"The acceleration of international trade will continue, as will climate change, and their impact on ecosystems is already causing the spread of vector-borne diseases into hitherto untouched regions.... Rift Valley fever, Bluetongue virus and West Nile fever are instances of this for insect-borne diseases. But the spread of other epizootic diseases such as foot-and-mouth and African swine fever are, like avian influenza, other examples that are linked to the intensification of production systems and to the increase in commercial movements."

Jacques Diouf, FAO Director-General, 4 December 2007[1]

Viral times

The politics of emerging global animal diseases

GRAIN

In 2005–6 a mysterious pig disease erupted in China. Pigs in the country's south-western Jiangxi Province began dying of a high fever. It moved rapidly through and between herds and nothing seemed to keep it under control. Within a year the unknown killer spread to ten provinces, wiping out an estimated 400,000 pigs. Fresh outbreaks began again in 2007, with the disease spreading to another 15 provinces, laying waste to further hundreds of thousands of pigs. The mass die-off helped send Chinese pork prices to record levels, bringing hardship to consumers and jitters within the Chinese government and global business over how such inflation might affect the country's political stability.

"This disease is like a wind that swept in and passed from village to village", said Ding Shurong, a 45-year-old farmer from Sichuan province who lost two-thirds of his pigs. "I've never seen anything like it. No family was left untouched."[2]

A bad case of the blues

Most experts suspected the disease to be Porcine Respiratory and Reproductive Syndrome (PRRS), because many of the sick pigs developed the tell-tale blue ears. But PRRS had never been known to be quite so lethal. Subsequent genetic testing by Chinese scientists confirmed that the disease was indeed PRRS, probably a new, highly virulent form that had emerged and taken wing within China's growing industrial pork operations.[3]

PRRS is not a new disease. Like many other diseases now plaguing the global meat industry, PRRS was never a problem when it was encountered in the wild. It became a deadly menace only when it entered the industrial hog operations in North America and Europe in the 1980s. The uniform, high-yielding breeds used by factory farms proved highly susceptible to PRRS, and conventional methods for controlling other diseases, such as closed all-in/all-out systems, proved incapable of containing it.[4] Vaccines were also ineffective because the disease mutates so rapidly. In fact, the deployment of live vaccines is widely believed to be linked to the emergence of more virulent forms of the disease, and may even have played a role in the emergence of the new strain in China.[5] Things have become so bad in the US that PRRS now causes an estimated US$600 million in losses to the pig industry every year.[6]

1 http://tinyurl.com/2zzenz

2 David Barboza, "Virus spreading alarm and deadly pig disease in China", *New York Times*, 6 August 2007. http://tinyurl.com/2kg7qf

3 Kegong Tian *et al.*, "Emergence of Fatal PRRSV Variants: Unparalleled Outbreaks of Atypical PRRS in China and Molecular Dissection of the Unique Hallmark", PLoS ONE 2(6), 13 June 2007. http://tinyurl.com/2gvzga

4 Ann Perry, "Genetic clue for fighting swine virus," 18 October 2007: http://tinyurl.com/2xg3sc

5 Kegong Tian *et al.*, 2007; Biosecurity New Zealand, Ministry of Agriculture and Forestry, "Import risk analysis: Porcine reproductive and respiratory syndrome (PRRS) virus in pig meat", 25 July 2006. http://tinyurl.com/24fdrx

6 Monte B. McCaw, Department of Population Health and Pathobiology, North Carolina State University, "New concepts for the control of PRRS: Within pig strategies", N.C. Healthy Hog Seminars, 2004. http://tinyurl.com/248438

Once PRRS had got into the pig industry, it quickly spread within North America and Europe and then to other countries adopting the same model of factory farming. It was carried through the import of high-yield pig genetics, whether through breeding stock or semen for artificial insemination. It entered Spain in 1991 through the import of feeder pigs, broke out in Denmark in 1996 by way of an artificial insemination centre, and struck Colombia in 1997 through the import of piglets. The disease moved into major pork-producing countries in Asia in the 1980s and 1990s, probably through similar means. Retrospective studies of the serum of pigs imported into Japan, for instance, where PRRS is now widespread, show that at least 15 per cent of them were positive for the disease.[7] The variant of PRRS now on the loose in China seems particularly lethal. It has already moved into Vietnam and possibly Burma, and experts fear that it may now move far beyond China's borders.

