



## Short Article

# Increasing Agricultural Production for Poverty Alleviation; How Far Can We Go?

It is a common idea agreed upon by developed and developing countries governments, donors and international organizations that increasing agricultural productivity is a major step in alleviation of poverty. Growth in agricultural productivity is believed to lead to growth in general. Thirtle *et al.* (2001) show that regardless of differences in data and formulation this is indeed the case; a 1 per cent increase in yields leads to a reduction in the percentage of people living on less than \$1 per day of between 0.6 and 1.2 per cent.

When talking about poverty alleviation, the link to agriculture is easily made and shows to be essential, as poverty is mainly concentrated in rural areas where people rely on agriculture. Estimates of the proportion of poor people that live in rural areas range from 62 per cent (CGIAR, 2000) up to 75 per cent (IFAD, 2001). Smallholder farmers form the largest group of the rural poor with in Asia and the Pacific with 49 per cent (Jazairy *et al.*, 1992). The poorest of the poor live and farm in the most difficult and harsh environments. Nelson *et al.* found that 375 million of the worldwide poor live in Asia in marginal areas (1997).

In principle increasing agricultural productivity would alleviate poverty. Higher agricultural productivity directly benefits the rural poor through increased production that could be used for home consumption and additional sales to increase income. Aside from the benefits for the rural poor, the urban poor also profit from an increase in agricultural productivity. Through an enlarged supply of food products, prices of these products would go down. This would especially benefit the urban poorest, who spend in relative terms more of their income on food.

### However, how far can we go with increasing agricultural productivity?

During the green revolution, agricultural productivity increased dramatically. For example, rice output growth in Asia increased 2.1 per cent annually during 1955-1965 to 2.9 per cent annually during 1965-1980, surpassing the annual population growth rate of 2.3 per cent (Pingali and Heisey, 1999). The use of new improved varieties and a large area expansion were responsible for this strong increase. In the post-green revolution period rice yield growth rates stayed positive (although they decreased to around 1.5 per cent per year) due to a constant increasing use of fertilizers. More recently growth rates are stagnating.

Considering land scarcity in Asia, an increase in agricultural productivity should come from an increase in production per unit of land. However, the production of Asia's main crops is already high

and yield gaps are small. Prospects for significant breakthroughs in yield increases are dim. A new green revolution might be able to increase production once more, but is however not likely to happen anywhere soon (Byerlee and Traxler, 1995).

Even though agricultural productivity increased due to the Green Revolution, rural poverty still persists. When looking at the poorest segment of the rural population, many could not access new technologies due to a lack of resources or because the innovations were not applicable in the farming environments of the poor. In the best cases, their adoption of innovations was only delayed. When innovations became cheaper through more widespread use, it became possible for some poor farmers to implement them. Generally, better-off farmers do have the required capital to implement innovations immediately and are therefore the first to profit. This brings up the question whether increasing agricultural productivity is the way to alleviate poverty among the poorest group of the rural population, small-scale farmers.

Additionally, agriculture has become less attractive as an area of investment. Infrastructure, better information systems and credit have become major goals in many (regional) development projects; whereas practical farming alternatives have received lesser attention. There is a need for simple direct low-cost innovations to assist poor farmers improve their livelihoods.

Current systems have become unsustainable and highly dependent on expensive external inputs. Increasing system's sustainability and decreasing dependency on external inputs would decrease farmer's expenses and increase their income. The green revolution mainly focused on main staple crops. Secondary crops are commonly referred to as 'poor man's crop'. They are often the only crops that can be grown in harsh environments and make up an important part, if not the main part, of poor farmer's farming system. Site-specific alternatives with low implementation costs focusing on secondary crops, would greatly assist poor farmers. For example, alternative systems that intercrop the main crop with legumes have shown to be able to increase yields, decrease labour requirements, decrease production costs due to decreased fertilizer need and have low initiation costs. ■

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*(References available upon request)*

Flash **BREAKING****Rural Business Opportunities in Afghanistan**

An US\$ 18 million grant funded by the Government of Japan will support an innovative project that will provide sustainable means of earning income in selected rural farming districts in Afghanistan. The project will establish four rural business support centres designed to allow farmers, agri-processors, and traders to profitably produce, process, and market their products. Each centre will house an agri-processing plant, financial institutions, suppliers, and a training and capacity development centre designed to develop an array of livelihood skills to improve production and facilitate marketing. About 9,000 rural poor families, tied to agriculture and vulnerable to widespread food insecurity, are expected to benefit. The Afghan Government will contribute \$1 million in the form of land for the centres, and the beneficiaries will contribute \$300,000 in the form of labour.

