

# Factory Farming in the Developing World

**In some critical respects, this is not progress at all.**

by Danielle Nierenberg

Illustrations by Sue Coe

**W**alking through Bobby Inocencio's farm in the hills of Rizal province in the Philippines is like taking a step back to a simpler time. Hundreds of chickens (a cross between native Filipino chickens and a French breed) roam around freely in large, fenced pens. They peck at various indigenous plants, they eat bugs, and they fertilize the soil, just as domesticated chickens have for ages.

The scene may be old, but Inocencio's farm is anything but simple. What he has recreated is a complex and successful system of raising chickens that benefits small producers, the environment, and even the chickens. Once a "factory farmer," Inocencio used to raise white chickens for Pure Foods, one of the biggest companies in the Philippines.



Thousands of birds were housed in long, enclosed metal sheds that covered his property. Along with the breed stock and feeds he had to import, Inocencio also found himself dealing with a lot of imported diseases and was forced to buy expensive antibiotics to keep the chickens alive long enough to take them to market. Another trick of the trade Inocencio learned was the use of growth promotants that decrease the time it takes for chickens to mature.

Eventually he noticed that fewer and fewer of his neighbors were raising chickens, which threatened the community's food security by reducing the locally available supply of chickens and eggs. As the community dissolved and farms (and farming methods) that had been around for generations went virtually extinct, Inocencio became convinced that there had to be a different way to raise chickens and still compete in a rapidly globalizing marketplace. "The business of the white chicken," he says, "is controlled by the big guys." Not only do small farmers have to compete with the three big companies that control white chickens in the Philippines, but they must also contend with pressure from the World Trade Organization (WTO) to open up trade. In the last two decades the Filipino poultry production system has transitioned from mainly backyard farms to a huge industry. In the 1980s the country produced 50 million birds annually. Today that figure has increased some ten-fold. The large poultry producers have benefited from this population explosion, but average farmers have not. So Inocencio decided to go forward by going back and reviving village-level poultry enterprises that supported traditional family farms and rural communities.

Inocencio's farm and others like it show that the Philippines can support indigenous livestock production and stand up to the threat of the factory farming methods now spreading around the world. Since 1997, his Teresa Farms has been raising free range chickens and teaching other farmers how to do the same. He says that the way he used to raise chickens, by concentrating so many of them in a small space, is dan-

gerous. Diseases such as avian flu, leukosis J (avian leukemia), and Newcastle disease are spread from white chickens to the Filipino native chicken populations, in some cases infecting eggs before the chicks are even born. "The white chicken," says Inocencio, "is weak, making the system weak. And if these chickens are weak, why should we be raising them? Limiting their genetic base and using breeds that are not adapted to conditions in the Philippines is like setting up the potential for a potato blight on a global scale." Now Teresa Farms chickens are no longer kept in long, enclosed sheds, but roam freely in large tree-covered areas of his farm that he encloses with recycled fishing nets.

Inocencio's chickens also don't do drugs. Antibiotics, he says, are not only expensive but *encourage* disease. He found the answer to the problem of preventing diseases in chickens literally in his own backyard. His chickens eat spices and native plants with antibacterial and other medicinal properties. Chili, for instance, is mixed in grain to treat respiratory problems, stimulate appetite during heat stress, deworm the birds, and to treat Newcastle disease. Native plants growing on the farm, including *ipil-ipil* and *damong maria*, are also used as low-cost alternatives to antibiotics and other drugs.

There was a time when most farms in the Philippines, the United States, and everywhere else functioned much like Bobby Inocencio's. But today the factory model of raising animals in intensive conditions is spreading around the globe.

## A New Jungle

Meat once occupied a very different dietary place in most of the world. Beef, pork, and chicken were considered luxuries, and were eaten on special occasions or to enhance the flavor of other foods. But as agriculture became more mechanized, so did animal production. In the United States, livestock raised in the West was herded or transported east to slaughterhouses and packing mills. Upton Sinclair's *The Jun-*



### Factory Chicken

*gle*, written almost a century ago when the United States lacked many food-safety and labor regulations, described the appalling conditions of slaughterhouses in Chicago in the early 20th century and was a shocking expose of meat production and the conditions inflicted on both animals and humans by the industry. Workers were treated much like animals themselves, forced to labor long hours for very little pay under dangerous conditions, and with no job security.