"Wherever new PRRS viruses or unique combination of known agents are, the global swine industry needs to be concerned", warns Kent Schwartz, clinician at Iowa State University. "There are no secure borders".[8] PRRS is thus rising up the priority list of emerging deadly animal diseases which the United Nations Food and Agriculture Organisation (FAO) and the World Animal Health Organisation (OIE) label "transboundary". But the list is long and growing, and many of these new threats are zoonotic diseases – those that can jump from animals to humans, such as SARS or bird flu. Today, it is estimated that three out of four emerging diseases affecting human populations are transmitted from animals.[9]

Disease Change

Just as the world is undergoing climate change, it is also undergoing a major transformation in diseases. And here too human actions are at the centre of the problem. Indeed, the very forces driving climate change are also at the root of global disease change.

According to the FAO, "upsurges in animal disease emergencies worldwide are linked to the increased mobility of people, goods and livestock" (read: globalisation), "changes in farming systems" (read: more factory farming), "and the weakening of many livestock health services" (read: neo-liberal privatisation and deregulation).[10] The problems are in essence systemic.

The transnational structure of the livestock and meat industry, with its highly concentrated areas of production and the exporting of meat and animals over large distances, creates the conditions for disease to spread widely and rapidly. For instance, in 2005 more than 25 million live pigs were exported worldwide, not counting the large numbers smuggled across borders. Meanwhile, the intensity of the operations and the genetic uniformity of the animals create the perfect breeding grounds for the evolution of highly pathogenic strains and their amplification, with, at times, deadly consequences for humans.[11] Major killers like bird flu, Nipah and even SARS have all passed through such intensive farming operations.[12]

Today's global crisis with animal diseases is really a product of the expansion and integration of European and North American models of industrial livestock farming over several decades. The uniformity of these farming models, in terms of both genetics and systems of production, means that the animals are not adapted at all to the local environment and are thus highly susceptible to local diseases. Producers have tried to cope with this weakness by building ever more tightly sealed barns to keep all pathogens out, and by injecting animals with all manner of vaccines and antibiotics. At an international level, governments are tightening their borders, and pushing for greater surveillance and reporting of diseases in foreign countries. And yet, whether from international donor programmes and NGOs or from agribusiness contract farming schemes, the drive continues, pushing it to intensify the industrialisation of livestock farming towards a "Livestock Revolution", akin to the Green Revolution for crops.[13]

In fact, the so-called "Livestock Revolution" rapidly leads to a dead end for most farmers, especially in poor countries. These countries do not have the means to support strong national veterinary programmes, and the biosecurity and patented drugs deployed and subsidised in the North are completely out of the reach of their small farmers. Moreover, in many countries there are endemic diseases, such as foot-and-mouth disease (FMD) in Africa, that may not cause much mortality with local production practices but are heavily policed in international markets, thus prohibiting these countries from ever reaching the promised export markets.

The furious efforts on the part of the FAO, OIE, the World Health Organisation, the World Bank and some of their national counterparts to get a grip on these emerging transboundary diseases do little to alter this grim reality. Their focus is on surveillance, keeping track of where the disease is, and on control, stamping the disease out where it arises. Short of the occasional mass vaccination

7 Biosecurity New Zealand 2006; Joe Vansickle, "PRRS Spreads Worldwide," *National Hog Farmer*, 1 November 1997: http://tinyurl.com/yunxpe

