



# U.S. Poultry in the Global Economy: Impacts on women, livelihoods, and the environment

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## **The Global Poultry Industry**

The volume of chicken traded globally is expected to reach 6.7 million tons in 2007. Brazil is the top exporter with the U.S. close behind—together they control 75% of the global chicken trade.<sup>1</sup>

The global chicken trade is dominated by large, multinational poultry companies which are commonly called integrators because they run a vertically integrated production process where one firm controls every aspect of the operation from the embryo to the market shelf (the combining of production, processing, and distribution into a single entity). Integrators coordinate the supply of chickens through a system of contracts with growers. Growers (poultry farmers) provide the land, buildings, equipment, utilities, and labor in raising the birds to a marketable age, while the companies supply the chickens, feed and medication and buy back the mature birds.<sup>2</sup>

Vertical integration and contract production emerged in the U.S. in the 1950s and quickly came to dominate the industry. In 1950, 95 percent of U.S. broiler production remained independent. Just 10 years later, 90 percent of the industry was under contracts.<sup>3</sup> Today over 99% of all broiler production in the U.S. occurs in and is marketed by vertically integrated firms.

By the early 1970s, agroindustrial firms across the globe were adopting this production model. In Thailand, Indonesia, and Vietnam production jumped eightfold in just 30 years, to 2,440,000 mt in 2001. China's production of chicken tripled during the 1990s to over 9 million mt per year. Practically all of this new poultry production has happened on factory farms concentrated outside of major cities and integrated into transnational production systems.<sup>4</sup>

While this transformation in production has resulted in more chickens produced it has many negative side-effects:

- Increased consolidation;

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<sup>1</sup> The European Union, China and Thailand round out the major exporters. Major importing countries include Russia, Japan, China and Mexico.

<sup>2</sup> Carole Morrison, "Contract Poultry Farming," American Agriculture Movement, Inc. Newsletter. November 2001: <http://www.aaminc.org/newsletter/v7i4/v7i4p4.htm>.

<sup>3</sup> Brian Levy, "When the Farmer Makes the Rules," New Rules Project, 2000: <http://www.newrules.org/journal/nrfall00farmer.html>.

<sup>4</sup> GRAIN 2006, *Fowl play: The poultry industry's central role in the bird flu crisis*, GRAIN Briefing, February 2006: <http://www.grain.org/briefings/?id=194>.

- Expansion of the industrial model;
- Increased imports and exports;
- Increased exploitation of farmers and workers and growing threat to peasant livelihoods;
- Reduced genetic diversity;
- Concentrated negative environmental impacts;
- Displacement of small-scale poultry producers, many of them women, in developing countries.

Global trade and investment rules encourage expansion of industrial chicken production. This fact sheet explores the global poultry trade drawing primarily on the experience of the U.S., but will also highlight some key developing country examples.

### **The U.S. Poultry Industry**

The poultry industry represents the most vertically integrated sector of all of U.S. agriculture and food production and could soon be one of the most concentrated as well. In 1950, for example, there were over 250 firms operating in the U.S. broiler industry; today there are fewer than 50. Two firms control 40% of the U.S. market (Tyson Foods, Inc. and Pilgrim's Pride Corporation) and nine firms control over 67%. Production is concentrated in rural areas of the Southeastern U.S. and the Delmarva peninsula on the Eastern Shore of the Chesapeake Bay.

Integration and concentration provide maximal financial benefits to the major firms and places increasing burden and financial hardship on the growers. Poultry companies often oppose any form of new regulation or enforcement of existing regulations that would limit their power and profitability. The market dominance of this production model has profound implications for the character of rural communities.

### ***Land Use/Distribution***

In the U.S., the expansion of the industrial model has intensified land use. For example, in 1999 on the Eastern Shore, more than 600 million chickens were being raised on less ground than produced 380 million two decades ago.<sup>5</sup> In Hall County, GA only one-sixth of the number of contract growers in 1950 produced six times as many chickens in 1997.<sup>6</sup>

### ***Water Usage***

On farms, water is used to clean and disinfect chicken houses, in evaporative cooling systems, and as a medium for delivering nutrients and medicines. It takes 3,500 liters of water to make a kilogram of meat.<sup>7</sup> Modern broiler houses (e.g. typical 500 ft) require 10 gallons per minute.<sup>8</sup> Many growers have multiple houses on their farms.

