

AVIAN FLU

TIME TO SHUT THE INTENSIVE POULTRY “FLU FACTORIES”?



IMAGE: COMPASSION IN WORLD FARMING

The Role of Intensive Poultry Farming and International Trade in the Spread of Avian Flu

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Based on research by Colin Hines



✧INTRODUCTION✧

“There is now growing concern that the whirlwind spread of avian flu in some parts of the world is not entirely governed by nature, but by the human activities of commerce and trade. ...Despite extensive testing of wild birds for the disease, scientists have only rarely identified live birds carrying bird flu in a highly pathogenic form, suggesting these birds are not efficient vectors of the virus...Far more likely to be perpetuating the spread of the virus is the movement of poultry, poultry products, or infected material from poultry farms eg animal feed and manure. But this mode of transmission has been down-played by international agencies, who admit that migratory birds are an easy target since nobody is to blame.”

EDITORIAL, *THE LANCET*, VOL. 6, APRIL 8TH 2006

There's no doubt that, were avian flu to mutate into a virus capable of transmission to human beings, we would face a catastrophe of immense proportions. In 1918, a pandemic strain of influenza killed at least 40 million people in just three months alone. Now, leading researchers believe, another world catastrophe could be imminent.

A virus of astonishing lethality, known as H5N1, has become entrenched in the poultry populations of South East Asia. In recent years, it has killed more than a hundred of the nearly two hundred people it has infected globally. The World Health Organisation warns that it is on the verge of mutating into a super-contagious pandemic form that could kill up to 100 million people within two years.¹

While most of the deaths have so far taken place in Asia, the virus is spreading rapidly across the world. It arrived here in the UK in April 2006, with the discovery of a dead swan infected with H5N1 in Cellardyke, Scotland, following outbreaks of highly pathogenic avian influenza in birds across a number of other countries in Europe, including Germany, Sweden, France, Turkey, Romania and Greece.

This report focuses on the role of the intensive poultry industry and global trade in creating the ecological conditions for the emergence of this new pandemic. It makes the case that there is an increasing body of evidence that suggests the global poultry industry is instrumental in the spread of bird flu. The evidence is still largely circumstantial, but that is because governments and UN agencies have chosen not to examine too closely the role of the international trade in poultry.

The arguments we make in this report are a wake-up call for decision-makers to start that examination without delay. Governments must challenge the dominant theory that H5N1 has evolved through the interaction of outdoor free-range and backyard flocks with wild birds, which then act as the principal vector for the strain by spreading it as they migrate. A closer inspection of a range of official studies suggests that this version is at best mistaken, at worst the result of deliberate misinformation by the giants of the global poultry industry. As *The Lancet* points out, “the geographical spread of the disease does not correlate with migratory routes and seasons. The pattern of outbreaks follows major road and rail routes, not flyways.” In other words, the virus is spread not just by the movement of wild birds, but also by the systematic air miles

notched up by live poultry and poultry products.

As a Member of the European Parliament, I have called on the European Commission to urgently investigate these studies, working closely with the World Health Organisation (WHO) and the Food and Agriculture Organisation (FAO)+, and to report publicly on their findings.

At the same time, consideration needs to be urgently given to the development of a set of European policies, grants, and compensation to ensure a rapid transition away from factory farming, and towards more free-range, organic systems.

Given the enormous and deadly impacts of any potential mutation, I am also calling for a ban on all imports and exports of all live poultry and hatching eggs, and for the EU's temporary ban on the trade in wild birds to be made permanent.

This report also focuses on the role of ring-vaccination in controlling any future outbreak, and makes the case that the

government should urgently stockpile sufficient supplies of vaccine to undertake an effective ring-vaccination control strategy.

As Vice President of the European Parliament's Temporary Committee of Inquiry into the handling of Foot and Mouth, I witnessed at first hand the extraordinary devastation that was wrought on the British countryside by this government's failure to consider vaccination. It is vital that the lessons of this experience are learnt, and that adequate supplies of vaccine are made available.

Failing to tackle the root causes of pathogenic bird flu could be catastrophic. As Professor Mike Davis writes in *The Monster at Our Door*, backyard poultry and wild birds are acting as the fuse, but it is the indoor, intensively farmed flocks which are the explosive charge.

Putting out the current fuse might hold back the explosion for now, but it still leaves the potential for the charge to detonate - with devastating consequences - later.

DR CAROLINE LUCAS MEP - JULY 2006

✧SECTION ONE ✧

AVIAN FLU: MILD IN THE WILD, BENIGN IN THE BACKYARD, FATAL IN THE FACTORY

"We do know that avian influenza viruses are carried by migratory birds all over the world. But not all of them are highly pathogenic or H5N1. I think that wild birds may introduce the virus, but it is through man and man's marketing systems (the poultry trade) that the disease spreads. It is also possible that poultry can transmit the virus to wildlife when they share the same ecosystem."