8 Personal email communication, 2 November 2007.

9 J. Otte, D. Roland-Holst, D. Pfeiffer, R. Soares-Magalhaes, J. Rushton, J. Graham and E. Silbergeld, "Industrial Livestock Production and Global Health Risks", Pro-Poor Livestock Policy Initiative, June 2007. http://tinyurl.com/28oopa

10 Agriculture and Consumer Health Department, FAO, "New Animal Disease threats", Agriculture 21, June 2002.

11 Otte *et al.*, "Industrial Livestock Production".

12 The role of factory farming in the emergence and spread of bird flu is well-documented in GRAIN's February 2006 Briefing on bird flu. The Nipah outbreak in Malaysia, which killed 105 people, began in 1998 at a large-scale farm in the state of Ipoh, owned by a Singapore-based multinational corporation, that was in contact with fruits bats (the natural hosts of the virus). From there it spread through the movement of pigs to other pork-producing areas in the country. The consensus is now that the SARS outbreak also passed from bats to intensively farmed animals – this time civet cats in China – and then to humans.

13 A 1999 report by CAST found that traditional livestock systems were being replaced by intensive units at a rate of 4.3 per cent of farms per year. See CAST, "Animal agriculture and the Global Food Supply", Task Force report 135, 1999.

or educational programme, little is done to help farmers cope with the increasingly frequent outbreaks of disease … produced by the farming systems promoted by experts and partners of the very same agencies.

The unravelling of the recent bird flu outbreaks in Bangladesh is typical. Bangladesh is seen as a success story of the Livestock Revolution, having converted about half of its national poultry production from backyards to intensive and semi-intensive industrial farms. The micro-credit NGO the Bangladesh Rural Advancement Committee (BRAC) was instrumental in this transition, financing groups of poor women to set up thousands of mini-factory farms. In the process BRAC became a major, vertically integrated poultry corporation, with its own large-scale hatcheries, poultry farms and feed mills that supply the smaller units. The corporate NGO also played a central role in the national bird flu preparedness activities backed by the World Bank. In 2005 the government contracted BRAC to monitor "hotspots" in the country where migratory birds flock, and to convert the country's open-house hatcheries into biosecure closed facilities. Yet these actions did nothing to stop the bird flu outbreak of March 2007, which happened at a completely closed poultry farm – one of the country's largest broiler operations and hatcheries.[14] From there it spread rapidly through the smaller "BRAC Model" farms and some other large-scale operations.

The small operators, most having gone deeply into debt to pay for their modern operations and inputs, were hit the hardest. The Rahmans, a brother and sister operating a newly established semi-intensive poultry farm near the initial outbreak, lost their 3,000 chickens to bird flu before they could even pay off their first bank loan instalment. Another farm, run by Bibi Ayesha Women Training and Production, was eventually compensated, but the Tk 70 it received per bird hardly covered the Tk 263 it had spent per bird to import layer chicks from Canada.[15] Many non-infected farms, faced with collapsing poultry markets, were also run out of business. As for BRAC, it complained of a "recovery crisis" caused by the bankruptcy of its clients, but several months later it signed a lucrative deal with the World Bank's International Finance Corporation to "battle bird flu" by helping farmers to "improve farming practices".[16]

Big business bias

What is increasingly clear in the official response to the growing animal disease crisis, if only between the lines, is that small-scale production is not on the agenda. Traditional farming is generally treated as a nuisance, something that gets in the way of official disease control strategies.

"The nature of pig rearing in unconfined open grazing [makes] it very difficult to implement effective control measures", said the FAO about a recent outbreak of African swine fever in Georgia – as if control measures not suited to open grazing systems could ever be effective in countries like Georgia, where they predominate.[17]

In some cases, small-scale operations are simply ignored by the official response to outbreaks. The Chinese government's main response to the 2006–7 PRRS outbreaks was a pledge of US$854 million to cover 80 per cent of the premiums for insurance on pigs. Good news for the large farmers but meaningless for the vast majority of farmers who cannot afford health insurance for their families, let alone their pigs. Only 21 million pigs in China are insured, out of a total national herd of nearly 500 million,[18] though the number may increase.[19] So, with little being done actually to eliminate PRRS from the big production systems or to support local, self-sufficient pig farming systems, the disease will continue to wreak periodic havoc on China's small farms for years to come.

