Globalization, Agriculture and the Least Developed Countries

Issues Paper
GLOBALIZATION, AGRICULTURE, AND THE LEAST DEVELOPED COUNTRIES\textsuperscript{1,2}

Introduction

This paper examines the importance of agriculture in poverty alleviation and sustainable economic growth and development of the Least Developed Countries (LDCs). It highlights key elements required to assist the LDCs exploit their agricultural potential so as to benefit from the changes expected from Globalization.

Globalization offers many opportunities and challenges for the LDCs

Although Globalization offers opportunities for growth and development in all parts of the world, the hopes and promises attached to rapid liberalisation of trade and finance have not so far been fulfilled in many developing countries, and particularly so in the LDCs. In fact, the latter are increasingly becoming marginalized, especially in agriculture.

LDCs face many difficulties, both internal and external, in their efforts to develop their agriculture and to achieve their objectives of poverty reduction through improving food security and increasing export earnings. Internal difficulties include low productivity, inflexible production and trade structures, low skill capacity, low life expectancy and educational attainments, poor infrastructure, and deficient institutional and policy frameworks. At the same time, with the growing integration of markets due to Globalization and liberalisation, their economies face a more fiercely competitive external trading environment. They continue to export a limited range of primary commodities that are highly vulnerable to instability in supply, demand and a decline in terms of trade. Besides price volatility, agriculture in LDCs is susceptible to weather conditions which determine the level of harvest and, therefore, with each country’s domestic supply often varying along with the weather, LDCs can rapidly move from a surplus to a deficit situation. In addition, their external debt remains large. Their inability to compete in world markets, as well as in their home markets, is also reflected in their rising food import bills.

Agriculture in the LDCs has remained largely underdeveloped, despite its importance

Agriculture is the backbone of the LDCs. It accounts for between 30 to 60 percent of the gross domestic product (GDP) among the LDCs, employs more people than any other sector (as much as 70 percent in most cases), represents a major source of foreign exchange, supplies the bulk of basic food and provides subsistence and other income to more than half of the LDCs’ population. The strong forward and backward linkages within the rural sector and with other sectors of the economy provide added stimulus for growth and income generation.

Agricultural output in LDCs rose during 1990-00 at an annual average rate of 2.8 percent, exceeding the rate of 1.9 percent in 1980-90, with some slight improvements in per capita terms. However, recent data for 2000-05 indicate that there was virtually no increase in output, or even a slight decline\textsuperscript{3}. The situation was the same for per capita staple food production. In addition, slow food production growth and sharp annual fluctuations in output remain major and chronic problems for the LDCs, constituting the major causes of their rising poverty

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\textsuperscript{2} This paper is an updated and synthesized version of an earlier document prepared by FAO (2002), The role of agriculture in the development of LDCs and their integration into the world economy.

\textsuperscript{3} All data cited in this paper are available from author on request or can be accessed directly at: ftp://ftp01.ftp/ES/Reserved/Koroma/LDCs.
and food insecurity. Between 1995-97 and 2002-04, the proportion of undernourished in total population in the LDCs increased from 34 percent to 41 percent, while the absolute number of undernourished is estimated to have increased from 116 million to 169 million4.

The domestic environment: opportunities and challenges

This section examines the domestic challenges and opportunities faced by the LDCs agricultural sectors.

LDCs have abundant resource potential to expand agriculture

The most fundamental factor influencing the agricultural production potential of a country is the availability of arable land. Land is the essential prior resource needed for crop, animal and forestry production. LDCs have widely diverse agro-ecological situations, with varying availability and quality of arable land and varying climatic conditions. Prospects for agricultural development necessarily hinge on these considerations. Although the ratio of abandoned land to total land area on average for the LDCs has not changed much for the last 3-4 decades at 62 percent, this ratio exceeds the average in 18 LDCs and is over 90 percent in a number of them. In the bulk of the LDCs, abandoned area occupies between 30-60 percent of total land area. In contrast, agricultural area occupies around 38 percent of total land area during 2000-03. During this same period, the proportion of arable land in agricultural land stood at 18 percent with only 1.5 percent under permanent crops.