ADB, 2006. Addressing Rural Poverty in Afghanistan through Business Opportunities, <http://www.adb.org>, (14 December 2006).

**Mekong Countries Reach New Heights of Co-operation in Agriculture**

A far-reaching programme to accelerate co-operation in agricultural development among the six countries of the Greater Mekong Sub-region was finalized in their fourth meeting. The programme focuses on cross-border trade, information sharing, capacity building at all levels from farmers to research institutions, preparedness for agricultural and natural crises, and strengthening the linkages and partnership among agricultural institutions and other stakeholders. Of a regional population of about 316 million, two thirds live in rural areas and depend on subsistence agriculture.

ADB, 2006. Mekong Countries Reach New Heights of Cooperation in Agriculture, <http://www.adb.org>, (13 December 2006).

**Land-losing Farmers Covered by Social Security System in China**

More than three million farmers who lost their land to industrial development or urbanization have been covered by social security systems in China since 2004. More than ten provinces have established such systems. Some have made regulations to crack down on those who infringed upon farmer's benefits during the process of land requisition, and have taken new measures for the resettlement of the farmers, such as providing employment training and small loans with favourable interest rates. Appropriate settlement of the farmers displaced by land requisitions is considered important for building a harmonious society. Official figures show that more than 40 million farmers had their farmlands partially or wholly used for other purposes. Recently, China introduced stringent farmland management policies, strictly prohibiting the urbanization of farmlands.

China Economic Net, 2006. 3 Mln Land-losing Farmers Covered by Social Security System, <http://en.ce.cn>, (19 December 2006).

**Looming Fertilizer Crisis in Bangladesh**

Bangladeshi farmers face fertilizer shortages. Official and market sources attributed the fertilizer shortage mainly to black-marketing, distribution irregularities, increased carrying costs due to blockades and a fuel price hike, and a lack of district-level monitoring. Urea output is projected to fall almost 1 million tons short of demand. The government will procure more fertilizer from abroad at the international price of Tk 18,000 per ton, compared to domestic production cost of only Tk 6,000. Agriculture dominates the country's economy and supports the livelihood of millions.

Khan, Shahiduzzaman, 2006. Looming Fertiliser Crisis and Remedial Measures. Financial Express, <http://www.financialexpress-bd.com>, (3 December 2006).

**Pakistan Promotes Public Private Partnership**

Underlining the need to introduce modern technologies and latest techniques to get a quantum leap in agriculture and livestock production, the Government of Pakistan is encouraging corporate agriculture farming (CAF) on a public private partnership basis. As the government is focusing on increasing and diversifying exports, it is exploring new avenues to increase productivity and value-added in agribusiness. The demand for livestock products is increasing at a fast pace and the present level of production is unable to meet the demand, making it important to increase the production on scientific basis. Several initiatives are underway to promote CAF in the livestock sector so that economies of scale can help increase production and growth to bridge the gap between demand and supply and help position Pakistan as exporter of agricultural products. Livestock has significant potential for poverty reduction and employment generation and overall economic uplift of the rural areas. It can contribute to export enhancement if adequate support and incentives are provided to investors. The government would help provide latest technology to the farmers to augment their income and increase production of meat and milk in the country. The Public-Private partnership will help attract the much-needed capital in the agriculture and livestock sector. It will also lead to introduction of modern farming methods, technology up-grades and better returns for the investors. All provinces have passed necessary laws for corporate agricultural farming, the policy and institutional arrangements are in place and a number of big investors have indicated interest in CAF for major investment in large dairy and meat farms. ■

Based on PakTribune, 2006. Government Encouraging Corporate Farming on Public Private Partnership Basis, Says PM, <http://www.paktribune.com>, (1 December 2006).

