations to international trade in achieving food security. Agricultural policy has to address the issue of domestic agricultural development in addition to international trade in case it seeks to address the issue of food security. Trade liberalization in India had a major impact on its edible oil sector. The oil seeds production was affected by the importation of edible oils allowed due to trade liberalization. The issue of how to protect the farmers and provide them with alternative sources of income needs to be addressed in future research. Dr. Mushtaq Khan was the second discussant of the trade liberalization papers. He said opening of the trade and trade liberalization should benefit ultimately to the labor force and increase the income and access to food. He also

emphasized that there is a need for government intervention in terms of helping out the affected segments of the population during the transition period of trade liberalization.

The third discussant, Dr. Saman Kelegama from Sri Lanka, said the risk of resorting to trade in the context of food security is challenged from the groups that argue for food security as fundamental human right. In addressing food security through trade liberalization the multi dimensional nature of food security such as economic, social, and political aspects should be given due consideration. What is important is given the non-level playing field in international market in agricultural trade whether expediting trade liberalization in the context of food security is an important issue for policy research.

### **Session III – Technology for Food Security in South Asia**

**Chairman: Dr. Panjab Singh, India**

Dr. Panjab Singh opened Session III by inviting Dr. Suresh Babu to present the paper written by Dr. Peter Hazell, IFPRI. Suresh Babu's presentation of Peter Hazell's paper focused on future challenges for the rural South Asian economy. The presentation emphasized that in order for agricultural development benefit poverty alleviation five interlinked challenges for policy reforms need to be addressed: stagnation in public investment in agriculture; market-driven growth primarily from trade liberalization opportunities and diversification of national diets; reduction of poverty in less favored areas; developing a sustainable agriculture system that negates environmentally destructive agriculture growth; and increasing the role of rural nonfarm sector in reducing poverty. The paper also emphasized that future growth will depend on the emphasis given to high value livestock, horticulture, and agriculture products. Developing agroindustry and export opportunities for agricultural commodities is important. Development of irrigated areas and implementing environmentally sustainable technologies is essential. All these have to be done in the context of policies that focus on liberalization of markets and trade, and in the context of globalization of world agriculture. Meeting these challenges will require phasing out input subsidies, taking advantage of trade liberalization, reforming of public institutions, and increasing productive investment in the agricultural and rural sectors.

Following Suresh Babu's presentation Dr. Mruthyunjaya presented a paper on "Agricultural Biotechnology in India: Food Security and Safety." He addressed the key issues related to research and development efforts in India on agricultural biotechnology, expected benefits of agricultural biotechnology in improving food security, importance of social choices in considering agricultural biotechnology, and concerns and regulations in terms of consumer preference, food safety, and management of intellectual property. He also emphasized in his paper the importance of policy issues related to agricultural biotechnology. National policy on biotechnology research and development investments and setting priorities for biotechnology research are important issues to be addressed in India. Intellectual property rights to encourage greater private investment in biotechnology research is also needed. Further efforts on setting up systems of biosafety regulations is important. In the process of developing and implementing biotechnology research it is important to protect the interests of small farmers and consumers in India.

Mr. Sharad Joshi made the third presentation of this session on “Search for Alternative Technology.” He talked about the importance of technology in addressing the food security of India in the 1960s and 1970s through improved high-yielding varieties and fertilizer applications. He said improved technologies have brought not only improved availability of food but also reduced the burden of women in the rural areas. He also said that every technology has its good and bad side. In order to address the bad side of the technology further technological innovations and research are needed to address the negative effects of technology. For example, the green revolution technology has brought about increased use of chemical fertilizers and pesticides which has become a second generation problem in Indian agriculture. However, the promises that biotechnology applications in agriculture have indicated that the use of pesticides and chemicals could be reduced by adopting biotechnology in agriculture. He also emphasized that technology adoption from the west has been urban biased. For example, information technology which is used by the urban population has been adopted very fast compared to the biotechnology. Even in the areas of biotechnology, the biotechnology such as medical biotechnology that benefits the urban population has been adopted and approved readily compared to agricultural biotechnology, which primarily benefits the rural population. He emphasized the need for making the western technology or the technology developed in other countries accessible to the farmers in India.