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<sup>5</sup> Peter S. Goodman, "An Unsavory Byproduct: Runoff and Pollution," Washington Post, August 1, 1999.

<sup>6</sup> The New Georgia Encyclopedia: <http://www.georgiaencyclopedia.org/nge/Article.jsp?id=h-1811>.

<sup>7</sup> Roger Segelken, "U.S. could feed 800 million people with grain that livestock eat, Cornell ecologist advises animal scientists: Future water and energy shortages predicted to change face of American agriculture." Cornell University, Aug. 7, 1997: <http://www.news.cornell.edu/releases/Aug97/livestock.hrs.html>.

<sup>8</sup> The Alabama Poultry Engineering and Economics Newsletter, Auburn University, September 2000: <http://www.aces.edu/dept/poultryventilation/documents/Nwsltr-7.pdf>.

According to a USDA survey, average water usage in US poultry plants is 7.13 gal/bird.<sup>9</sup> Each day slaughterhouses on the Eastern Shore use more than 12 million gallons of water a day to process over 2 million birds a day.

The U.S. broiler industry consumed nearly 43 million tons of feed in 2005, over 1/3 of total production.<sup>10</sup> Growing corn and soy, the basic ingredients in chicken feed, represents additional water usage, though specific statistics are not readily available.

### ***Waste and Wastewater***

Water contamination has become a major issue confronting industrial poultry operations.

- **Chicken manure:** On the Eastern Shore, more than 600 million birds are raised each year, producing more than 750,000 tons of manure. Poultry manure is rich in nitrogen and phosphorous and has contaminated groundwater and surface waterways like rivers and bays. Ammonia gas must be ventilated from the chicken houses and can contaminate soil and water. Arsenic, an additive to chicken feed contaminates much of the 26-55 billion pounds of litter or waste generated each year by the US broiler chicken industry and also contaminates the communities in which it is generated or disposed.<sup>11</sup>
- **Chicken processing:** The chicken guts, heads, feathers, blood, and wastewater that remain from the processing are rendered down to their essence before being hauled as sludge to fertilize area farms. In 1999, 6,000 gallons of sludge were hauled away each day from Delmarva operations. Treated wastewater is released into nearby streams or sprayed on area farms.

### ***Family Farming***

In the U.S., raising chickens has been a source for additional farm income, though many growers are forced to work one or more off-farm jobs. The entry costs are quite high—\$150,000-\$250,000 per chicken house. To secure mortgages, the farm or farm house must often be used as collateral. The integrator may demand or encourage costly upgrades to the houses to meet industry standards—placing the grower in deeper debt. Under the terms of the grower contracts, there is no assurance that integrators will continue to place chickens with the grower.

Studies by the National Contract Poultry Growers Association show that integrators in the U.S. enjoy a 20% to 30% return on their investment while the most contract poultry farmers can hope for is a 1% to 3% return—despite the fact that the growers invest over 50% of the entire capital needed in the industry<sup>12</sup> and assume much of the risk. Contract growers effectively face monopoly pricing for the feed and veterinary services and no choice in where to source the chicks they raise—and only one buyer who sets the price for the mature birds.

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<sup>9</sup> "A Survey of Common Practices in Commercial Broiler Processing Facilities and Their Effects on Water Use," USDA, January 2003: [http://www.ars.usda.gov/research/publications/publications.htm?SEQ\\_NO\\_115=140838](http://www.ars.usda.gov/research/publications/publications.htm?SEQ_NO_115=140838).

<sup>10</sup> Dr. Simon M. Shane, "The U.S. Broiler Industry A Decade of Evolution," The National Provisioner, 2006: <http://www.nationalprovisioner.com>.

<sup>11</sup> "Playing Chicken: Avoiding Arsenic in Your Meat," Institute for Agriculture and Trade Policy, 2006: <http://www.iatp.org>.

<sup>12</sup> Carole Morrison. American Agriculture Movement, Inc. Newsletter, see note 1.

Studies by Louisiana Tech University and the National Contract Growers Institute (NCGI) revealed that over 71.6% of the nation's poultry farmers earn a below poverty level income from their poultry operations and by USDA standards would qualify for public assistance.<sup>13</sup>

### **Women and Poultry Production**

Women are heavily involved in U.S. industrial chicken production. Women are directly impacted by the industry as growers and plant workers, and indirectly as consumers and care givers. However, their participation does not represent empowerment.

