



United States
Department
of Agriculture

WRS-03-02
December 2003



Electronic Outlook Report from the Economic Research Service

www.ers.usda.gov

AGRICULTURE AND TRADE REPORTS

The Poultry Sector in Middle-Income Countries and Its Feed Requirements: The Case of Egypt

Fawzi A. Taha

Abstract

In 2001, poultry production in Egypt and other middle-income countries totaled 37.5 million tons, compared with 29.3 million tons in high-income countries and only 3.6 million tons in low-income countries. The interaction between Egypt's domestic production and imports of meat and feeds—and government policies and their effect on the poultry industry—provides an example that may be applicable to other middle-income countries. This study projects Egypt's poultry and egg consumption in 2010, estimates poultry numbers (live birds) needed to satisfy this demand, and projects the derived feed requirements for the sector. Results indicate that Egypt's poultry industry is highly dependent on feed imports, with a dependency rate approaching 100 percent for soybeans and 48 percent for yellow corn in 2010. As Egypt and other middle-income countries face the challenge of greater liberalization under the World Trade Organization, the efficiency of domestic poultry industries will influence consumers, producers, and exporters competing to sell products into these growing markets.

Keywords: Egypt's poultry industry, eggs, derived feed demand, elasticities, world meat consumption, world meat production, trade policy, middle-income countries, high-income countries, low-income countries, world consumption and production of meats and eggs

Acknowledgments

The author appreciates the valuable comments and input from many individuals inside and outside ERS, as well as in Egypt. Special thanks go to Joy Harwood, Cheryl Christensen, Deputy Directors, Market and Trade Economics Division, and Janet Perry, Chief, Animal Products Branch, for their role in the oversight and review of the manuscript at its final stage. Particular thanks go to the following reviewers in ERS: Leland Southard, William Hahn, Kenneth Mathews, and Donald Blayney, of the Animal Products Branch; Lee A. Christensen, Michael Olinger, and Cecil Davison (now retired), of the Food and Rural Economics Division. Reviewers outside ERS are also acknowledged

including Joel Greene, Livestock specialist, USDA World Agriculture Outlook Board, Milton Madison, Livestock Analyst USDA Farm Service Agency, and Corey Pickelsimer, Poultry Analyst, USDA Foreign Agriculture Service. Special appreciations go to Lou King and Anne Pearl, for editing the final copy of the report and preparing the electronic and camera copy.

Acknowledgments are also extended to many in Egypt who provided invaluable information in the early stage of the research and during data collection in Egypt. Special appreciation goes to Dr. Mamdouh Sharaf El-Din, Livestock Adviser, Ministry of Agriculture, Cairo, Egypt; Dr. Hussein Soliman, Deputy Minister for Livestock; Dr. Mahmoud Mansour, Director Agriculture Economic Research Institute, his Deputy Dr. Emam M. El-Gamassy, and Dr. Ahmed S. Tabana, Livestock Analyst, Ministry of Agriculture. Appreciations go to Prof. Naguib Gohar El-Hilali, previous Dean, Faculty of Agriculture, Cairo University; Prof. Gamal Isam, Faculty of Agriculture, Cairo University; Prof. Ibrahim Soliman, University of Zagazig; and Dr. Mohiey Batanouny, International Linkage Coordinator, Agriculture Research Center, Giza, Egypt. Appreciation is extended to many in the commercial poultry sector of Egypt, including Dr. Mohammed Sherif, President, Independent Poultry Advisor Group, Cairo; Mr. Tony Frengy, President, El-Wady Poultry Company; Dr. Ahmed El-Khayyat, President, Cairo Poultry Company; and Mr. M. Galal, Koki Poultry Company.