If *The Jungle* were written today, however, it might not be set in the American Midwest. Today, developing nations like the Philippines are becoming the centers of large-scale livestock production and processing to feed the world's growing appetite for cheap meat and other animal products. But the problems Sinclair pointed to a century ago, including hazardous working conditions, unsanitary processing methods, and environmental contamination, still exist. Many have become even worse. And as environmental regulations in the European Union and the United States become stronger, large agribusinesses are moving their animal production operations to nations with less stringent enforcement of environmental laws.

These intensive and environmentally destructive production methods are spreading all over the globe, to Mexico, India, the former Soviet Union, and most rapidly throughout Asia. Wherever they crop up, they create a web of related food safety, animal welfare, and environmental problems. Philip Lymbery, campaign director of the World Society for the Protection of Animals, describes the growth of industrial animal production this way: Imagine traditional livestock production as a beach and factory farms as a tide. In

the United States, the tide has completely covered the beach, swallowing up small farms and concentrating production in the hands of a few large companies. In Taiwan, it is almost as high. In the Philippines, however, the tide is just hitting the beach. The industrial, factory-farm methods of raising and slaughtering animals—methods that were conceived and developed in the United States and Western Europe—have not yet swept over the Philippines, but they are coming fast.

### An Appetite for Destruction

Global meat production has increased more than five-fold since 1950, and factory farming is the fastest growing method of animal production worldwide. Feedlots are responsible for 43 percent of the world's beef, and more than half of the world's pork and poultry are raised in factory farms. Industrialized countries dominate production, but developing countries are rapidly expanding and intensifying their production systems. According to the United Nations Food and Agriculture Organization (FAO), Asia (including the Philippines) has the fastest developing livestock sector. On the islands that make up the Philippines, 500 million chickens and 20 million hogs are slaughtered each year.

Despite the fact that many health-conscious people in developed nations are choosing to eat less meat, worldwide meat consumption continues to rise. Consumption is growing fastest in the developing countries. Two-thirds of the gains in meat consumption in 2002 were in the developing world, where urbanization, rising incomes, and globalized trade are changing diets and fueling appetites for meat and animal products. Because eating meat has been perceived as a measure of economic and social development, the Philippines and other poor nations are eager to climb up the animal-protein ladder. People in the Philippines still eat relatively little meat, but their consumption is growing. As recently as 1995, the average

Filipino ate 21 kilograms of meat per year. Since then, average consumption has soared to almost 30 kilograms per year, although that is still less than half the amount in Western countries, where per-capita consumption is 80 kilograms per year.

This push to increase both production and consumption in the Philippines and other developing nations is coming from a number of different directions. Since the end of World War II, agricultural development has been considered a part of the foreign aid and assistance given to developing nations. The United States and international development agencies have been leaders in promoting the use of pesticides, artificial fertilizers, and other chemicals to boost agricultural production in these countries, often at the expense of the environment. American corporations like Purina Mills and Tyson Foods are also opening up feed mills and farms so they can expand business in the Philippines.

But Filipinos are also part of the push to industrialize agriculture. "This is not an idea only coming from the West," says Dr. Abe Agulto, president of the Philippine Society for the Protection of Animals, "but also coming from us." Meat equals wealth in much of the world and many Filipino businesspeople have taken up largescale livestock production to supply the growing demand for meat. But small farmers don't get much financial support in the Philippines. It's not farms like Bobby Inocencio's that are likely to get government assistance, but the big production facilities that can crank out thousands of eggs, chicks, or piglets a year.

The world's growing appetite for meat is not without its consequences, however. One of the first indications that meat production can be hazardous arises long before animals ever reach the slaughterhouse. Mountains of smelly and toxic manure are created by the billions of animals raised for human consumption in the world each year. In the United States, people in North Carolina know all too well the effects of this liquid and solid waste. Hog production there has increased

faster than anywhere else in the nation, from 2 million hogs per year in 1987 to 10 million hogs per year today. Those hogs produce more than 19 million tons of manure each year and most of it gets stored in lagoons, or large uncovered containment pits. Many of those lagoons flooded and burst when Hurricane Floyd swept through the region in 1999. Hundreds of acres of land and miles of waterway were flooded with excrement, resulting in massive fish kills and millions of dollars in cleanup costs. The lagoons' contents are also known to leak out and seep into groundwater.

Some of the same effects can now be seen in the Philippines. Not far from Teresa Farms sits another, very different, farm that produces the most frequently eaten meat product in the world. Foremost Farms is the largest piggery, or pig farm, in all of Asia. An estimated 100,000 pigs are produced there every year.