Following Sharad Joshi’s presentation Anitha Ramanna and Sangeeta Udgaonkar presented the paper on Intellectual Property Rights in South Asia. Their paper addressed a framework for increasing opportunities and reducing constraints on technology transfer and address the political economy and legal tensions arising from the new intellectual property regime in South Asia. The presenters mentioned that the new intellectual property regime structure aims to grant protection to firms and breeders on the plant varieties that they develop and the revision of patent laws. It also addresses the protection of genetic resources along with the farmers rights and privileges and regulate the access to genetic sources. The paper also discussed the opportunities and constraints in terms of introducing new technology, incentives for innovations, restrictions on exchange of resources, and lack of incentive to share information among the interested players in agricultural development.

The set of papers on Food Security in South Asia were commented on by Dr. C. H. Hanumantha Rao. In his set of comments he said that food production in the 1960s and 1970s brought about by technological revolution has reduced poverty. Yet a major share of the rural population still do not have adequate food for meeting their food requirements. Thus, technology policies need to be addressed in order to increase the food security of the small scale farmers and landless laborers. Dr. Rao also said that there is less inequality in the distribution of livestock assets compared to the land assets. This provides opportunities to increase food security, particularly of women, who do most of the dairying in rural India. Thus, the research priorities both in terms of allocation of research as well as technological aspects should consider the technologies that address the food security of vulnerable groups of the population. Emphasis should also be given to improving the post harvest technology and thereby adding value to the agricultural commodities produced by the rural households.

Dr. Dhruva Joshy of Nepal in his comments as a discussant said that in spite of having achieved food self sufficiency at the national level a large number of rural households in South Asia are

still facing high levels of food insecurity. Furthermore, the problems of the green revolution such as increased use of agrochemicals and the deterioration of irrigations systems needs to be addressed in the second round of research. Thus, public investment in agriculture, which is declining in South Asia needs to increase in terms of research and agricultural infrastructure.

The third discussant, Dr. Usha Barwale Zehr in her remarks said that there are a wide variety of non-GM biotechnologies which could be used to improve the livelihoods of the farmers. But she emphasized the need for clear understanding of the rights of the breeders and farmers and providing incentives for private investors to invest in agricultural innovations. During the discussions Mr. Ramesh Jain said that India has adequate policies that protect the rights of the breeders and the farmers. In releasing BT cotton the Indian system of biotechnology approval had given consideration to all aspects of biotechnology including environmental, health, and commercial aspects before approving the release of BT cotton. He said that there is no need for totally phasing out input subsidies when the cost of production of crops is very high. Small and marginal farmers in India will need some amount of subsidy for purchasing the modern inputs. This is important towards addressing their food security and protecting the environment. He reminded us that the WTO negotiations also provide up to 10 percent of the value of agriculture produce as the subsidy to the farmer while India is giving only 7.5 percent of the value of agricultural products as input subsidies.

G. S. Bhalla , in his intervention said that in addition to the technology the institutions such as irrigation and the extension systems in India played an important role in achieving the food production. Furthermore, it is important not to talk about national level food self sufficiency but regional food insecurity, particularly in the eastern region of India and the northeast part of India where the rural infrastructure is grossly lacking for increasing agricultural development. Dr. Panjab Singh, in his concluding statement said that food security needs to be defined in terms of food and other parameters including ecological and environmental parameters. In addition to food, importance should be given to water security. The quality of food and food safety needs to be emphasized as part of food security. Thus, not only technological issues need to be addressed in terms of production as well as trade, marketing, processing, value addition, and final consumption.

## **Session IV – Challenge of Water in South Asia**

**Chairman: Mr. Sompal, India**

The first paper in this session on emerging water issues in South Asia was presented by Ruth Meinzen-Dick. Dr. Meinzen-Dick presented historical trends in water use in South Asia. She showed the development of various water use systems such as large dams for irrigation and hydropower, small scale irrigation, and groundwater supply systems. She said growing costs of water harvesting, opposition to dams, groundwater depletion, and inappropriate technologies for water use and management are currently posing serious problems of water management in South Asia. As a consequence, in much of South Asia there will be a growing water shortage for agriculture in the future. Rapid growth in industrial and domestic demand for water will cause significant transfers of water from irrigation. Water shortages are an important cause of slowing serial yield growth in South Asian countries. Due to water scarcity non-agricultural uses of

water will be affected in South Asia. Increasing scarcity and competition for water requires much better water policies. Limited options to increase supply requires better attention to the management of water demand. It is important to recognize and address all needs of water through technology, pricing, and institutional reforms.