**Pacific Sinking into Economic Mire**

Rapid population growth in Melanesia has made it hard for nations such as Papua New Guinea (PNG) and Solomon Islands to achieve growth in income per person. Average incomes in PNG and the Solomons are only marginally above US\$ 500 a year, which is the level of sub-Saharan Africa. It would take PNG 20 years of sustained economic growth of 3.3 per cent a year to get average incomes back to the level they achieved in 1994. Average income in the Solomons has been in decline since 1980, and would need average economic growth of 4.6 per cent a year for 20 years to return to that point. Demographic pressure is interacting with weak economic performance to worsen unemployment and associated social unrest and criminal activity in several countries. Agriculture has only a limited ability to absorb a rapidly growing labour supply and is, in any event, declining as a share of Pacific economies. The result is growth in unemployment among the urban workforce, with the number of unemployed young men rising to between 30 and 42 per cent. Annual employment growth in PNG would have to rise by 11 per cent a year over the next 15 years to stop unemployment in urban centres from getting worse. The Pacific islands depend heavily upon commodity income to support their budgets and they are vulnerable to a sharp fall in commodity prices. Whenever commodity prices are high, the additional government revenue is spent, but there is no ability to reduce public spending when they fall. Aid provides important support to many nations, although it has been in long-term decline also. The level of aid in PNG is US\$ 40 a head, compared with an average of US\$ 31 in Africa. Private investment is also low, at between half and two-thirds of the average level for developing countries. ■

Based on Uren, David, 2006. Pacific Sinking in Economic Mire. The Australian, <http://www.theaustralian.news.com.au>, (21 November 2006).

## Partnership to Combat Land Degradation in Central Asia

Five Central Asian countries, Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan and Uzbekistan, have joined with more than a dozen development partners to launch a US\$ 1.4 billion programme to restore, maintain and enhance the productivity of degraded land. In those five countries, land degradation from overgrazing, soil erosion, salt damage to irrigated land, and desertification is a serious problem, directly affecting the livelihood of nearly 20 million rural inhabitants. Agricultural yields are reported to have declined by 20-30 per cent across the Central Asian region since these countries achieved independence more than a decade ago. Available data show that about 70 per cent of the total area of Turkmenistan has become desert; while salinized irrigated areas account for 50 per cent in Uzbekistan and 37 per cent in Turkmenistan. All Central Asian countries then developed national action plans or programmes to combat land degradation. The programme areas and activities will be based on each country's National Programming Framework as well as carried out within a multicountry framework. National projects and activities will focus on nine issues, including management of biodiversity conservation and protected areas, integrated resources, pasturelands, sustainable agriculture in irrigated land, and forest and woodlands; and capacity building in land use planning, strengthening the policy environment, and remediation in the region of the former Aral Sea. Multicountry activities will include integrating land management into planning, developing a land management information system, research, and knowledge management and information dissemination. ■

Based on ADB, 2006. Partnership Launched to Combat Land Degradation in Central Asia, <http://www.adb.org>, (16 November 2006).

## Poverty Alleviation: Rural Asia Needs Investment

Economic progress in countries such as India and China has the potential to lift millions out of poverty. But much of the gain is confined to urban areas, and the trickle-down effects haven't yet extended outside. That leaves the question of how to connect the economic engines of the private sector to the rural poor. Micro-loans, typically about \$100, make a small-scale contribution by providing them access to cash for personal needs. But as economic engines, the loans have severe limitations. What micro-financiers ought to be debating - and some are - is how to ensure that the loans create jobs, and how to leverage their activity to employ billions. From farming to alternate fuels, rural areas have great potential for developing sustainable industries, and yet there is almost no serious effort to realize that potential. Micro-finance brought private investment capital to millions of poor people on a small scale and even proved it could be profitable. The challenge now is to bring investment capital on a larger scale to start businesses in rural areas and employ billions of people. Might some profit-driven businesses try to exploit the poor? Yes, which is why government and NGOs must provide effective checks and balance. But ultimately it is not benevolence the poor seek; it is opportunity and specifically jobs. Without vibrant economic activity where the poorest live, the global fight against poverty will be swamped by the nearly 100 million population increase in developing countries each year. ■

Based on George, Abraham and Venkateswar, Shyama, 2006. Poor Want a Job, not Benevolence. SunTimes, <http://www.suntimes.com>, (2 December 2006).