- **Growers:** In the U.S., contract growing is often undertaken as a secondary source of farm income with women often responsible for overseeing the poultry operation. Antibiotics are frequently given to industrial chickens to fight sickness and promote growth. A recent study found that workers who handle live poultry are more likely to carry antibodies and bacteria that are resistant to some antibiotics.<sup>14</sup>
- **Processing:** Work in poultry processing plants is notoriously low pay and dangerous with a high turnover rate. The workforce is increasingly immigrant and quite gender segregated:

*Most line workers are women, many in their 40s and 50s. In a plant where about two-thirds of the workers are male, this fact is telling. On-line jobs are the worst in the plant—monotonously, even dangerously, repetitive. These workers stand in the same place repeating the same motions for an entire shift. Women are concentrated in on-line jobs because they're excluded from all jobs that involve heavy lifting or running machinery...*<sup>15</sup>

Line workers frequently report repetitive stress injuries. Union representation is almost non-existent in the industry. Women and men are subject to many abuses—failure to pay for time spent donning and docking protective equipment, wrongful termination, and denial of bathroom breaks (even for pregnant women). Female plant workers have also reported sexual harassment and intimidation.

- **Consumers/Food Providers:** Arsenic is routinely fed to U.S. chickens as a feed additive, but is not broken down by the chickens or in the environment. Arsenic was found in 55% of the brands tested in a recent study and ALL of the fast food chicken products.<sup>16</sup>
- **Family Health Care Providers:** Avian Influenza has ravaged chicken flocks across the globe and could become a global human pandemic. Attention has focused on small backyard producers and migratory birds as the main sources of transmission, but a new report argues that it is industrial breeding and growing that has transmitted the avian virus. The lack of genetic diversity in industrial flocks and the close quarters in which they are raised allows the concentration necessary for rapid mutation and transmission of the virus. An avian influenza pandemic in human populations would significantly increase women's care responsibilities for the sick.

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<sup>13</sup> Ibid.

<sup>14</sup> Luladey B. Tadesse, "Poultry Workers carrying resistant bacteria, study finds," The News Journal, 5/12/2006.

<sup>15</sup> Steve Striffler, "Undercover in a Chicken Factory," Utne, January/February 2004: <http://www.utne.com>.

<sup>16</sup> "Playing Chicken: Avoiding Arsenic in Your Meat," Institute for Agriculture and Trade Policy, see note 10.

## **Local and Global Connections**

### ***Food Sovereignty***

Vertical integration, industrial production and increasing global competition in the poultry industry have raised new questions locally and globally about issues of food sovereignty. According to Via Campesina, food sovereignty is defined as:

*... the right of peoples to define their own food and agriculture; to protect and regulate domestic agricultural production and trade in order to achieve sustainable development objectives; to determine the extent to which they want to be self-reliant; [and] to restrict the dumping of products in their markets...<sup>17</sup>*

- **Industrial Chicken Production and Food Sovereignty in the U.S.**

The industrial production process in the U.S. has severely curtailed the right of farmers to produce food and the right of consumers to decide what they consume, and how and by whom it is produced. Industry-wide standards reinforce the dominance of confined animal feeding operations, effectively mandating production processes as opposed to quality and safety of final output.

Consumer choice is often limited with only one or two brands sold in local supermarkets. Organic and free range standards offer minimal improvements on what animals are fed and how they are treated. However they do not necessarily offer a more humane alternative to industrial production, nor do they address the fair treatment of growers and workers. Major integrators are beginning to enter these fast growing, niche markets.