The next paper on pricing and institutional reforms in Indian irrigation by K. V. Raju and Ashok Gulati and was presented by Dr. K. V. Raju. This presentation provided a background to irrigation sector reforms in India which is trying to address the low price paid for water and the growing financial crunch faced by irrigation management systems. As a result, there have been shrinking funds for construction of ongoing irrigation networks. There have been delays in project completion and raise in the cost and reduced benefits of irrigation systems. It has been difficult to maintain even normal operation and maintenance costs due to poor revenue collection. State budgets are unable to allocate more funds for managing the irrigation systems. He highlighted the need for price reforms in terms of water pricing through designing appropriate principles and practice of pricing water and institutional reforms that are needed for maintaining and increasing the benefits of irrigation systems in India.

Following the two papers on irrigation, Dr. Bhalla and Dr. Bal Gopal Baidya of New Era, Nepal gave their comments on the papers. Dr. Bhalla started out by recognizing water as both a private and public good. While he agreed with charging for full capital costs for water used in groundwater irrigation systems because they are linked to power sector subsidies, he was a little apprehensive about charging for capital costs for water in the large surface water irrigation because it could be considered as a public good. He highlighted the serious problem of the lack of water resources during the dry season in South; therefore, developing technological innovations for improving water management for large-scale irrigations systems in order to increase the benefits of irrigation systems and reduce the maintenance cost is needed. Making water available during the dry seasons through efficient irrigation systems will enhance the productivity of small farmers, and thereby, increase their food security. One method in reducing national water scarcity is to look beyond the national borders to a regional approach of sharing water. There is potential of water sharing in South Asia, especially in terms of regulating water flow over the year according to the hydrology of the region. This approach will help address the problem of food security in more holistic terms.

There were comments from several of the conference participants. Dr. Shaukut Ali, Bangladesh stressed the need to recognize that water has multiple uses and that the increased role of rainfed agriculture is minimizing the use of water for agriculture. However, dryland agriculture systems do not have the privilege of being irrigated; therefore, investments in cropping systems and technologies that will reduce the use of water and increase the productivity of crops in these areas are needed. Furthermore, urban households are increasing their water demand. To ensure that rural and urban areas have sufficient amounts of water, farmers, and urban population need to share water resources within a country. In order to efficiently manage water resources between rural and urban areas and amongst countries, institutional issues related to water management and water use will require further research in terms of management efficiency and farmers' perceptions of provided services. Professor G. K. Chadha of Commission for Agricultural Costs and Prices, Ministry of Agriculture, India argued that technology will solve the water management problems in South Asia if there is sufficient private and public

investments. Since water is a public resource, the management of this resource will decide the future level of water scarcity. Dr. Sharad Joshi of Shetkari Sanghathana, India mentioned that large-scale irrigation systems should be managed to prevent waterlogging and drainage problems by alternating the water supply systems amongst the regions. Dr. T. Haque, Commission for Agricultural Costs and Prices, Ministry of Agriculture, India highlighted that water scarcity varies between regions within a country and between countries. To incorporate these differences, there needs to be joint management of water and land. This joint management will assist with the salinity and drainage problems facing east India. It is also important to develop institutional reforms and interventions to solve the groundwater depletion caused by tube well introduction.

In his closing remarks, Chairman Sompal raised the issue of what is the optimal combination of minor irrigation and watershed management that will replenish the groundwater resources in the long run. He pointed out that development of large-scale irrigation systems costs Rs. 35,000 per hectare while small-scale irrigation systems costs Rs. 7330 per hectare and diversification into agroforestry and other forms of forestry diversification are insensible if policies do not allow farmers to cut their trees for commercial purposes. Thus, we need to examine harmonization of policies and institutions in order to increase the land and water management policy options in South Asia.

## **Session V: Market Reforms, Diversification, and Food Security**

**Chairman: Ramesh Jain, Ministry of Agriculture, India**

Dr. P. K. Joshi, National Centre for Agricultural Economics and Policy Research, India presented on “Agricultural Diversification and Challenges of Market Reforms in South Asia.” He identified key benefits of increasing agricultural diversification in the region such as raising farmers’ income, generating employment opportunities, alleviating poverty and undernutrition, increasing participation of smallholder farmers in the new trade regime, and conserving natural resources. However, to maximize these benefits, integration in production and marketing systems are needed to reduce transaction cost and to increase the crop quality, food safety, and value-added. In addition to increased integration, smallholder farmers need to be involved in order to derive the potential benefits of globalization. This involvement is necessary because their marketable surplus is small; adequate capital is unavailable; and capacity to partake in global markets is weak. He concluded by stating that there is a large scope for diversifying crop production into favorable high-value crops, but technological and institutional support are needed in the production and processing stages with a particular interest in increasing the participation of smallholders. This diversification will also require turning research and development in agriculture, institutions, and infrastructure in favor of emerging commodities. However, with appropriate crop diversification it is possible to generate a new round of employment opportunities, reduce poverty levels, and conserve natural resources.