To enable a classification of countries in terms of their potential for agricultural production, a ranking on the basis of land resource availability and constraints was undertaken by FAO5. The ranking is broadly indicative of a country's relative land resource potential. Three types of countries can be distinguished: i) those with a relatively large land balance, where extensive agricultural expansion may still be possible (e.g. Democratic Republic of the Congo and Mozambique); ii) those which are close to the limit of exploiting actual arable land (e.g. Bangladesh and Somalia); and iii) those which have exploited almost all their arable land and can probably not expand much more (e.g. Afghanistan and Yemen). Thus grouped, the countries can respectively be considered as having a high, medium and low agricultural potential. Out of the 10 highest-ranked LDCs, 8 fall in the humid zone of central Africa. In this group there would appear to be a productive potential that is not yet exploited.

Yet they have experienced very limited gains in agricultural productivity

In the LDCs, the contribution of increases in productivity to agricultural growth has been limited. Horizontal expansion, i.e. bringing more land under cultivation, remains the dominant source of growth. Given the increasing pressure on agricultural resources, however, faster agricultural growth, particularly in countries with limited scope for land expansion, will require continuing increases in agricultural productivity from its present relatively low level. Available evidence shows that the potential productivity gains are considerable. In terms of agricultural value added per worker, productivity increased, though only slightly, in 23 out of the 32 LDCs for which data are available between 1992-94 and 2002-046. However, in comparison to other developing countries, the agricultural value added per worker in the LDCs appears to be relatively low, suggesting that there is much room for improvement. Moreover, much of the agricultural sector in the LDCs consists mostly of informal micro and small enterprises, which face limitations of small market size, poor business conditions and lack of regional integration, pointing to a need for a more effective policy for their development.

There is a growing concern that the expansion and intensification of agriculture in the LDCs may lead to degradation of the natural resource base (soil, water, vegetation and biodiversity) and consequently to a decrease in agricultural production. However, agricultural intensification per se – i.e. increasing the productivity of land already under cultivation - should not be a threat. In fact, properly managed intensification is needed to

5 Note: Only 36 LDCs with available data were used in the classification; adapted from Bot, Nachtergaele and Young, 2000.
6 World Development Indicators, 2006.
meet agricultural production needs and reduce the pressure of agricultural expansion in fragile and marginal areas. The lack of sound management practices and of access to appropriate technology and inputs for agriculture, rather than intensification, is the most serious cause of environmental degradation.

**Despite the potential for expanding food production, the LDCs are increasingly dependent on food imports**

Domestic consumption of agricultural products in the LDCs varies widely between food and non-food products. Non-food products such as raw materials and tropical beverages are basically produced for export. The little that goes to the domestic market is destined essentially for local processing industries, which in turn export the bulk of their produce. In contrast, the domestic consumption of food products is a large and growing proportion of output. During the 1990-99 periods, consumption of basic foodstuffs in LDCs grew by an annual 2.6 percent equalling the growth rate of population but more recently by 3.5 percent during 2000-03. For many commodities, production has not, and perhaps will not, keep up with demand. For example, rice and wheat imports have more that doubled since the 1980s with import growth for maize and other coarse grains rising steeply since the 1990s. In the case of meat, pig and poultry are driving the import growth. On the export side, commodities which have been traditional export commodities for the LDCs have performed badly. Tropical beverages export (coffee, cocoa and tea) have all experienced negative growth since the 1970s to 2003. In fact it is only cocoa which experienced some improvements in the earlier part of this decade.

In sum, trends in production, consumption and trade amply demonstrate the increasing import dependence of the LDCs for food. FAO projections for 2015 suggest that this dependence will continue to increase. If the requisite commercial imports cannot be ensured or if food aid cannot make up for the shortfall, per capita food consumption will inevitably fall.

The interaction between food supply and demand factors determines the level of food adequacy. The most widely available and used indicator for estimating food adequacy levels is per capita dietary energy supply (DES), which measures the food available to each person on average in a country. The DES for the LDCs, as a group has been very low and barely risen since 1979. During the 2001-03 periods, for 17 of the 45 LDCs for which data are available it has been below 2100 kcal/day. This stands in contrast to the progress in other developing countries and the world as a whole, where food production has continued to outstrip population growth.

**The role of women in agriculture needs to be fully appreciated in development policy and planning**

Rural women play an important role in producing the world’s staple crops and providing labour for post-harvest activities. Their role is particularly prominent in the LDCs. Wars, increasing rural-to-urban migration of men in search of paid employment, together with rising mortality attributed to HIV/AIDS, have led to an increase in the number of female-headed households in the developing world. This ‘feminization of agriculture’ has placed a considerable burden on women’s capacity to produce, provide, and prepare food in the face of already considerable obstacles. Overall, women’s contribution to agriculture is poorly understood and their specific needs ignored in development planning. However, women’s full potential in agriculture must be realised if the goal of promoting agricultural and rural development is to be achieved.