The same goes for Vietnam. Years ago, a team of scientists warned that PRRS was rampant in the state's large breeding farms and was affecting villages through the distribution of piglets. They recommended that movement of pigs from these large farms to the villages be stopped.[20] In the ensuing years the opposite happened: Vietnam has become a major destination for the booming pig genetics industry – and PRRS has proliferated.

At other times, the official response to disease, more than the disease itself, undermines traditional small-scale animal farming, whether deliberately or out of ignorance of local farming systems and food cultures. When African Swine Fever broke out in Georgia in May 2007, the first time it had ever been recorded in the Caucasus region, veterinary experts with the FAO, the European Community and the governments of the US and Switzerland parachuted in, assessing the situation in a few days and offering a plethora of recommendations for the immediate and long-term control of the disease. Common to all of their reports was the urgent need to put an end to free-range pigs. "Keep backyard pigs permanently at home in total confinement", warned the FAO.

The Swiss even suggested punishing farmers with unconfined pigs by paying compensation only to farmers who could prove that their pigs were

14 The first outbreak occurred in Savar, a suburb of Dhaka, at the Biman Poultry Complex, owned and operated by Biman Bangladesh Airlines.

15 Sheikh Sabiha Alam, "Row over bird flu compensation", *Daily Star*, 28 May 2007. http://tinyurl.com/2gyfha

16 "Poultry industry faces uncertainty", *Daily Star*, 26 March 2007: http://tinyurl.com/2b2bap "Avian Flu outbreak: Savar families pass nervous days", bdnews24.com, Savar, 25 March 2007: http://tinyurl.com/2d99hb "W.Bank body, NGO to fight bird flu in Bangladesh", Reuters, 2 July 2007.

17 FAO, "African Swine Fever in Georgia", *Empress Watch*, June 2007.

18 "Live pig insurance benefits breeders", CCTV, 18 November 2007.

19 The China Insurance Regulatory Commission carried out a pilot programme for insuring pigs in the second half of 2007. If deemed successful, this scheme could be expanded. http://tinyurl.com/ywqak4

20 Akemi Kamakawa et al., "A sero-survey of the porcine viral diseases in the Mekong delta", proceedings of the 11th International Symposium of the World Association of Veterinary Laboratory Diagnosticians and OIE Seminar on Biotechnology, Bangkok, Thailand, 9–13 November 2003.

21 An owner of a larger farm, in the area where the first outbreaks were registered, claims that the disease killed 155 of his pigs in February 2007, months before the outbreaks were officially recognised. See David Matsaberidze, "Mystery pig disease strikes western Georgia", *The Messenger*, 11 May 2007. http://tinyurl.com/yqk2eu

confined, even though outbreaks also occurred at Georgia's few large closed pig farms, isolated from contact with other pigs and animals.[21] They also recommended that the Georgian government compensate farmers with "restocking-piglets" rather than cash and, as part of a longer-term plan to improve pig production, ensure the confinement of pigs, the prohibition of free-roaming pigs, and the establishment of animal registration.[22] All of this for a freak disease outbreak that the international experts on the scene believe was caused by a failure to dispose properly of contaminated waste brought in by international ships.[23]

If these recommendations were taken up, most of Georgia's small farmers would have to give up pig farming. The recommendations go against not only generations of safe pig farming practice but also the need to preserve the country's incredibly diverse pig breeds. Many of the pigs in Georgia roam and are completely unsuited to confinement. The Kakheti pig, for example, one of Europe's oldest breeds and renowned for the quality of its meat, is farmed semi-nomadically in the mountainous zones of east Georgia, near one of the ASF outbreak areas. Pregnant sows sometimes go alone into a forest to give birth and return to the herd afterwards.