Dr. S. Mahendra Dev, Centre for Economic and Social Change, India examined market reforms for achieving higher and sustainable growth in agriculture and food security for the poor. He highlighted three major problems in the food sector: accumulation of food stocks; agricultural policies to increase food commodity demand; and economic access, employment, and rural transformation. The accumulation of foodgrains in India has been difficult as a result of



increased procurement prices, which discourages private trade, decreases competitiveness of exports, reduces consumption due to low purchasing power, and diminishes the selling of grains through retail outlets in the short-run. In the long run, the demand for grains has declined as a result of changing consumption patterns. He concluded by encouraging faster reforms in the agricultural sector, which should assist in achieving higher growth and equity in agriculture and food security for the poor. Also, a multi-dimensional reform agenda for improving farmers' incentives, rationalizing the subsidies, and promoting investments to protect the poor is needed. Reforms are also needed to enhance diversification and rural transformation, which will increase the income and employment of the poor.

Dr. Saman Kelegama, Institute of Policy Studies, Sri Lanka presented on "Market Reforms in Agriculture: Sri Lanka Country Perspective." Sri Lanka is facing several issues in its agriculture and food sector. Although, Sri Lanka has reduced its total food imports from 51% in 1975 to 9% in 1999 due to increased food production, food insecurity continues to be a major development challenge. Sri Lanka has achieved 90 percent and 81 percent in self-sufficiency in rice and fish, respectively. However, self-sufficiency in sugar and milk are respectively 12 percent and 44 percent. Furthermore, the country imports close to 1 million tons of wheat a year. With food insecurity still prevailing in Sri Lanka, Sri Lanka is in the process of changing the roles of institutions and policies for food security. Rethinking of the current situation is needed for poverty alleviation and for a new agriculture strategy that will be based on food security. He stressed that Sri Lanka can no longer rest on its laurels of being an exception among developing countries in rising living standards because the physical quality of life index may not fully reveal the food intake deficiencies that Sri Lankan households are currently facing. Concerted efforts have to be made using both agricultural and poverty alleviation policies to address the household food security problem. It is particularly important at this time because the public food distribution system is gradually giving way to the private sector and market forces. Appropriate policy measures also need to be undertaken to face the changing trade regime in South Asia.

Mr. Choni Dhendup, Ministry of Agriculture, Bhutan presented the Bhutanese perspective on market reforms in agriculture. Between 1961 and 1980, Bhutan's development strategies focused on infrastructure development. In the mid-1980s, emphasis was placed on the broader goals of economic development as well as decentralization of administration and resource management. The Ministry of Agriculture placed emphasis on input provision, development of extension systems, and area-based development approach for food production. In the 1990s, phasing out of subsidies and management of renewable natural resources became priority. The current objectives of the food and agriculture sector are to achieve national food security, conserve natural resources, enhance rural income, and generate employment. Future priorities for the food and agriculture sector are: enhancing household and national food security; developing farm infrastructure, agricultural businesses, and wood-based industries; conserving of natural resources; and developing internal and external agricultural markets. In order to achieve these strategies and priorities, various development programs such as the food security program, income generation program, livelihood support program, natural conservation and environmental protection program, employment generation program, and institutional and capacity development program are being planned in the 9<sup>th</sup> five-year development plan.

Following the four presentations on market reforms, diversification, and food security Dr. C. H. Hanumantha Rao of the Centre for Economic and Social Studies, India presented his comments