- **Industrial Chicken Production and Food Sovereignty in Developing Countries**

In many developing countries, raising chickens is vital for family nutrition and income, with women often responsible for rearing the chickens. Production is done sustainably. Low-cost grain and household scraps are often fed to chickens. Chickens reach maturity in a few months, providing a renewable source of protein while chicken waste can be used as fertilizer for family fields. The following example from Laos is indicative of the situation in many developing countries:

*The poultry industry in Laos is predominantly one of smallholders, raising free-range, local chicken breeds nearby their dwellings for meat and eggs, mostly consumed by the household or sold locally for income ... An average village has around 350 chickens, ducks, turkeys and quail being raised in small flocks interspersed among village homes by about 78 families, with women primarily responsible for the flocks.<sup>18</sup>*

The arrival of multinational firms, facilitated by liberalized trade and investment rules, with their model of industrial, vertically integrated production can destabilize smallholder chicken production and threaten community, environmental resources. Open markets can be

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<sup>17</sup> *People's Food Sovereignty Statement*, November 13, 2001:

<http://www.peoplesfoodsovereignty.org/content/view/32/26/>.

<sup>18</sup> USDA, "Laos: Poultry and Products - Avian Influenza," GAIN Report, US Department of Agriculture, Washington DC, 16 March 2005.

replaced by contracts. Wealthy integrators may perceive smallholders as competitors and advocate for policies that would further expand the industrial model. As happened in the U.S., the once thriving system of smallholder production, and its widely shared benefits for income generation and nutrition transformed into a system which concentrates power and wealth within a few firms.

US consumers prefer white meat, but as US broiler production expands there is the unavoidable production of additional dark meat, the bulk of which is exported, often to developing countries. Between 1960 and 2005, US broiler production increased 707% while US exports increased 5,736%. Because of the price premium on white meat, subsidies to corn and soy, low-wages throughout the industry, and externalization of key expenses (chicken houses, waste disposal), the dark meat can be sold at rock bottom prices, often displacing local production and threatening small producer's livelihoods, many of them women. Increased market access for these U.S. chicken exports has been pursued aggressively by the U.S. in recent trade negotiations.

Rural women producers in developing countries are seeing their markets decline as global production chains and imports transform poultry from a low-cost source of income and nutrition to a global commodity.

### ***Exploitation Across Borders***

The success of the U.S. poultry industry in increasing production to unprecedented levels, creating new consumer demand, and turning chicken into a lucrative global commodity comes at a high price for farmers, workers, consumers, and communities-many of them women-in the U.S. and abroad. This paper focuses on the U.S. industry, but as noted earlier, the vertically integrated model has been adopted in many countries which are now exporting chicken on the global market. Domestically, and globally, competition is fierce and the industry is becoming more-and-more concentrated-yet it remains profitable for the integrators. This "successful" business model demands that:

- Farm families are locked into unfair contracts;
- Factory workers remain low-paid and unprotected;
- Waste is excessively produced;
- Chickens are raised on dangerous feed additives that pass through to consumers and the environments;
- Developing country markets become the dumping grounds for non-saleable U.S. dark meat, often threatening women's livelihoods and food security; and
- Production expands to foreign markets, transforming local, small-scale production, in order to increase corporate profits.

Across borders, along all steps of the production chain, these increasingly powerful companies are able to exploit women's and men's labor, the environment, and food sovereignty. The production model itself is quite aggressive in its pursuit of profits, but it does not exist in a vacuum. A key element to the rapid expansion of the model and the persistent exploitation of those caught in the talons of "Global Chicken" is a trade and investment climate that favors industrial production for export.

## Trade Liberalization

Trade liberalization furthers the expansion of industrial chicken production, threatening livelihoods, the environment, genetic diversity, and the livelihoods and nutritional needs of many small producers.

- **Market access:** The U.S. consistently pushes for enhanced market access for U.S. poultry exports in its free trade negotiations. For the reasons above, of particular interest is expanding the market for dark meat chicken.
- **Investment:** Liberalized investment regimes create the conditions for U.S. firms, and other mega processors to establish operations internationally, further extending the industrial/contract production process.
- **Intellectual Property:** Enhanced IPR provisions in trade agreements further strengthen the position of the proprietary breeders which supply chicks to the industrial operations. Currently two companies, Cobb-Vantress and Aviagen, control 65-85% of the world market for breeding stock.
- **National Treatment clauses and restrictions on performance requirements:** These rules allow foreign companies, such as fast food restaurants and hotels, the freedom to source their chicken from international suppliers as opposed to domestic sources.
- **Sanitary and Phytosanitary (SPS):** The high cost of meeting SPS standards can effectively exclude small producers, who are unable to bear the cost, while simultaneously favoring larger or industrial producers who have the resources and capacity to meet SPS demands.

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