**For agriculture to develop, a renewed emphasis is required on policies and on building appropriate institutions**

In many LDCs, governments have often intervened in markets in inappropriate ways and have invested in state-owned production enterprises that have often been inefficient. Reforms have been undertaken to privatize

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inefficient state-owned enterprises and to eliminate marketing boards and other regulatory agencies in many countries in recent decades. However, the historical role of such institutions and the associated provision of these public goods in agriculture have not always been fully appreciated. Public sector investment in rural schools, in the development of input and output markets, in agricultural extension and in applied agricultural research have been vital to agricultural development in every economy in the world. Institutional reform without investment in these public goods does not produce economic growth in the agricultural sector. Growth is not produced by passive “let the markets work” policies that do not include critical public investment programmes. Thus, the major lesson that emerges from country experiences is that for agricultural growth to occur, a number of factors need to be in place which addresses the “handicap” of the rural sector in terms of infrastructure, social services, technology, marketing infrastructure, and seasonal credit availability, along with the building of an appropriate institutional environment. There is no unique policy prescription that fits the diversity of the agricultural sector in the LDCs. While enhancing productivity is a common essential requirement, the nature of the increase in productivity envisaged will determine the appropriate policy mix. For example, in countries seeking increased productivity through shifts to commodities with a higher income elasticity of demand (such as fruits and vegetables) and through improved access to dynamic markets (both domestic and external), an appropriate institutional environment, market information and assistance in meeting health and sanitation standards are some of the possible policy elements.

A major problem facing farmers in the LDCs is the unavailability of inputs on a timely basis or in the quantity required. This constraint is largely linked to the lack of credit, difficulties in obtaining foreign exchange, the lack of risk management and price formation mechanisms, the seasonality of agricultural input requirements, spatial dispersion of farmers, poor transport infrastructure and, sometimes, to the marketing and management inefficiencies of the state-owned companies responsible for single-channel input supply and marketing. The informal seed supply system is the dominant source of seed/planting materials for resource-poor farmers in marginal areas and has proven to cope better with a disaster situation compared to the formal seed sector. Nevertheless, the informal input supply sector has unfortunately received very little attention and financial support from policy makers, to the detriment of the productivity of small-scale farmers.

In many LDCs, weaknesses in basic infrastructure (such as for transport, utilities and communications) are major constraints for agricultural development. Infrastructure constraints affect the cost and continuity of production and the quality of products. For instance, farm to market roads reduce the costs of inputs and outputs, and lead to an increase in agricultural output, crop area and yield. Good infrastructure also promotes better information flows between communities and rural and urban areas, and thus has the potential of linking farmers to markets for goods, input supplies and agricultural services.

Furthermore, the management of irrigation schemes and water distribution are usually under public control. Farmers’ associations are rarely involved or are too weak to contribute to both the design of water distribution systems and the maintenance of the network. The water needs of farmers have to be examined from both the household and production-for-export aspects, since the particular use affects the quality of life of both men and women and their communities.

In most LDCs, the institutional capacity for research and extension is weak. As a result, the technology available is insufficiently adapted to local conditions and research results do not come up with a variety of technological solutions adapted to the range of socio-economic and agro-ecological conditions existing in the country, such as the differing technical needs of female and male farmers. Lack of technological alternatives is often mentioned as a constraint to irrigation development (e.g. different models of irrigation pumps, suited to the needs of different users). Where techniques and technologies developed by research are available, their dissemination is faced with a number of difficulties such as the poor delivery of the extension and training services that are not necessarily targeted to the appropriate users.

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In view of these constraints, LDCs would benefit from public-private partnerships that assist farmers with access to credit, technical assistance, capacity building, marketing information and crop and product diversification.

**Reversing the declining trend in investment is essential for enhancing agricultural productivity**

LDCs face a major domestic resource gap in generating the investments needed to achieve their developmental objectives in agriculture, including the target of reducing the number of under-nourished people by 2015. In many LDCs, much public expenditure on agriculture is in the form of subsidies, leaving little public funding for the creation of new assets, for maintenance or for other growth-producing expenditure. The result is that many agricultural support services barely function, rural roads are impassable for much of the year, farm machinery is mostly inoperable and irrigation schemes are crippled. Most of the required investments expected from the private sector have not fully materialized. In this regard, public investment is an indispensable pre-condition and catalyst for and complement to private investment, involving basically investment in research and infrastructure.