as a discussant. On diversification, he emphasized three basic factors that can contribute to agricultural diversification South Asia: relative prices, technology development, and infrastructure development. However, diversification so far has been the result of demand factors rather than supply factors. Thus, it may be useful to use simulation exercises to see what will happen to the nature and speed of diversification if price, technology, and rural infrastructure policies are designed and implemented appropriately. He also emphasized the need for understanding of how globalization and urbanization will impact small and marginal farmers. On the paper addressing India, Dr. Rao commented that wage growth rates in rural areas have been increasing for the past 20 years. The growth rate in agricultural employment has declined during this period. The latest data on per capita expenditure show that expenditure growth has been lower in the 1990s compared to the 1980s. It is worth investigating further what other factors contribute to lower per capita economic growth in the rural areas, particularly for the bottom 50 percent of the population. He also commented on the large volume of food stock in India. Several factors have contributed to this large stockpile, but only two factors - rising prices and declining consumption- have been used as explanations. Therefore, it is important to investigate what other causal factors remain unexplained for the large portion of food stock in India. Further investigation is needed to identify the constraints facing the private sector in effectively operating in food trade which could compliment the public stock buildup and reduce the fiscal costs in maintaining this high level of stock

The second discussant, Dr. Paul Dorosh, said regional variations within India as well as in other South Asian countries require region-specific approaches for solving food security problems. There are important differences in just having an average compared with the advantage of having food security measured for different regions within a country. Furthermore, he argued that removing quantitative restrictions on rice and adjusting tariffs are good in theory, but in reality, the political economy of producers and traders as well as those who lobby for protection determine the final outcomes of the policies. He concluded by reiterating the need for understanding various policy options being undertaken in surrounding areas, which were presented during this workshop.

During the open discussion session, Dr. Shaukut Ali said that investment in agricultural development is needed in order for agricultural diversification to expand. In diversifying food crops to more commercial crops, we need to take into account the food security impact that it will have on poor households. In harnessing the benefit of diversification, it is important to have market access for the products that are produced by smallholder farmers. Furthermore, when diversifying the comparative advantage of a particular crop grown by smallholder farmers need to be established before they can compete in the regional and international markets. On the question of food stock, it is not the level in terms of achieving food security and the level itself.

Dr. G. S. Bhalla commented that contrary to the presentation by Dr. Joshi, crop diversification has been declining. He continued by arguing that crop diversification should not be merely measured in terms of expansion of area cultivated, but in terms of the quantity and the value of output. Determining the quantity and value in the diversification of livestock, fruits, and vegetable production will be difficult because there is limited data; therefore, meaningful conclusion about diversification will be hard to come by. For the impact of diversification to be

felt in South Asia, there needs to be access to international markets in Europe and North America. This access can be granted through regional cooperation.

Professor Vijay Vyas in his comments said the current discussion about diversification is mostly diversion of land from cereal crops to other crops. However, in order to analyze an area on the effect of crop diversification, it is important to understand the area's agrarian structure. One also needs to ask two questions - diversification for whom and diversification by whom. He continued by mentioning the natural process of developing economies - declining agriculture employment. He asks us to understand who benefits from rural employment growth and if the established policies are conducive for smallholder farmers to emerge from agricultural-based livelihood to nonfarm income generation activities. He also mentioned that the solutions to large-scale food security along with the huge food stocks should be viewed at in three dimensions - short term, medium term, and long term. In the short-term, food for work programs that build infrastructure for education, health, and roads should be considered a priority. In the medium term, decentralizing the role of procurement and distribution to the state level will help avoid large accumulation of food stocks at the central level. In the long term, it is important to increase the technical, institutional, and investment support for crop diversification so that farmers move away from growing cereal crops to non-cereal crops.

Dr. Eugenio Diaz-Bonilla suggested looking at how the supply chain will help promote agricultural diversification. We have reviewed the demand drivers of diversification, income and diet changes, but we have not looked at the supply chain. It is particularly important to look at how supermarkets are organized or will be organized in the future as well as the marketing agents from the farm to the consumer will be effectively organized to promote crop diversification.

Dr. Ruth Meinzen-Dick, IFPRI, suggested looking at the land reform debate in order to understand the impact of crop diversification. For example, studies have shown that small pieces of land given to poor landless households through land distribution programs have enhanced their ability to grow crops that are nutritionally effective, which help diversify the diets of poor households. Such bottom-up diversification should be considered in order to reduce the micronutrient malnutrition among the poor households.

In his closing remarks, R. C. A. Jain, chairman of the sessions, said that the papers contributed to the policy debate on food security on several grounds, and thanked the participants for their contribution.