High walls surround Foremost and prevent people in the community from getting in or seeing what goes on inside. What they do get a whiff of is the waste. Not only do the neighbors smell the manure created by the 20,000 hogs kept at Foremost or the 10,000 hogs kept at nearby Holly Farms, but their water supply has also been polluted by it. In fact, they've named the river where many of them bathe and get drinking water the River Stink. Apart from the stench, some residents have complained of skin rashes, infections, and other health problems from the water. And instead of keeping the water clean and installing effective waste treatment, the farms are just digging deeper drinking wells and giving residents free access to them. Many in the community are reluctant to complain about the smell because they fear losing their water supply. Even the mayor of Bulacan, the nearby village, has said "we give these farms leeway as much as possible because they provide so much economically."

It would be easy to assume that some exploitive foreign corporation owns Foremost, but in fact the owner is Lucia Tan, a Filipino. Tan is not your average Filipino, however, but the richest man in the Philippines. In addition to Foremost Farms, he owns San Miguel



### Ear-tagging

beer and Philippine Airlines. Tan might be increasing his personal wealth, but his farm and others like it are gradually destroying traditional farming methods and threatening indigenous livestock breeds in the Philippines. As a result, many small farmers can no longer afford to produce hogs for sale or for their own consumption, which forces them to become consumers of Tan's pork. Most of the nation's 11 million hogs are still kept in back yards, but because of farms like Foremost, factory farming is growing. Almost one-quarter of the breeding herd is now factory farmed. More than 1 million pigs are raised in factory farms every year in Bulacan alone.

Chicken farms in the Philippines are also becoming more intensive. The history of intensive poultry production in the Philippines is not long. Forty years ago, the nation's entire population was fed on native eggs and chickens produced by family farmers. Now, most of those farmers are out of business. They have lost not only their farms, but livestock diversity and a way of life as well.

The loss of this way of life to the industrialized farm-to-abattoir system has made the process more callous at every stage. Adopting factory farming methods works to diminish farmers' concern for the welfare of their livestock. Chickens often can't walk properly because they have been pumped full of growth-promoting antibiotics to gain weight as quickly as possible. Pigs are confined to gestation crates where they can't turn around. Cattle are crowded together in feedlots that are seas of manure.

Most of the chickens in the country are from imported breed stock and the native Filipino chicken has practically disappeared because of viral diseases spread by foreign breeds. Almost all of the hens farmed commercially for their eggs are confined in wire battery cages that cram three or four hens together, giving each bird an area less than the size of this page to stand on.

Unlike laying hens, chickens raised for meat in the Philippines are not housed in cages. But they're not pecking around in back yards, either. Over 90 percent of the meat chickens raised in the Philippines live in long sheds that house thousands of birds. At this time, most Filipino producers allow fowl to have natural ventilation and lighting and some roaming room, but they are under pressure to adopt more "modern" factory-farm standards to increase production.

The problems of a system that produces a lot of animals in crowded and unsanitary conditions can also be seen off the farm. The *barangay* (neighborhood) of Tondo in Manila is best known for the infamous "Smoky Mountain" garbage dump that collapsed on scavengers in 2000, killing at least 200 people. But another hazard also sits in the heart of Tondo. Surrounded by tin houses, stores, and bars, the largest government-owned slaughtering facility in the country processes more than 3,000 swine, cattle, and *caraboa* (water buffalo) per day, all brought from farms just outside the city limits. The slaughterhouse does have a waste treatment system where the blood and other waste is supposed to be treated before it is released into the city's sewer system and nearby Manila Bay. Unfortunately, that's not what's going on. Instead, what can't be cut up and sold for human consumption is dumped into the sewer.

Some 60 men are employed at the plant. They stun, bludgeon, and slaughter animals by hand and at a breakneck pace. They wear little protective gear as they slide around on floors slippery with blood, which makes it hard to stun animals on the first try, or sometimes even the second, or to butcher meat without



### De-beaking

injuring themselves.

The effects of producing meat this way also show up in rising cases of food-borne illness, emerging animal diseases that can spread to humans, and in an increasingly overweight Filipino population that doesn't remember where meat comes from.