In almost all LDCs official development assistance (ODA) is the main catalyst of investment in agriculture. Although total ODA to LDCs increased from US$12.4 billion to US$23.4 billion between 1999 and 2003, the share received by the agricultural sector declined from 19 percent to 15 percent during the same period. Much of the external assistance to agriculture in the LDCs is in grant form (between 50 to 78 percent) with a slight increase in multilateral commitments during the 1999 and 2004.

Improving this trend is crucial to ensuring that appropriate agricultural intensification strategies can be pursued in the future. In particular, adequate external assistance is essential to enhance agricultural productivity, which is dependent on the availability of sustainable alternative technologies and farming practices that will not further degrade the natural resource base.

Given the importance of the agricultural sector in the LDCs for poverty reduction and economic growth, current initiatives to provide financial assistance through targeted debt relief and other measures could in part be directed to supporting efforts to develop their sustainable agricultural potential.

**External environment: opportunities and challenges**

Given the rapid pace of Globalization, the external economic environment presents major challenges as well as opportunities for agriculture in the LDCs. While access to larger and more affluent markets favours growth and development through trade, the LDCs face many internal supply-side constraints, associated with their economic underdevelopment, which render their exports uncompetitive. This section reviews the major trends and patterns of their agricultural trade and examines the main factors affecting them.

**LDCs are increasingly being marginalized in global agricultural markets**

The participation of the LDCs in international agricultural trade is insignificant and has been declining. Their share in world agricultural exports has dropped steadily, from 3.2 percent in 1970-79 to 1.9 percent in 1980-89 and a mere 0.9 percent in 2000-04. Their share in world imports is more or less at the same low level of 1.9 percent since 1980 up to 2004. While world agricultural trade expanded at an average annual rate of over 10 percent during 2000-04, agricultural exports in 17 out of 48 LDCs experienced negative growth. Their market share of many key agricultural commodities has fallen significantly from the 1980s to 2004 by over 37 percent for such commodities as timber, coffee, tea and cocoa.

In addition to their small and declining share in world agricultural trade, LDCs’ agricultural exports consist largely of a few low value-added primary commodities. On average, the top three export items, which are
predominantly primary agricultural commodities, account for over 68 percent of total export earnings. The major agricultural exports of the LDCs include coffee, tea, cotton, jute, fish and seafood, tropical wood, spices and bananas, mostly in unprocessed form. Moreover, for African LDCs, in particular, though not exclusively, exports are concentrated on only a few markets, of which EU is by far the largest (about one-third), followed by other Quad markets (United States, Canada and Japan) although China and India are emerging as important partners. For Asian LDCs, India, China and other Asian countries are important trading partners. Intra-LDC agricultural exports between 1996 and 2004 have fluctuated around 7 to 11 percent. However, LDCs trade is more intense in Sub-Saharan Africa accounting for 26 percent of total agricultural imports by that region in 2004. LDCs exports to Asia were around 17 percent during the same period. In essence, market access conditions in the Quad countries as well other key partners (e.g. India) are of critical importance in defining their trading opportunities.

The marginalization of LDCs in world agricultural trade is reflected in the slow growth of their agriculture sector as well as of their overall economy, slower even than that of other developing countries. Two factors were identified as causing a long-term decline in commodity prices: i) low income elasticity of demand, mainly for food; and ii) declining intensity of raw materials use in manufacturing. In addition, LDCs exporting largely raw materials are particularly prone to changes in commodity markets. Moreover, large cotton subsidies in certain countries have inflicted enormous damage in some LDCs. For example, Benin, Chad and Mali lost 25 percent of their total export earnings from 1990 to 1992 following a drop in the world price of cotton by 34 percent9.

