



# **Effects of Trade Liberalization on Agriculture in Lebanon**

*With special focus on products where methyl  
bromide is used*





# Foreword

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With the increased implementation of trade liberalization agreements throughout the world, the issue of Trade and Environment has become a growing concern for almost all countries. Developing countries in particular have to realize that trade promotion and environmental protection are both essential pillars of sustainable development. Various policies and measures to reduce the negative impact on the environment have materialized or are in the process of being developed in Lebanon. Among these policies is the implementation of a project related to the elimination of the use of methyl bromide that constitutes the umbrella under which this study lies.

In this context the agricultural sector in Lebanon is facing many challenges in light of agreements to liberalize trade. Currently, Lebanese agricultural practices, and more specifically the use of methyl bromide in crop production, impact heavily on the environment. The greatest culprit in that respect seems to be the misuse and overuse of chemicals (as pesticides). Besides the adverse impact on the environment, excess use of pesticides and continuous use of methyl bromide raises market access issues as they represent major technical barriers to Lebanese agricultural exports.

Methyl bromide is used as a soil fumigant to control a wide range of pests in high value horticultural crops. Nevertheless, this chemical is known to have a considerable damaging effect on the ozone layer as well as human and animal health. For these reasons, governments throughout the world, under the umbrella of the Montreal Protocol, have recognized the need to reduce and subsequently eliminate the use of this substance. Lebanon has until the year 2015 to completely phase out the use of methyl bromide. However, the Lebanon's Ministry of Environment has decided to achieve early the phase-out by the year 2007. Several steps have been taken to help in the phase-out.

This study analyses the inextricable links between trade and environment for products where methyl bromide is used. The report is divided into nine chapters. Chapters 1-4 present an overview of the importance of agriculture and the environmental impact of the use of methyl bromide and its alternative to determine which one will have the least impact on the environment, once trade liberalization takes place. This, in turn, should potentially lead to an increase in production and trade. Chapters 5 and 6 include an annual profitability analysis to determine which alternative is the most profitable for each crop. It also includes a cost-benefit analysis (CBA) over a 20-year projection period to determine the profitability of investing in crops, where methyl bromide is presently being used. Chapter 7 focuses on the potential impacts of trade liberalization on the environment and natural resources, the socio-economic level and market access, both with and without the use of methyl bromide. The findings and recommendations provided in chapters 8 and 9 will contribute to the improvement of the agriculture sector in terms of environmental protection and market access.



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# United Nations Environment Programme

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The United Nations Environment Programme (UNEP) is the overall coordinating environmental organization of the United Nations system. Its mission is to provide leadership and encourage partnerships in caring for the environment by inspiring, informing and enabling nations and people to improve their quality of life without compromising that of future generations. In accordance with its mandate, UNEP works to observe, monitor and assess the state of the global environment, improve the scientific understanding of how environmental change occurs, and in turn, how such change can be managed by action-oriented national policies and international agreements. UNEP's capacity-building work thus centres on helping countries strengthen environmental management in diverse areas that include freshwater and land resource management, the conservation and sustainable use of biodiversity, marine and coastal ecosystem management, and cleaner industrial production and eco-efficiency, among many others.

UNEP, which is headquartered in Nairobi, Kenya, marked its first 30 years of service in 2002. During this time, in partnership with a global array of collaborating organizations, UNEP has achieved major advances in the development of international environmental policy and law, environmental monitoring and assessment, and the understanding of the science of global change. This work also supports the successful development and implementation of the world's major environmental conventions. In parallel, UNEP administers several multilateral environmental agreements (MEAs) including the Vienna Convention's Montreal Protocol on Substances that Deplete the Ozone Layer, the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal (SBC), the Convention on Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade (Rotterdam Convention, PIC) and the Cartagena Protocol on Biosafety to the Convention on Biological Diversity as well as the Stockholm Convention on Persistent Organic Pollutants (POPs).

## **Division of Technology, Industry and Economics**

The mission of the Division of Technology, Industry and Economics (DTIE) is to encourage decision makers in government, local authorities and industry to develop and adopt policies, strategies and practices that are cleaner and safer, make efficient use of natural resources, ensure environmentally sound management of chemicals, and reduce pollution and risks for humans and the environment. In addition, it seeks to enable implementation of conventions and international agreements and encourage the internalisation of environmental costs. UNEP DTIE's strategy in carrying out these objectives is to influence decision-making through partnerships with other international organizations, governmental authorities, business and industry, and non-governmental organizations (NGO); facilitate knowledge management through networks; support implementation of conventions; and work closely with UNEP regional offices. The Division, with its Director and Division Office in Paris, consists of one centre and five branches located in Paris, Geneva and Osaka.

## Economics and Trade Branch

The Economics and Trade Branch (ETB) is one of the five branches of DTIE. Its mission is to enhance the capacities of countries, especially of developing countries and countries with economies in transition, to integrate environmental considerations into development planning and macroeconomic policies, including trade policies. ETB helps countries to develop and use integrated assessment and incentive tools for sustainable development and poverty reduction. The Branch further works to improve the understanding of environmental, social and economic impacts of trade liberalization and the trade impacts of environmental policies, and to strengthen coherence between Multilateral Environmental Agreements and the World Trade Organization. Through its finance initiative, ETB helps enhance the role of the financial sector in moving towards sustainability.

In the field of environmental economics, ETB aims to promote the internalisation of environmental costs and enhance the use of economic instruments to contribute to sustainable development and poverty reduction, including in the specific context of Multilateral Environmental Agreements.

For more information on the general programme of the Economics and Trade Branch, please contact:

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