## **Session VI – Food Security Interventions in South Asia**

**Chairperson: Mohan Man Sainju, Institute for Integrated Development Studies, Nepal**

The first paper of the session “Feeding Minds while Fighting Poverty: Food for Education in Bangladesh” was presented by Akhter Ahmed, IFPRI. Dr. Ahmed presented the history of IFPRI's work on the Food for Education (FFE) program in Bangladesh. He elaborated on its current structure. By the year 2000, the FFE program covered 18,000 public and private primary schools accounting for 27 percent of all primary schools in Bangladesh. It also covered 2.1 million students, providing them with food for attending school. Households with primary age children become eligible for FFE rations if they meet at least one of four targeting criteria.

To maintain their eligibility, children must attend at least 83 percent of the classes per month. The program costs 10 cents per student per day totaling \$177 million in 2000. Dr. Ahmed also presented the results of the evaluation of the FFE program in Bangladesh.

The study found that FFE has been successful in increasing primary school enrollment, promoting attendance, and reducing dropout rates. The enrollment increase was greater for girls than for boys. Although FFE schools are more crowded, than non-FFE schools this does not necessarily affect the quality of education. Further more, targeting is generally effective, but can be improved. FFE improves household food security, but does not improve nutritional status of the vulnerable household members.

The current dealer-based system distribution system is problematic. The recommendations for improving FFE programs are: including complementary financial and technical assistance to improve the quality of education, improving targeting of households and locations, combining FFE feeding with school feeding to achieve better results, broadening FFE to include pre-school feeding programs, and designing and improving foodgrain distribution system.

The second paper presented in this session was by Dr. Sarfraz Khan Qureshi on food market reforms in Pakistan. He gave the history of the government's intervention in food markets in Pakistan. The presentation analyzed major reforms introduced in Pakistan since independence and examined the impact of reforms on household food security. The reforms aimed at improving public management of strategic wheat reserves, removing all market restrictions on food imports, exports and internal movements, and phasing out commodity price supports and subsidies, which are in advanced stages of implementation. The impact of these reforms on the food sector is still not well known; however, the food marketing system by itself does not address the demand side of the food security problem. The main cause of hunger in Pakistan is low purchasing power of the absolute poor. We all know food market reforms are essential, but they need to be complemented by an effective system of social safety nets. The government and the civil society can perhaps join in partnership to provide the safety nets to the poor.

Dr. Suman Sharma of IIDS/TU, Nepal presented the third paper on food security in Nepal. It gave an overview of poverty and its determinant in the context of food security in Nepal. The trends in food security including foodgrain trade, production, availability, and liberalization policies with agricultural prospective plan were discussed as well as the government food aid and subsidy policies and programs. He concluded that faulty targeting continues to be a major source of inefficiency in food distribution program along with the cost ineffectiveness of the Nepal Food Corporation. Nepal also has several outstanding issues in the context of food that needs to be addressed. These issues include:

- Improving the targeting by national food corporation,
- Establishing a monitoring system of national food corporation's food distribution program
- Understanding the political economy factors that inhibit the self-targeting mechanism from reaching the poor,
- Reducing the transaction cost caused by high transportation and storage cost between various regions of Nepal,

- Reforming ineffective fertilizer imports regulation,
- Understanding of the various subsectors of the food economy, and
- Increasing the amount of food security research undertaken in Nepal.

Dr. Abusaleh Sharif, a discussant, compared various programs and policies that are being implemented in India to address the vulnerability of poor to food insecurity. He discussed how these programs have been costly and ineffective although well intentioned. For example, the longstanding program of Integrated Child Development Services, which covers 57 million children, has not benefited in contributing to improved nutrition of the intended beneficiaries. India still has 56 percent and 70 percent of women and children are anemic. About 55 percent of the children are nutritionally stunted.

Dr. Bishwambher Pyakuryal of Tribhuvan University, Nepal commented on the papers as a discussant. He emphasized that the population growth in Terai of Nepal has been increasing and its beyond its carrying capacity. The poverty alleviation programs of Nepal have not been properly targeted, and hence, do not reach the appropriate beneficiaries. He said that there is no strong correlation between what has been prioritized in the agricultural plan and the budget allocation for action. He highlighted that the quality of data available in Nepal for undertaking policy research is limited, and therefore, investing in computerized database systems that are reliable and useful for policymaking in Nepal is essential.

Before the chairman closed the session, various questions regarding food aid and the effectiveness of food aid in terms of addressing short-term food security in the countries of South Asia were raised. The presenters of the paper responded to the questions.