Cover photos of live chicken and egg markets courtesy of Fawzi A. Taha.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs). Persons with disabilities who require alternative means for communication of program information (braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Contents

Executive Summary	iv
Introduction	1
Patterns of World Poultry Consumption and Production	3
Meat Consumption in Middle-Income Countries	3
Meat Production Rising, Especially in Middle-Income Countries	5
Demand for Poultry Meat Rose Fastest in Middle-Income Countries	8
Major Types of Poultry	10
World Consumption and Production of Eggs	13
Egg Consumption	13
Egg Production	13
Egypt's Poultry Sector	15
Economic Reforms and Policies	15
Poultry Meat Industry	17
Poultry Types	17
Poultry Meat Consumption	18
Poultry Meat Production	18
Egypt's Egg Industry	19
Egg Consumption in Egypt	19
Egg Production in Egypt	19
Forecasting Egypt's Poultry Industry Needs	21
Methodology	21
Estimation Results	21
Poultry Meat and Egg Demand Projections for 2010	22
Projection Results	22
Live Poultry Projections to 2010	23
Forecast Derived Feed Requirements	24
Sensitivity Testing of Feed Requirement Forecasts	26
Egypt's Production of Coarse Grains, Oilseeds, and Oilseed Meals	29
Coarse Grain Production Expands	29
Oilseed Production Shrinks	29
Oilseed Meal Production Rebounding	29
Egypt's Imports of Coarse Grains, Oilseeds, and Oilseed Meals	32
Coarse Grain Imports Rise Steadily	32
Oilseed and Imports Grow Rapidly	32
Oilseed Meal Imports Grow Strongly	32
Egypt's Dependence on Feed Imports Rising	34
Factors Affecting Prospects for Egypt's Poultry Sector	37
Implications for Other Countries	39
Rising Dependence on Feed Imports	39
Privatization Boosts Poultry and Egg Production	39
Feed Industry Lagging	39
WTO Impact on Egyptian Poultry Production	39
Applying the Methodology to Other Countries	40
References	41

Executive Summary

In 2001, poultry production in middle-income countries totaled 37.5 million tons, compared with 29.3 million tons in high-income countries and only 3.6 million tons in low-income countries. During 1961-2001, world poultry meat output increased nearly eight-fold, but output in middle-income countries rose more than twelvefold.

While income growth fuels rising demand for meat in middle-income countries, other factors often determine how that demand will be satisfied. Domestic and trade policies, as well as resource constraints, affect the mix between domestic production and imports of meat and feedgrains. Policies also shape the structure and efficiency of domestic industries. In some middle-income countries, Russia, for example, the removal of subsidies led to a significant reduction in domestic meat production, accompanied by increased meat imports. In China, growing demand has led to significant increases in feedgrain imports to support growing domestic production and some exports. Brazil, by contrast, has sufficiently expanded to allow growth in both domestic consumption and exports of both feedstuffs and poultry to world markets.

From this perspective, Egypt represents an interesting example of the interaction between domestic production and imports of meat and feeds in middle-income countries. Egyptian Government policies and their effect on the poultry industry provide valuable lessons applicable to other middle-income countries regarding policies and trends that could affect the poultry industry. Income growth in the 1980s, coupled with consumer subsidies and price controls, led to significant imports of poultry. By the end of that decade, however, subsidies of domestic production led to falling poultry imports and rising domestic production, along with rising feedgrain imports. Privatization of the poultry industry in early 1990s, in turn, fueled more efficient production and increased imports of feedgrains and soymeal, while producers were protected from import competition through high tariff barriers for imported poultry. In the early 21st century, Egypt—like many other middle-income countries—faces the potential challenge of greater liberalization under the WTO, and the efficiency of its domestic poultry industry will influence domestic consumers, producers, and exporters competing to sell either products or intermediate inputs into this growing market.

This study projects Egypt's poultry and egg consumption in 2010, estimates poultry numbers (live birds) needed to satisfy this demand, and projects the derived feed requirements for the sector. Econometric models provide estimates of the own-price, cross-price, and income elasticities used to project demand for poultry and eggs.

Although not one of the world's top consuming or trading countries in the poultry and egg market, Egypt accounted for about 30 percent of U.S. agricultural exports to the North Africa/Middle East region in 2001. Egypt has become increasingly dependent on foreign markets to meet its domestic demand for feed and food, particularly since the beginning of the 1990s. Demand for poultry and other livestock products has grown faster than Egypt's feed production, which contends with limited amounts of suitable pastureland, arable land, and water. By 2010, Egypt will likely rely on imports for nearly all of its soybeans and 48 percent of its corn.

In 2002, Egypt's poultry producers imported feedstuffs for their flocks while high tariffs restrained meat imports. But full trade liberalization under World Trade Organization (WTO) rules could soon open the Egyptian market to imports of both feedstuffs and poultry meat from the United States and elsewhere.