A Kakheti sow and piglets, returned from the forest

Diplomatic immunity

At the centre of the blueprint for the future of disease management is a new concept called "compartmentalisation", which is only now beginning to take shape. It will clearly prove highly destructive for local farmers.

A compartment, according to the OIE, is a "subpopulation defined primarily by management husbandry practices related to biosecurity". As an "epidemiologically closed" operation, it has a special status – a "distinct animal health status" – acknowledged through agreements with importing countries.[24] When a disease that normally brings trade sanctions breaks out in a country, a compartment can keep on functioning and exporting as usual. So it's like a special export processing zone – but for meat.

"Compartmentalization" is already being written into bilateral trade agreements, and in some countries has become the focus of official responses to transboundary disease outbreaks. Partly in response to the outbreaks of the Nipah virus nearly 10 years ago, Malaysia is in the process of concentrating all of the country's pig production in a few pig farming areas, where most production will be undertaken by large corporate producers. Vietnam is creating special zones to produce poultry both for export and to supply the country's growing number of supermarkets. The new zones are the centrepiece of the government's plan to increase by 2015 the big commercial farmers' share of poultry production from 18 to 48 per cent, while the smallholders' share falls from 52 to 22 per cent.[25]

It is not hard to see what is envisaged. Inevitably, national resources for veterinary programmes will target these compartments, with governments putting all their energy into keeping trade lines open and agribusiness investment pouring in. Meanwhile, smallholders operating outside these areas will be treated as risks – potential reservoirs of disease in need of constant surveillance and policing.[26]

The pitfalls of big

There is no reason to think that this global approach to disease is going to make livestock farming any safer. "Epidemiologically closed" is just a notion – it does not exist in practice. Disease outbreaks happen all the time at these supposedly biosecure facilities, and there's no evidence to suggest that this is changing. On the contrary, developments within the industry mean that short-term profits are increasingly trumping long-term concerns with safety – whether for animals, workers, the public or the environment.

Smithfield, the world's largest pork producer, is a case in point. It recently established 33 large-scale pig farms in Romania to serve as a low-cost production base for the European market – in effect, a perfect example of a "compartment". "Politically, it is acceptable and we've got people in Western Europe who make 20 euros an hour when you've got people in Eastern Europe who make

22 Federal Department of Foreign Affairs and the Swiss Agency for Development and Cooperation, Government of Switzerland, "Proposal for a control plan for ASF in Georgia: Expert mission to Georgia July 2nd until July 13th, 2007": http://tinyurl.com/26e56s

23 The source of the outbreak was never confirmed and the idea that this strain of the virus, which is confined to a few countries in south-east Africa that do not export pork, could somehow have been passed on to local pigs by way of ship waste remains a long-shot theory.

24 OIE Terrestrial Animal Health Code, 2006, Chapter 1.3.5. http://tinyurl.com/2btnxs

25 O. Thieme, J. Hinrichs, FAO, "Poultry sector restructuring options and impacts: The Future of Poultry Farmers in Vietnam after Highly Pathogenic Avian Influenza", 9 March 2007. http://tinyurl.com/2cpstt

26 One concrete product of this line of thinking that is already visible is the refusal of many governments to enact simple vaccination programmes against major diseases, which would reduce mortality among animals but cause export problems. High-profile examples include the UK with foot-and-mouth disease, and Thailand, where, despite street protests by small-scale farmers calling for vaccines, bird flu vaccination was resisted at the height of its outbreaks to protect poultry exporters.

The demise and renaissance of the Creole pig in Haiti

For centuries the Creole pig acted as a kind of piggy bank for Haitian peasants. This small, hardy, black pig thrived on food scraps and was well adapted to the rugged terrain. It was renowned for never getting ill. Whenever a family needed a bit of extra cash – for a wedding, a funeral, school fees or a medical emergency – it slaughtered a pig. Because of its resilience and feisty nature, the pig became a symbol of the resistance of the Haitian people in their long and violent history. The pig was even incorporated into voodoo ceremonies.