The chairman of the session Dr. Mohanman Sainju summarized the outcome of the discussion. Food security is not just a matter of production, but also distribution. Also, databases for analyzing food security in South Asia are generally weak except for India. Thus, investment is needed in developing useful databases. Furthermore, information sharing about experiences in implementing programs and policies in the region needs to occur. This information sharing could lead to replication of good projects that will reduce poverty and food insecurity. Moreover, sensitizing policymakers is important to make the research results useful for the poor. In this connection, this conference and PAANSA has been useful in bringing together researchers and policymakers in South Asia to address the major concerns facing food security in the region. Finally, there is a high level potential for regional cooperation in solving the problems of food security in the region. This problem will further require cooperation of the governments as well as the institutions within the region.

## **VII: Closing Session**

**Chairperson: Dr. Isher Judge Ahluwalia, ICRIER, India**

Dr. Ahluwalia said she was very impressed by the way in which the conference has been conducted and the participation of various distinguished delegates from the South Asian countries. The increased collaboration between IFPRI and ICRIER has helped to improve ICRIER's research activities in the area of agriculture, which continues to be a prime mover of economic development in the region. She also thanked the participants for their contribution and thanked the government officials who have found time to attend and participate in the conference.

In his concluding statement, Dr. Ashok Gulati said that this conference is just the beginning of a long-term collaborative relationship between IFPRI and South Asian institutions that working towards reducing poverty, food insecurity, and malnutrition. He said that collaboration between the South Asian institution brought about through PAANSA will result in collaborative research and dissemination of policy research results to policymakers. Furthermore, under PAANSA several collaborative training and methodological workshops are being planned in the next 2-3 years and IFPRI will be collaborating with institutions in different countries in South Asia to offer these workshop.

He also thanked the participants, the distinguished delegates, and the donors who have contributed to the success of the conference. He particularly mentioned the contribution of the Ford Foundation, India; USAID, New Delhi office; and USAID Global Bureau, which has provided seed funds for implementing the South Asia Initiative. He also thanked his colleagues from IFPRI who have contributed to the success of the South Asia Initiative.

At the end, on behalf of the participants, Dr. G. S. Bhalla thanked IFPRI, ICRIER, and ICAR for not only the arrangements, which were perfect, but also the issues that were discussed candidly and the background material provided for the conference. He said that information received from sharing knowledge in this conference would help to develop future action toward reducing food security in each one of the countries from which the participants have come. He also wished good luck to the organizers of the conference in their future activities in South Asia.

## **Meeting of the members of PAANSA**

**Chairperson: Dr. Quershi, Human Development Center, Pakistan**

In the afternoon of the second day, the members of PAANSA met at ICRIER to identify common themes of research that affects food, agriculture, and natural resource sector in South Asia. The meeting identified several future activities that PAANSA as a group can initiate and implement in the region. A major outcome of the meeting is the agreement among the participants that meetings similar to the New Delhi, India meeting should be held in the other South Asian countries in order to share the policy problems, research methods, and solutions. Isher Judge Ahluwalia and Ashok Gulati thanked the PAANSA members for their participation.

## **Appendix A**

## Agenda

### Economic Reforms and Food Security – Jacaranda Hall, India Habitat Center

April 24-25, 2002

#### APRIL 24, 2002

**8:30-9:30 AM Registration**

**9:15-11:00 Session I: Economic Reforms, Trade, Technology and Food Security  
Chairperson: Isher Judge Ahluwalia, India**

Welcome by ICRIER/ICAR/IFPRI

9:15-9:40 Have Economic Reforms Enhanced Food Security?  
*Manmohan Singh, India*

9:40-10:10 Food Security in South Asia: A 2020 Perspective  
*Per Pinstrup-Andersen, IFPRI*

10:10-10:30 Economic Reforms and Food Security in Pakistan  
*Sarfraz Khan Qureshi, Pakistan*

10:30-11:00 Panel Discussion  
*Vijay Vyas, India and Mohan Man Sainju, Nepal*

11:00-11:30 Coffee Break

**11:30-1:05 Session II: Trade Liberalization and Food Security in South Asia  
Chairperson: Shaukat Ali, Bangladesh**

11:30-11:45 Trade, Food Security, and WTO Negotiations: Some Reflections on Boxes  
and Their Users  
*Eugenio Diaz-Bonilla, IFPRI*

11:45-12:00 Indian Agriculture, Food Security, and the WTO-AOA  
*Anwarul Hoda, India and Ashok Gulati, IFPRI*

