

Trade and Environment Dimensions in the Food and Food Processing Industries in Asia and the Pacific

REGIONAL STUDY

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I. INTRODUCTION

This study examines the linkages between trade and environment that need to be taken into account in the quest for trade and growth in developing countries. The linkage between trade and environment is as follows: International trade drives the patterns of production, which in turn impact the domestic environment. Trade has dual effect: while trade can provide necessary resources for environmental conservation, cross-border movements of merchandise can have damaging impacts on the environment as well. The multilateral and domestic environmental concerns can further intensify such impacts and influence the pattern of trade through regulations and standards. This is the case especially when natural resources are inputs to many exported products. This study observes various dimensions of the inter-relationship between trade and environment in the context of the food and food-processing sector, which has significant backward and forward linkages with the rest of the economy in any developing country. The recent trend indicates that emerging economies in the Asia Pacific region rely on growth in food and processed food exports for their development. Hence, the trade and environment linkage has far reaching implications for sustainable development in the region. The analysis in this study will thus contribute to the complex yet crucial debate on trade, environment and sustainable development.

World trade in food and processed food has witnessed an impressive growth during the last few decades. In particular, world exports of processed food grew at the rate of 8.5 per cent per annum during 1970-2003. As a result, the share of processed food in total food exports increased from less than a half in 1980 to nearly two-thirds in 2003. The performance of developing countries in the exports of processed food has been better than that of developed countries. Following rapid growth, there has been a compositional change in food and processed food exports. This pattern is particularly noticeable in developing countries. In developing countries, while shares of some segments of processed food exports, such as fish and fish products, fruits and beverages, have increased, there has been a significant level of deceleration in the share of certain products, such as processed meat products, dairy products and processed coffee. Performance has varied significantly across countries. Broad trends indicate that higher income developing countries have performed relatively better than low income countries in sectoral exports. This is evident in a number of Asia and the Pacific economies which are emerging as successful exporters of food and processed food products in the region. Thus, ample opportunities exist for developing countries to reap benefits from growing global trade in food and processed food products. However, there are certain challenges that need to be addressed.

There remain key environmental challenges, which add to challenges related to market access, the production processes, as well as infrastructure and transactions costs. Given the importance of sanitary and phyto-sanitary regulations for the food and food processing industry under investigation in this study, frequent reference is made to international standards and regulatory frameworks for guiding food safety, such as the WTO Agreement on Sanitary and Phyto-sanitary Measures (SPS), the joint Food and Agriculture Organisation (FAO) and World Health Organizations (WHO) Codex Alimentarius Commission (Codex) for food safety, the International Organisation for Standardisation (ISO). Compliance with international and domestic food standards is one of the key determinants of ensuring export markets. The idea of multilateral standards is attractive, especially from the perspective of exporters. Market access is greatly facilitated through the development of as predictable, transparent and cost effective standards as possible.

Recent decades have seen a proliferation of environment-related standards – both voluntary and mandatory – in response to increasing public awareness and concern about sustainable development. The WTO Agreements on SPS and Technical Barriers to Trade (TBT) aim to ensure that environmental standards do not have an unnecessarily adverse impact on trade.

Environmental issues are assuming increasing prominence in the domestic policymaking process, including legislating for greener investment, introducing environment-friendly technology and producing environmentally preferable goods. In a market-driven world, consumers determine the nature and standard of products for consumption. In response to consumer demand and increasing regulation, there has been a surge in product standards in industrialized countries. Similar developments are also slowly emerging in developing countries. Due to lack of harmonisation of standards, exporters from developing countries often find it difficult to comply with the plethora of standards required for access to the markets of developed countries. Notably, developing country exporters are not reluctant to comply with standards, if these standards are non-discriminatory and transparent.