Benefits expected from trade preferences have been limited due to the nature of the preference regimes and supply-side constraints in the LDCs

All LDCs are beneficiaries under the Generalized System of Preferences (GSP). In addition, the majority receive special treatment under other schemes. In 2001, the EU announced a unilateral trade concession that would eliminate all existing tariffs and quotas on all imports from the LDCs. Referred to as the 'Everything But Arms' (EBA) proposal, the intention was to extend complete access to all exports from the LDCs except arms and ammunitions, with a phase-in period for 'sensitive' goods i.e. bananas, sugar and rice. The Caribbean Basin Initiative (CBI) of the United States is a similar preferential arrangement, but involves only one LDC. In addition, LDCs in Africa can also benefit from the United States Trade and Development Act of 2000 [The African Growth and Opportunity Act (AGOA)], which extends certain trade benefits to sub-Saharan African countries. More recently, in December 2005, Japan expressed its commitment to provide duty-free and quota-free market (DFQF) access for essentially all products originating from all LDCs.

As agricultural tariffs have been lowered under the World Trade Organization (WTO) Agreements, the preferential margin enjoyed by the LDCs is eroded. Available statistics suggest that, with the exception of a few countries, the preference schemes have not contributed significantly to generating export growth of the beneficiaries or improving their trade shares. While this has been partly because of the various restrictions in the schemes (e.g. in respect of product coverage, quotas, and rules of origin), supply-side constraints and the fact the preferences are unilateral and not legal bindings in the WTO appear to have played a significant role.

Regional trade offers significant scope for the LDCs but structural and policy obstacles need to be overcome to realize the benefits of intra-regional trade

For LDCs as a whole, there is a potential for their participation in intra-regional trade in agricultural products that has not been fully exploited and which could be particularly beneficial in view of the small size of their domestic markets. The LDCs have been parties to numerous regional trade agreements (RTAs), the vast majority of which are among African countries. Despite their many provisions regarding the removal of trade barriers, the level of intra-regional agricultural trade in the majority of RTAs of which LDCs are members has stagnated at a low level. This has particularly been the case in Africa, where LDCs predominate. All such trading efforts have

9 OECD, 1997.
come up against structural and policy obstacles as explained earlier. Moreover, the absence or inadequacy of a system for standardized packing and grading and quality control systems at the regional level continues to frustrate efforts to expand trade and establish transparent information systems. For instance, supply side constraints and the procurement structure imposed by foreign supermarket chains leave out the large sector of small farmers in LDCs. The key to effective LDC participation in the new production and supply chains will depend on their being able to meet product standards required by these chains. This remains a challenge. Improvement and harmonization of inspection and certification systems are among the missing ingredients for promotion of intra and extra-regional trade. Inadequate financing and guaranteeing of regional exports/imports has also been a factor.

**The WTO agreements are likely to both expand opportunities and amplify the costs of the LDCs inherent structural weaknesses**

Of the 50 LDCs, 32 are at present WTO members. Ten more are in the throes of accession or have observer status. The Agreement on Agriculture (AoA) that emerged from the Uruguay Round began a process of bringing the trade-distorting agricultural policies of developed countries under multilateral rules and disciplines. The major external challenge facing the LDCs is their ability to exercise their rights and meet their obligations under the new multilateral trading system. Given their high dependency on agriculture for jobs, food, national income and export earnings, they have a large stake in the current and future trade negotiations in agriculture. Multilateral reforms undertaken in the WTO context is likely to both expand their opportunities and amplify the costs of their inherent structural weaknesses and policy failures.

In respect of WTO induced policy changes, the LDCs, along with all other WTO members, have had to remove non-tariff measures and bind all agricultural tariff lines, but they were exempt from tariff reductions. Most LDCs generally bound their tariffs at levels above the applied rates. All have declared that they have not provided any support to agriculture that is subject to the reduction commitment. In fact, many do not subsidize agriculture at all but tax the sector explicitly, by taxing production and exports of many commodities, or implicitly, by giving higher protection to industry. Overall, the scope for LDCs to support agriculture through measures exempt from the reduction commitment (including green box measures and the de minimis provision) is considerable; however, such measures require financial outlays which most LDCs cannot afford.

A potentially beneficial effect of the WTO Agreements for the development of value-added industries in the LDCs is the reduction in tariff escalation. Tariffs have generally been higher on processed agricultural products than on primary commodities. While LDCs do export a range of processed products, such as coffee extracts, cocoa pastes, crude vegetable oils and leather, the current tariff rates on these products are relatively low and the reduction of tariff escalation will consequently not provide many additional export opportunities. On the other hand, tariff escalation has been substantially reduced for many important processed commodities that LDCs do not export at present but could well do so in the post-Doha situation. Examples of such products include fruit juices, canned fruits and vegetables, roasted coffee and nuts. Importantly, sanitary and phytosanitary standards play an increasingly prominent role in trade of processed products, especially foodstuffs, and this is an area where LDCs will need to do much more if they are to exploit the new opportunities.