There are few data on the incidence of food-borne illness in the Philippines or most other developing nations, and even fewer about how much of it might be related to eating unsafe meat. What food safety experts do know is that food-borne illness is one of the most widespread health problems worldwide. And it could be an astounding 300–350 times more frequent than reported, according to the World Health Organization. Developing nations bear the greatest burden because of the presence of a wide range of parasites, toxins, and biological hazards and the lack of surveillance, prevention, and treatment measures—all of which ensnarl the poor in a chronic cycle of infection. According to the FAO, the trend toward increased commercialization and intensification of livestock production is leading to a variety of food safety problems. Crowded, unsanitary conditions and poor waste treatment in factory farms exacerbate the rapid movement of animal diseases and food-borne infections. *E. coli* 0157:H7, for instance, is spread from animals to humans when people eat food contaminated by manure. Animals raised in intensive conditions often arrive at slaughterhouses covered in feces, thus increasing the chance of contamination during slaughtering and processing.

Cecilia Ambos is one of the meat inspectors at the Tondo slaughterhouse. Cecilia or another inspector is required to be on site at all times, but she says she rarely has to go to the killing floor. Inspections of carcasses only occur, she said, if one of the workers alerts the inspector. That doesn't happen very often, and not because the animals are all perfectly healthy. Consider that the men employed at the plant are paid about \$5 per day, which is less than half of the cost of living—and are working as fast as they can to slaugh-

ter a thousand animals per shift. It's unlikely that they have the time or the knowledge to notice problems with the meat.

Since the 1960s, farm-animal health in the United States has depended not on humane farming practices but on the use of antibiotics. Many of the same drugs used to treat human illnesses are also used in animal production, thus reducing the arsenal of drugs available to fight food-borne illnesses and other health problems. Because antibiotics are given to livestock to prevent disease from spreading in crowded conditions and to increase growth, antibiotic resistance has become a global threat. In the Philippines, chicken, egg, and hog producers use antibiotics not because their birds or hogs are sick, but because drug companies and agricultural extension agents have convinced them that these antibiotics will ensure the health of their birds or pigs and increase their weight.

Livestock raised intensively can also spread diseases to humans. Outbreaks of avian flu in Hong Kong during the past five years have led to massive culls of thousands of chickens. When the disease jumped the species barrier for the first time in 1997, six of the eighteen people infected died. Avian flu spread to people living in Hong Kong again this February, killing two. Dr. Gary Smith, of the University of Pennsylvania School of Veterinary Medicine, also warns that “it is not high densities [of animals] that matter, but the increased potential for transmission between farms that we should be concerned about. The nature of the farming nowadays is such that there is much more movement of ani-

mals between farms than there used to be, and much more transport of associated materials between farms taking place rapidly. The problem is that the livestock industry is operating on a global, national, and county level.” The foot-and-mouth disease epidemic in the United Kingdom is a perfect example of how just a few cows can spread a disease across an entire nation.

## Modern Methods, Modern Policies?

The expansion of factory farming methods in the Philippines is raising the probability that it will become another fast food nation. Factory farms are supplying much of the pork and chicken preferred by fast food restaurants there. American-style fast food was unknown in the Philippines until the 1970s, when Jollibee, the Filipino version of McDonald’s, opened its doors. Now, thanks to fast food giants like McDonald’s, Kentucky Fried Chicken, Burger King, and others, the traditional diet of rice, vegetables, and a little meat or fish is changing—and so are rates of heart disease, diabetes, and stroke, which have risen to numbers similar to those in the United States and other western nations.

The Filipino government doesn’t see factory farming as a threat. To the contrary, many officials hope it will be a solution to their country’s economic woes, and they’re making it easier for large farms to dominate livestock production. For instance, the Department of Agriculture appears to have turned a blind eye when many farms have violated environmental and animal welfare regulations. The government has also encouraged big farms to expand by giving them loans. But as the farms get bigger and produce more, domestic prices for chicken and pork fall, forcing more farmers to scale up their production methods. And because the Philippines (and many other nations) are prevented by the Global Agreement on Tariffs and Trade and the WTO from imposing tariffs on imported

products, the Philippines is forced to allow cheap, factory-farmed American pork and poultry into the country. These products are then sold at lower prices than domestic meat.

Rafael Mariano, a leader in the Peasant Movement for the Philippines (KMP), has not turned away from the problems caused by factory farming in the Philippines. He and the 800,000 farmers he works with believe that “factory farming is not acceptable, we have our own farming.” But farmers, he says, are told by big agribusiness companies that their methods are old fashioned, and that to compete in the global market they must forget what they have learned from generations of farming. Rafael and KMP are working to promote traditional methods of livestock production that benefit small farmers and increase local food security. This means doing what farmers used to do: raising both crops and animals. In mixed crop–livestock farms, animals and crops are parts of a self-sustaining system. Some farmers in the Philippines raise hogs, chickens, tilapia, and rice on the same farm. The manure from the hogs and chickens is used to fertilize the algae in ponds needed for both tilapia and rice to grow. These farms produce little waste, provide a variety of food for the farm, and give farmers social security when prices for poultry, pork, and rice go down.