Exporters in developing countries are gradually realising the importance of complying with various food safety standards to gain access to developed country markets. In this context, it is vital to bridge the information gap which at times acts as crucial deterrent to export-led growth through trade. Private sector and government need to work together to create mechanisms to disseminate information to exporters on emerging standards in key export markets, especially to small and medium-sized enterprises (SMEs). Information dissemination would help to reduce the rate of rejection or detention of export consignments, and avoid the costly process of returning or destroying them. However, policy restructuring and complying with global standards involve significant costs, which are often detrimental to competitiveness and growth of trade. The role of international organizations in supporting programmes of developing countries to balance their trade objectives with environmental concerns could usefully be strengthened. These organizations have an important role in guiding policy restructuring through capacity building initiatives and technical assistance.

The structure of the paper is as follows. Section II presents an analytical framework of trade and environment issues in the food and processed food sector. An overview of the experiences of Asia and Pacific countries regarding their export performance in the sector is presented in section III. Section IV focuses on best practices in the sector. Broad conclusions and policy recommendations are presented in section V.

II. TRADE AND ENVIRONMENT LINKAGES IN THE FOOD AND FOOD PROCESSING INDUSTRY

In the Asia and Pacific region, there has been a tremendous growth in the food processing industry. The share of processed products showed a clear upward trend throughout the 1990s, rising from 42 per cent in 1990-91 to 48 per cent of global food trade in 2001-2002 (AP, 2004). A WTO study on identifying potential markets for food producers states that the largest shifts towards more processed agricultural products was observed in certain Asian developing countries, such as China, Indonesia, Malaysia and Thailand.

However, with the rise of Foot and Mouth Disease, SARS, Avian Bird Flu and others, developing countries will have to make a special effort to realise these prospects. For example, recent avian influenza outbreaks in Europe, the Middle East and Africa have caused dramatic swings in poultry consumption, increased trade bans and price declines in the global market.

Processed food exporters in developing countries continue to find compliance with standards an arduous and complex task, with the proliferation and diversity of standards often imposing non-tariff measures (NTMs) on their exports. The increasing use of NTMs, it is argued, provides developed countries with a powerful instrument to protect their domestic industries, and discriminate against developing country imports. Increased participation by developing countries in the international standards setting processes would help to ensure the enactment of transparent and equitable standards.

II.1 Environmental concerns

There has been a phenomenal increase in awareness of local and global environmental issues in the past couple of decades, most notably embodied in the UN Conference on Environment and Development (UNCED) in Rio de Janeiro in 1992 and the Millennium Development Goals (MDGs). Multilateral environmental agreements have been negotiated to deal with trans-boundary environmental concerns. At the domestic level, there has been a clear shift in the demand patterns of consumers in developed countries. With the growth in income, developed country consumers, especially in the EU and the United States, prefer to make a conscious choice to support sustainable consumption patterns.

Use of Pesticides and Fertilizers

Consumers in developed countries have become increasingly aware of the environmental and health implications of food production and processing. As a result, environmental labelling is being promoted in many countries to encourage cleaner production processes. This trend has also reinforced the market for organics, which has emerged as a big business. The European organic market was worth €20.7 billion in 2004, and has been growing at a rate of 26 per cent per annum since 2001 (Nutra, 2006). Growing concern about the environmental impact of artificial fertilizers and pesticides has been a factor on spurring growth in organics. Major supermarket chains have also been quick to tap mainstream concerns about the consumption of potentially dangerous chemicals.

Sustainability of the livestock sector

In many countries in the Asia and Pacific region, the food and food processing industry is largely relying on expanding international trade in livestock and livestock products. Owing to consumer-driven demand, exports of meat and milk products grew at a rate of 5 per cent per annum, while egg output expanded at a rate of 7 per cent per annum in the 1990s (FAO, 2004). If this advance in trade is sustained, the region's livestock sector has the potential to spearhead sustainable agriculture and place rural development on a fast track. The Asia and the Pacific region accounts for the largest animal population worldwide, and sustainable progress in sectoral production would contribute substantially to promoting exports, raising employment, alleviating poverty and enhancing empowerment of people.