## Flash EVENTS



### National Conference on Technology for Sustainable Utilization of Natural Resources

24 - 25 February 2007

Paralakhemundi, Orissa, India

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### International Forum on Water Environmental Governance in Asia

14 - 15 March 2007

Bangkok, Thailand

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### National Conference on Technological Advances and Emerging Societal Implications

24 - 25 March 2007

National Institute of Technology (NIT), Rourkela, India

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### Eco Summit 2007:

#### Ecological Complexity and Sustainability: Challenges and Opportunities for 21st Century's Ecology

22 - 27 May 2007

Beijing International Convention, PR China

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## Book Review

# Agro-Food Chains and Networks for Development

Ruerd Ruben, Maja Slingerland, and Hans Nijhoff (eds.), Springer, The Netherlands, 2006. ISBN 978-1402045929

The recent trend towards agro-food chains as opposed to the traditional buying and selling on the open market, has captured the attention of practitioners, policymakers and researchers for its contribution to sustainable economic development and benefits to smallholder farmers in developing countries. Opinion and evidence on whether smallholders will benefit or be excluded from new markets is mixed. The book, edited by Ruben *et al.*, based on the international conference on 'Agro-food chains and networks as instruments for development', addresses these issues.

The book is divided into four sections: (1) Introduction and analytical framework, (2) Chain integration and development, (3) Business cases, and (4) Summary and conclusions. The first section is composed of one chapter. Other sections have respectively eight, seven and three chapters, each written by separate authors.

In the first chapter, the author argues that agro-food chains and networks play an increasingly important role in providing access to markets for producers in developing countries, based on an analytical approach involving issues of efficiency, organization and innovation, the key dimensions of competitiveness. However small farmers' participation is critically determined by market access, network governance, and chain upgrading. This participation can be greatly improved and reinforced by public and voluntary agencies.

The second section elaborates the view of government, private sector, and farmer organizations in chain integration and development. The then Ministry of Agriculture of Brazil believed that co-operatives may be the only way to bring small farmers together, adding value to their production and enabling them to access the international chains. The Kenyan farmers' representative presents poor bargaining power of farmers, small farm size, stringent international standards, WTO's rules favouring multinational and developed countries, as some impediments that limit the ability of small farmers to enter the international agro-food chains.

Representatives of multinational agro-food retailers argue that strategy of sourcing from smallholders by the major food processing companies in general is based on 'triple bottom-line approach', i.e., the focus on social progress of local people (People), environmental protection (Planet), and economic growth (Profit), the three P's strategy. They argue that consumers are more and more demanding but spend less on food than ever before. Most consumers want safe, high quality and responsibly produced food and expect retailers to ensure this but very few are willing to pay the price to do so. For these reasons, retailers are looking for partners that understand their

competitive challenges.

Adding to the challenge of entering the international agro-food chains. Reardon presents the development of grades and standards as key instruments for product differentiation and agro-food chain co-ordination that leads to a shift towards preferred suppliers. He also indicates the emerging trend in the private safety and quality standards often used as competitive weapons by the retailers, generally more stringent than the public standards. This implies changes in production practices and investments that in some cases over the past 5-10 years have driven many small farms out of business.

In section three, business cases were presented. TOPS Thailand is a retail company with 50 supermarkets in Bangkok and Chiang Mai. The management introduced a certification system for food safety in order to improve their competitiveness and image of quality supermarket, resulting in a system of preferred suppliers and a sharp drop in the number of suppliers. Thai Fresh is an export company shipping exotic vegetables from Thailand to European countries through an integrated quality chain complying with the quality requirements in EU and Japan. Export volume and number of smallholders and labourers are growing. This appears to support a hypothesis that supply chain development around an export company provides better perspectives for smallholder involvement and sustainability than around a retail company.

To become a major player in the world beef market, the Brascan Company of Brazil devised a strategy to grow both horizontally and vertically. The introduction of large fish-processing plants in Lake Victoria, Kenya with the aim of export markets has resulted in marginalized small-scale fishermen.

To conclude, the book is an excellent source of information on the issues of agro-food chains and development, not only because it covers views of the many stakeholders involved in the chains and the exposition of real cases, but because it also provides extensive discussion on the future challenges. It is recommended for any researcher in the field. ■

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*(References available upon request)*