LDC products also compete with production and export support given to producers in rich countries. While it is recognized that LDC products compete with production and export support given to producers in rich countries and that such subsidies provide a disincentive for LDCs to invest in food production, which could reduce their import dependency in the medium to long term, most LDCs are net food importers and thus may

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10 Other Agreements which bear on agriculture include: the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS), the Agreement on Technical Barriers to Trade (TBT), the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPs), and the Decision on Measures Concerning the Possible Negative Effects of the Reform Programme on Least Developed Countries and Net Food-Importing Developing Countries.

not gain from further agricultural trade liberalisation in OECD countries in the short-term because the removal of such subsidies would lead to higher world prices of basic foodstuffs which could negatively impact them.

Many other issues have arisen from the implementation of the WTO Agreements, as well in the on-going Doha Round of negotiations on agriculture, that are of particular concern to LDCs in respect of improving their market access and developing domestic export capacities, some of which are summarized below.

- **Improving market access for agricultural exports:** Many LDCs indicated that the AoA has not brought about any real improvement in market access for their agricultural exports, mainly because of the erosion of their tariff preferences, the persistence of tariff peaks and tariff escalation in some sectors of particular interest to them and the high SPS standards imposed in the importing countries. In the ongoing Doha Round of trade negotiations on agriculture they look to ensure that there really will be an improvement in market access, especially for those products with a high growth potential and high value. Thus, they have an interest in reducing border protection and tariff escalation in the developed and developing countries and in ensuring that the beneficiaries of preferential arrangements are compensated for the loss or erosion of such preferences and assisted in adjusting to a more competitive environment. The Aid-for-Trade initiative will likely address some of these concerns.

- **Special and differential treatment:** Under the WTO agreements, LDCs have received special consideration in respect of market access, implementation of their various commitments and technical and financial support. The WTO Hong Kong Ministerial Declaration calls for developed countries and developing countries in a position to do so: to “provide duty-free and quota-free market access on a lasting basis, for all products originating from all LDCs by 2008 or no later than the start of the implementation period in a manner that ensures stability, security and predictability”\(^{12}\). However, the LDCs have been disappointed with the limited implementation of the special and differential treatment (SDT) provisions of the agreements, particularly as regards financial and technical assistance. This is particularly the case with respect to the SPS and TBT Agreements. Because SDT provisions were often expressed as “best endeavour” obligations, many LDCs have suggested that these should be included as binding commitments in the ongoing Doha Development Round.

- **Special Products:** Special Products (SPs) are a category of products that will be exempted from the general disciplines agreed to (as SDT provision) under the market access pillar of the ongoing Doha Round of trade negotiations. They will be products that are relevant for developing country concerns with overall development through enhancements in their specific national food security, livelihood security and rural development goals. Developing countries will be permitted to self-designate SPs. However, although it is not necessary for LDCs to designate SPs for them to benefit from the provision as they are not required to reduce tariffs, LDCs are encouraged to designate such products for the following reasons\(^{13}\): (i) possibility of graduation from their LDCs status; (ii) as the current policy thrust of some developing countries that are party to regional trade agreements is to designate SPs at the regional level, it is advisable for LDCs amongst them to designate SPs so that due consideration is given to their specific products when designating regional SPs; (iii) designation of SPs by LDCs will assist them in prioritizing the development of their product specific sub-sectors.

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\(^{12}\) WTO Hong Kong Ministerial Declaration, Annex F, December 2005.

\(^{13}\) Paragraph 45 of the WTO July Framework Agreement guarantees that “Least-Developed Countries, which will have full access to all special and differential treatment provisions above…”. These SDT measures include the SPs and a Special Safeguard Mechanism (SSM) that will be established. See WTO, 2004.
• **Food safety and quality standards**: Another major challenge faced by the LDCs is raising the SPS/TBT standards of their exports to at least internationally recognized levels. Because of their poor capacities in scientific research, testing, conformity and equivalence, they face difficulties in meeting international safety and quality standards. The task is even more daunting when the developed countries, on risk assessment grounds, adopt higher standards than those currently recognized by international standard-setting bodies. Moreover, rising consumer concerns in the affluent countries over food safety and quality compound the difficulty of the LDCs in meeting ever higher standards. Fulfilment of the promises of financial and technical assistance to LDCs, and other developing countries, in respect of SPS/TBT standards is thus important to them.