12:00-12:15 Trade and Food Policies in Pakistan



*Garry Pursell, World Bank and Sarfraz Khan Qureshi, Pakistan*

- 12:15-12:30 Trade Liberalization and Food Security in Bangladesh  
*Paul Dorosh, IFPRI, and Quazi Shahabuddin, Bangladesh*
- 12:30-12:50 Panel Discussion  
*R. C. A. Jain, India; Mushtaq Khan, Pakistan; and Saman Kelegama, Sri Lanka*
- 12:50-1:05 Open Discussion
- 1:05-2:15 Lunch**
- 2:15-3:45 Session III: Technology for Food Security in South Asia**  
**Chairperson: Panjab Singh, India**
- 2:15-2:30 Future Challenges for South Asia: Role of Technology  
*Peter Hazell, IFPRI*
- 2:30-2:45 Agricultural Biotechnology in India: Addressing Issues of Food Security and Safety  
*Mruthyunjaya, P.K. Joshi, and Suresh Pal, India*
- 2:45-3:00 Intellectual Property Rights in South Asia  
*Anitha Ramanna, India and Sangeeta Udgaonkar, India*
- 3:00-3:30 Panel Discussion  
*C. H. Hanumantha Rao, India; Dhruva Joshy, Nepal; and Usha Barwale Zehr, India*
- 3:30-3:45 Open Discussion
- 3:45-4:15 Coffee Break**
- 4:15-5:30 Session IV: Challenge of Water in South Asia**  
**Chairperson: Mr. Sompal, India**
- 4:15-4:35 Emerging Water Issues in South Asia  
*Ruth Meinzen-Dick and Mark Rosegrant, IFPRI*

- 4:35-4:55 Pricing and Institutional Reforms in Indian Irrigation  
*K. V. Raju, India and Ashok Gulati, IFPRI*
- 4:55-5:15 Panel Discussion  
*G. S. Bhalla, India and Bal Gopal Baidya, Nepal*
- 5:15-5:30 Open Discussion
- 6:00-7:00 Public Lecture: Emerging Issues in Trade and Technology – Implications for South Asia**  
*Per Pinstrup-Andersen, Director General, IFPRI*  
Gulmohar Hall, India Habitat Center
- 8:00-10:00 Reception – Jacaranda Hall**

**APRIL 25, 2002**

- 9:00-11:05 Session I: Market Reforms, Diversification and Food Security**  
**Chairperson: R.C.A. Jain, India**
- 9:00-9:20 Agricultural Diversification and Challenges of Market Reforms in South Asia  
*P. K. Joshi, India, Ashok Gulati, IFPRI, Pratap S. Brithal, India and Laxmi Tewari, India*
- 9:20-9:40 Market Reforms in Agriculture: India Country Perspective  
*S. Mahendra Dev, India*
- 9:40-10:00 Market Reforms in Agriculture: Sri Lanka Country Perspective  
*Saman Kelegama, Sri Lanka and Suresh Babu, IFPRI*
- 10:00-10:20 Market Reforms in Agriculture: Bhutan Country Perspective  
*Choni Dhendup and Choki Llamu Bhutan*
- 10:20-10:40 Panel Discussion  
*G.K. Chadha, India and Paul Dorosh, IFPRI*
- 10:40-11:05 Open Discussion

- 11:05-11:30 Coffee Break**
- 11:30-1:00 Session II: Food Security Intervention in South Asia**  
**Chairperson: *Mohan Man Sainju*, Nepal**
- 11:30-11:45 Feeding Minds While Fighting Poverty: Food for Education in Bangladesh  
*Akhter Ahmed*, IFPRI
- 11:45-12:00 Food Market Reforms in Pakistan  
*Sarfraz Khan Qureshi*, Pakistan
- 12:00-12:15 Food Security in Nepal  
*Suman Sharma*, Nepal and *Suresh Babu*, IFPRI
- 12:15-12:40 Panel Discussion  
*Abusaleh Shariff*, India, and *Bishwambher Pyakuryal*, Nepal
- 12:40-1:00 Open Discussion
- 1:00-1:15 Closing Session – ICRIER/ICAR/IFPRI**
- 1:15-2:30 Departing Lunch**

## **Appendix B**

**SOUTH ASIA INITIATIVE**  
**ICRIER-ICAR-IFPRI Conference on**  
**“Economic Reforms and Food Security – The Role of Trade and Technology”**  
Jacaranda Hall, India Habitat Center, Lodi Road, New Delhi-110003, India  
April 24-25, 2002

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