Disaster hit in the 1970s, with the arrival of the African swine fever virus. It seems that the virus first appeared in neighbouring Cuba, where it is widely believed to have been introduced by anti-Castro terrorists backed by the CIA.[1] In 1971 the Cuban authorities were forced to slaughter half a million pigs to prevent a nationwide epidemic. The disease spread first to the Dominican Republic and then to Haiti (with which the DR shares the island of Hispaniola). According to US sources, African swine fever had affected almost one-third of Haiti's Creole pig population by 1982.

Under pressure from Washington, the Haitian government ordered the slaughter of all Creole pigs. In less than a year every native pig had been killed.The measure dealt a huge blow to the already impoverished peasantry. Many familes couldn't afford to keep their children in school. Others had to sell or mortgage their land. Families were forced to fell trees to sell to the charcoal industry, further contributing to desertification.

To replace the hardy creole breeds, the government imported new breeds of fat, white pigs from the American midwest. Though regarded as "better" than the Creoles, the imported pigs required clean drinking water (which was unavailable to four-fifths of the Haitian population), imported feed (costing US$90 a year, when annual per capita income was about US$130), vaccination and pigpens. Not surprisingly, the repopulation programme was a failure (although, against the odds, some of the imported pigs managed to adapt to local conditions and can still be seen today in the streets of Port-au-Prince, rooting among piles of rubbish and protecting their white skins from the sun with layers of filth).

In the mid-1980s, French agronomists brought in tough Sino-Gascon and Guadeloupe breeds, similar to Haitian pigs. In 1988, the French started to distribute black piglets to relieved Haitian peasants.[2] By 1992, nearly half of the 650,000 pigs estimated to live on Haitian farms were descendants of these breeds.

1 "Cia Link to Cuban Pig Virus Reported", *San Francisco Chronicle*, 10 January 1977.
2 "Saving Haiti's Bacon", *New Scientist*, 17 July 1993.

one and two euros an hour", Smithfield Foods' president and chief operating officer, Larry Pope, told shareholders at a meeting in 2006. "Plants in Western Europe are very expensive. Plants in Eastern Europe, they will virtually give to you for small dollars."[27]

There was a great deal of local resistance to Smithfield's entry, hardly surprising given the company's well-earned international reputation for pollution, union-busting and draconian labour practices.[28] But heavy lobbying and a smooth public relations campaign eventually convinced the politicians to open the door. "Smithfield has a long history in the USA of helping communities where their plants and operations are located", assured Pope. "It is our desire to bring a part of our culture to Romania, where we hope to be a contributing corporate citizen to the local Romanian communities."

Less than a year later, however, in July 2007, just after the government's US$60-million mass vaccination programme seemed to have finally put an end to outbreaks of classical swine fever and re-opened the door to EU markets, pigs started dying on one of the Smithfield farms. People living near the Smithfield operation in Cenei told of hundreds of carcases of pigs left lying around for days. "We couldn't breathe any more", said Gheorghe Olarov, an employee at the town hall. "I live a kilometre away from the farm, and at night I had to close the windows to sleep. The Americans have made our village a hotbed of infection."

The company blamed the summer heat wave and blocked local authority investigation. "Our doctors have not had access to the American farms to effect routine inspections", said Csaba Daroczi, assistant director at the Timisoara Hygiene and Veterinary Authority. "Every time they tried, they were pushed away by the guards. Smithfield proposed that we sign an agreement that would oblige us to warn them three days before each inspection."

Finally, on 3 August, Smithfield announced the worst: classical swine fever had broken out on its farms. The company immediately downplayed the crisis. "We have nothing to say to the press; the swine plague is under control; journalists can just publish our communiqués", said the company's local director, Mircea Cotosman.