The region also possesses the biggest pool of farm animal genetic resources. However, such diversity also poses some important down-sides. There is an increase in the risk of pest outbreaks and trans-boundary diseases, including zoonotic/epizootic diseases. Unsustainable production practices in the livestock sector have resulted in serious environmental degradation stemming primarily from inadequate livestock policies and faulty application of new technologies, particularly in intensification, feeding and disease control.

Biodiversity concerns

Some of the leading consumer organizations have been raising concerns about the implications of genetically modified food. Various food crops have been genetically modified for greater productivity or nutritional value, or for resistance to pests or diseases. The use of biotechnology in creating new strains of seeds raises questions about possible contamination of non-GM species, apart from the health-related implications. Moreover, preference for specific varieties, even not GM, has led to concerns over the progressive loss of biodiversity.

Consumer concerns

Consumers may not necessarily be able to assign appropriate tribute or blame to firms that supply safe and unsafe food. When a food contamination incident occurs, instead of identifying an unsafe food supplier, consumers may stop purchasing a specific food category altogether. Moreover, clear policies are necessary to guide consumer behaviour. An example in the fisheries sector is revealing of the linkages between trade and environmental policies. Asia and the Pacific accounts for 55 per cent of the world's fish catch, but a worldwide decline in fisheries production has had a negative impact on Asia and the Pacific (FAO, 2004). Almost two-thirds of the major fish species are either fully exploited or overexploited. In order to maintain production volume, fishermen try to capture more "trash fish", which compromises the nutritional quality expected by consumers. This development, if not effectively regulated, can damage fishing grounds severely.

The market on its own may not fulfil the social responsibility of providing safe food, and thus government needs to regulate the market and provide incentives for the sustainable development of the fisheries sector.

II.2 Health and Food safety concerns

With the growth in the incidence of contamination in processed food products, consumers, especially in developed countries, prefer to pay more to increase standards and even buy organically grown, branded products. Therefore, health concerns have led to increasingly stringent environmental regulations on process and production methods (PPMs) to control the manner in which products are brought to the market – as opposed to regulations on the characteristics of the product *per se*. Similar concerns also drive the urge to avoid food products made from genetic modification.

Novel food including GM food

Consumers are concerned about the health and environmental implications of novel food, particularly genetically modified (GM) food. The leading food agencies define a novel food as a food or food ingredient which does not have a significant history of consumption. For example, in the EU the time frame defined is prior to May 1997. This helps in addressing the growing public concern about the potential risks of introducing biotechnology to human health. These concerns affect the future development of agro-food production.

As set out in the IUCN guidebook to the Cartagena Protocol on Biosafety, the commercial use of genetically modified organisms (GMOs) in agriculture to date is limited to varieties from four crop species: soybeans, maize (corn), oilseed rape (canola), and cotton. In 2001, 99 per cent of the global crop area planted with GMOs was grown in four countries: 68 per cent in the United States, 22 per cent in Argentina, 6 per cent in Canada and 3 per cent in China. Of the total global area of soybean acreage, 46 per cent was sown with GM varieties, and for maize 7 per cent of the total crop area was sown with GM varieties (IUCN, 2004). In the past decade, the number of GMOs that are marketed as human food has increased – over 52 approved crop varieties (from 13 different species) in the US; 43 (six different species) in Japan; 12 (five different species) in Australia and New Zealand; five (two different species) in the EU; and four (three different species) in South Africa. Only a few GMOs have been approved for direct use as food. However, products from approved GMOs – notably flour from GM maize, and oils extracted from GM soya and oilseed rape, are used in the production of processed foods. It is not uncommon to mix GM products with products derived from non-GMOs.

Consumption shocks

In some, albeit rare cases, consumer fear can have dramatic effects on consumption. In the recent bird flu crisis, for example, in Europe, consumption shocks ranged from a dramatic 70

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