• **Capacity building for trade**: LDCs have neither the institutional capacity nor the human resources to face all the challenges or take full advantage of the opportunities flowing from the multilateral trading system, and to participate fully as equal partners in new WTO negotiations on agriculture.

Technical and financial assistance to build capacity is therefore essential, especially in the following areas: (i) developing and strengthening institutional capacity to meet international standards, e.g. in food safety and quality; (ii) strengthening the capacity in multilateral negotiations, in particular assisting them to deal with problems confronted in honouring their WTO commitments, including follow-up of decisions in their favour, and to take advantage of trading opportunities; (iii) strengthening their capacity to analyze trade issues in the context of the continuation of the reform process; (iv) assisting non-members of WTO to achieve accession on terms consistent with their development and food security needs; and (v) implementing the Integrated Framework for Trade-Related Technical Assistance to LDCs (IF) as recognized in the WTO Plan of Action for the LDCs adopted in 1996 at the first WTO Ministerial Conference.

**, Conclusions: The LDCs agricultural development in a globalized world**

The situation facing the LDCs and their farmers today may be more difficult than that of developing countries that achieved sustained agricultural growth in the last three decades. The new and emerging challenges confronting them can be identified under three broad headings: overcoming their marginalization resulting from integration of markets due to Globalization and liberalisation; adapting to technological change; and coping with the new institutional environment.

**Globalization of markets**: The economies of the LDCs now have to compete in a more fiercely competitive world market. The gradual removal of trade barriers, rising demand for higher quality products and higher standards, the continuous erosion of trade preferences and the costly compliance with the new trade rules are particular problems that hamper the competitiveness of producers in LDCs in both world and domestic markets. Because of Globalization and liberalisation, LDCs are also becoming more vulnerable to changes in world market conditions, on account of their small economic size and their increasing reliance on imports for food supplies. The decline in the commodity terms of trade has reduced both the incentives to engage in the production of tradable and the gains and economic stimulus from such production. The emerging threats by climate change, if real, will further serve to worsen their situation.

**Technological challenges**: Keeping pace with the increasing domestic demand for food, meeting requirements for enhancing competitiveness and ultimately raising rural incomes, necessitate raising agricultural productivity. Most LDCs are at an early stage of agricultural technology and the potential to increase productivity is enormous. However, sustained agricultural growth in most cases requires more than the ingredients of the ‘green revolution’. In particular, it calls for substantial investment in irrigation and rural infrastructure, human development and institutions. New developments in biotechnology and bio-energy production may pose further threats to export-based growth in the LDCs if the new technologies associated with them result in a sharp increase in productivity in more advanced economies, thereby increasing production, pushing down prices in products competing with those of the LDCs.
The institutional environment: The institutional environment (both nationally and internationally) is also very different from the past. International trade is subject to WTO disciplines and takes place in a globalized context. The roles and modus operandi of donor institutions have also changed, associated with liberalisation and structural adjustment programmes in member countries. Perhaps the most important consequence has been the sweeping away of much of the public sectors’ involvement in agricultural research and extension and in commodity and financial markets. Inefficient and ineffective as it often was, the role of state interventions in supporting agricultural growth in earlier success stories is now clearly recognized, and has resulted, for example, in arguments being put forward for a reassessment of the performance of state marketing boards in Africa14. However, current attitudes among donors and within the LDCs do not favour efforts to involve the state in the search for innovative solutions to some of the institutional problems that it has successfully addressed in the past.

Finally, against all these difficulties, there are also some new opportunities for agriculture in the LDCs. New technologies are bringing down the cost of communications dramatically, which should benefit remote, more sparsely populated areas with poor roads. Biotechnology (with appropriate safeguards) offers opportunities for more rapid technological advances if there is sufficient investment in their application to the crops and problems in the LDCs. In addition, globalized markets and the implementation of trade agreements should bring benefits for the LDCs exporters if they can be assisted in overcoming their supply and competitiveness constraints. Policy makers may be swinging back to a more balanced and nuanced understanding of the importance of agriculture and of the potential roles (and pitfalls) of state support.

14 See, for example, Dorward, Kydd and Poulton, 1998; Barrett, Kelly and Savadogo, 1999.