27 http://tinyurl.com/2azuna

28 Tom Philpott, "Hog Futures: How the meat industry thrives, even as costs rise", Gristmill blog, 13 September 2007. http://tinyurl.com/yua8gs

The authorities had to step in. That month 50,000 pigs were slaughtered and 20 Smithfield farms were shut down. "The Smithfield farms are quarantined", declared Timisoara sub-prefect Zoltan Marrosy. "The police are assuring this region's security, so as to prevent the transport of animals and stop transmission of the virus. Smithfield has behaved aggressively: we asked them to stop breeding pigs and transferring them from one farm to another, but they paid no attention to our instructions." The outbreaks also revealed that 11 of Smithfield's 33 farms were operating without the necessary permission from the sanitary authorities.

These outbreaks hit local farmers hard. "Nobody wants our pigs any more", raged Lina Stoisin, a small-scale pig farmer. "We work morning to evening to raise them, and we don't know what to do with them any more. I believed that the Americans were very advanced and their technologies were flawless, but they weren't able to avoid swine plague."[29]

Classical swine fever is just one of the many diseases that transnational meat corporations find difficult to avoid. While the swine plague was laying waste to Smithfield pigs in Romania, a different deadly disease was being churned out by another US corporation, this time in the homeland. On 25 September 2007, Topps Meat initiated what would soon become the second largest recall of beef in US history, involving 21.7 million pounds of frozen ground beef. The recall was ordered by US authorities after around 30 people were poisoned with the deadly strain of Escherichia coli (0157: H7).[30] It was the most serious of 16 outbreaks of the same E. coli strain reported in the US in the first eight months of 2007. The US government estimates that up to 73,000 Americans a year are now made sick by E. coli 0157:H7.

Topps was once a family-owned enterprise that boasted of its reputation for quality. But in 2003 it was taken over by Strategic Investments, a private equity group eager to maximise short-term profits. Strategic Investments brought in new machinery and ramped up production to meet the growing needs of its clients, such as Wal-Mart and other major supermarkets and fast-food operations. "The whole time, the whole year, there was a lot more pressure", said Alberto Narvaelzi, a supervisor who worked at Topps for 23 years, referring to 2007.[31]

Private equity investment in the meat industry is on the rise around the world. US-based Goldman Sachs, one of the world's largest private equity groups, took over China's largest pork producer,

Photo: GRAIN

Workers at Charoen Pokphand's fully integrated poultry production and processing plant in Thailand

Shineway, in 2006. It also owns 25 per cent of the country's number two pork producer, the Yurun Food Group, making Goldman Sachs China's biggest pig corporation by far. A large chunk of China's pig industry is thus in the hands of global fund managers concerned only with rapid returns on their investments. Such a development must have implications for the control of transboundary animal diseases – but you won't see it being discussed within any of the official agencies dealing with such matters.

A way out

The world is in the midst of big changes with respect to global diseases. We are heading for more diseases, more deadly types of disease, and more capacity for these diseases to spread. There is also a greater probability of the emergence of zoonotic diseases and global pandemics. Yet the international response to this situation has so far failed by a large measure to reflect the seriousness of the crisis. The fault lies in governments' unwillingness to confront the dominant powers of industrial livestock farming – whether it be the pharmaceutical corporations and their patents or the industrial meat corporations and their factory farms. As a result, the official responses often deepen the larger structural problems.

If there is a silver lining to this gloomy prognosis, it is that the solutions are to hand: local systems of food production, which continue to feed and provide livelihoods for billions of people throughout the world, are our best defence against this emerging disease crisis. These systems need support, and it is vital that they start to take their rightful place within international thinking on disease control.

29 Most of the information above comes from an excellent investigative report by Mirel Bran: "Swine Plague: Romania Criticizes American Group's Attitude", *Le Monde*, 15 August 2007, translated by Leslie Thatcher (Truthout).

30 E. coli is normally a benign disease, but this deadly variant has emerged from North America's factory farms.

31 Christopher Drew and Andrew Martin, "Many Red Flags Preceded a Recall of Hamburger", *New York Times*, 29 October 2007.