The Philippines is not the only country at risk from the spread of factory farms. Argentina, Brazil, Canada, China, India, Mexico, Pakistan, South Africa, Taiwan, and Thailand are all seeing growth in industrial animal production. As regulations controlling air and water pollution from such farms are strengthened in one country, companies simply pack up and move to countries with more lenient rules. Western European nations now have among the strongest environmental regulations in the world; farmers can only apply manure during certain times of the year and they must follow strict controls on how much ammonia is released from their farms. As a result, a number of companies in the Netherlands and Germany are moving their factory farms—but to the United States, not to developing



## The Return of the Native...Chicken

Bobby Inocencio believes that the happier his chickens are, the healthier they will be, both on the farm and at the table. Native Filipino chickens are a tough sell commercially, he says, because they typically weigh in at only one kilogram apiece. But Inocencio's chickens are part native and part SASSO (a French breed), and grow to two kilos in just 63 days in a free-range system. They are also better adapted to the climate of the Philippines, unlike white chickens that are more vulnerable to heat. As a result, Inocencio's chickens not only are nutritious, but taste good. Raising white chickens, he says, forced small farmers to become "consumers of a chicken that doesn't taste like anything." Further, his chickens don't contain any antibiotics and are just 5 percent fat, compared to 35 percent in the white chicken. Because they are not raised in the very high densities of factory farms, these chickens actually enrich the environment with their manure. They also provide a reliable source of income for local farmers and give Filipinos a taste of how things used to be.



### Face-branding

countries. According to a recent report in the *Dayton Daily News*, cheap land and less restrictive environmental regulations in Ohio are luring European livestock producers to the Midwest. There, dairies with fewer than 700 cows are not required to obtain permits, which would regulate how they control manure. But 700 cows can produce a lot of manure. In 2001, five Dutch-owned dairies were cited by the Ohio Environmental Protection Agency for manure spills. “Until there are international regulations controlling waste from factory farms,” says William Weida, director of the Global Reaction Center for the Environment/Spira Factory Farm project, “it is impossible to prevent farms from moving to places with less regulation.”

Mauricio Rosales of FAO’s Livestock, Environment, and Development Project also stresses the need for siting farms where they will benefit both people and the environment. “Zoning,” he says, “is necessary to produce livestock in the most economically viable places, but with the least impact.” For instance, when livestock live in urban or peri-urban areas, the potential for nutrient imbalances is high. In rural areas, manure can be a valuable resource because it contains nitrogen and phosphorous, which fertilize the soil. In cities, however, manure is a toxic, polluting nuisance.

The triumph of factory farming is not inevitable. In 2001, the World Bank released a new livestock strategy which, in a surprising reversal of its previous commitment to funding of large-scale livestock proj-

ects in developing nations, said that as the livestock sector grows “there is a significant danger that the poor are being crowded out, the environment eroded, and global food safety and security threatened.” It promised to use a “people-centered approach” to livestock development projects that will reduce poverty, protect environmental sustainability, ensure food security and welfare, and promote animal welfare. This turnaround happened not because of pressure from environmental or animal welfare activists, but because the large-scale, intensive animal production methods the Bank once advocated are simply too costly. Past policies drove out smallholders because economies of scale for large units do not internalize the environmental costs of producing meat. The Bank’s new strategy includes integrating livestock–environment interactions into environmental impact assessments, correcting regulatory distortions that favor large producers, and promoting and developing markets for organic products. These measures are steps in the right direction, but more needs to be done by lending agencies, governments, non-governmental organizations, and individual consumers. Changing the meat economy will require a rethinking of our relationship with livestock and the price we’re willing to pay for safe, sustainable, humanely-raised food.

Meat is more than a dietary element, it’s a symbol of wealth and prosperity. Reversing the factory farm tide will require thinking about farming systems as more than a source of economic wealth. Preserving prosperous family farms and their landscapes, and raising healthy, humanely treated animals, should also be viewed as a form of affluence.

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Further Reading:  
World Society for the Protection of Animals,  
[www.wspa.org.uk](http://www.wspa.org.uk)