JUAN LUBROTH, SENIOR OFFICER FOR INFECTIOUS DISEASES, FAO²

Research from bird conservation organisations suggests that wild birds are primarily victims not vectors of avian influenza. They point out that analysis of outbreaks in Cambodia, Nigeria and China suggests that they have coincided with the import of live poultry products, rather than the arrival of wild birds. According to their studies, the highly pathogenic strains of bird flu develop in poultry, most likely in poultry exposed to milder strains that live naturally in wild bird populations. Within crowded chicken factory farms the mild virus evolves rapidly towards more dangerous and highly transmissible forms, capable of jumping species and spreading back into wild birds, which are defenseless against the new strain. In this sense, they suggest, H5N1 is a poultry virus killing wild birds, not the other way around.³

Avian influenza viruses exist in wild bird populations, especially ducks, geese and swans, in a mild form (known as low pathogenic avian influenza – LPAI) with no noticeable symptoms. Wild birds therefore do not die from these LPAI viruses.⁴

There are sound evolutionary reasons for wild bird flus being mild. Flu must be directly

transmitted from carriers. With wild birds, it is no use for the survival of the flu virus if birds become very sick, or die. But in poultry farms, even very sick or dying birds can transmit viruses to those in close proximity to them, leading to virulent forms evolving and becoming dangerous. Indeed, industrialised poultry farms provide the perfect conditions: they are warm, crowded, nutrient-rich environments, heavy with 'viral load.'

These evolutionary principles also apply to H5N1. No bird species has been shown to survive and sustain and spread this virus; instead, the vast majority of wild birds confirmed to have been infected with H5N1 were dead.⁵ When LPAI infects highly susceptible poultry species such as chickens and turkeys, only mild symptoms are induced in general. However, in conditions where there are several cycles of infection, a series of mutations can occur resulting in a highly pathogenic form (highly pathogenic avian influenza, HPAI). HPAI in poultry is characterised by the sudden onset of a severe illness of short duration, resulting in a death toll approaching 100% in vulnerable species.⁶

It is this class of virus that is of current global concern. HPAI viruses evolve in poultry through mutations of LPAI viruses, which poultry are most likely to initially catch from association with wild birds.⁷

In intensive poultry farms these flus can evolve to higher virulence. As the Food and Agriculture Organisation (FAO) notes, "Outbreaks of HPAI originating from low pathogenic viruses carried from wild birds, have occurred relatively frequently in domestic poultry in the last decade." An FAO table lists 28 highly pathogenic avian influenza outbreaks from 1959 to 2004, with 17 of these occurring from 1994 to 2004 inclusive. All were first recorded in poultry. Before the advent of virulent H5N1 in Asia, only one highly pathogenic flu outbreak in wild birds was recorded; even this was possibly traceable to a virus that evolved in poultry.⁸

In response the poultry industry boasts the "biosecurity" of its operations, arguing that it is easy to seal off its integrated systems from bird flu. Biosecurity measures attempt to isolate large poultry holdings, to prevent the spread from farm to farm by mechanical means, such as by contaminated equipment, vehicles, feed, cages, or clothing – especially shoes. Yet time and time again, bird flu finds its way into such establishments and causes massive outbreaks at factory farms: Australia (1976, 1985, 1992, 1994, 1997), USA (1983, 2002, 2004), Great Britain (1991), Mexico (1993–1995), Hong Kong (1997), Italy (1999),

Chile (2002), Netherlands (2003) and Canada (2004), to cite just a few examples.

Yet bird flu does not evolve to highly pathogenic forms in backyard poultry operations, since their low-density and genetic diversity keeps the viral load to low levels. It seems that backyard poultry, just like wild birds, are the victims of bird flu strains brought in from elsewhere.

While it is true that traditional backyard chicken flocks provide many opportunities for infection to be spread between poultry and wild birds, the huge chicken factories with 50,000 birds per two-storey structure, maximise the accumulation of viral load and subsequent drift. Indeed, disease ecologists believe that "a high density of smallholders surrounding intensive or industrial units" creates "a particularly risky situation."⁹ There are also two way links between the backyard and intensive poultry sectors through inputs such as day-old chicks and feed, markets, as well as veterinary services. The FAO is on record as saying that the poultry trade spread H5N1 within Turkey, highlighting the common practice of commercial poultry farms selling huge quantities of low-value birds to poor farmers.¹⁰ Indeed at the beginning of this year at least 4 human deaths were reported in Turkey. The highly pathogenic bird flu is thus provided with the opportunity to pass from the small-scale poultry sector to the industrial sector, or vice versa. As Professor Mike Davis succinctly puts it: "In an epidemiological sense, the outdoor flocks are the fuse, and the dense factory populations, the explosive charge."¹¹

FACTORY FARMS ARE VIRAL FARMS

"The switch from a low pathogenic avian influenza (LPAI) virus phenotype, common in wild birds and poultry, to the HPAI virus phenotype ... facilitates systemic virus replication. HPAI isolates have been obtained primarily from commercially raised poultry."

GLOBAL PATTERNS OF INFLUENZA:
A VIRUS IN WILD BIRDS, Science, 21 April 2006¹²

The spread of industrialised chicken production and global and regional trade networks has created ideal conditions for the emergence and transmission of lethal viruses like the H5N1 strain of bird flu.

The "epicentre" of the pandemic in Thailand, Indonesia and Vietnam, has been traced back to Asian units housing millions of birds. Such intensive conditions have provided ideal breeding grounds for the new strains of bird flu.

The scale of the growth of the poultry industry in Asia has been phenomenal. In Thailand, Indonesia and Vietnam, production has soared eightfold in 30 years, to 2.4m tons of meat in 2001. China, too, has seen poultry production rise, trebling to nine million tons a year, with most growth accounted for by new intensive farms¹³. Guangdong, one of the three largest poultry producers, is alone home to more than 700 million chickens. This extraordinary concentration of poultry is cheek by jowl with high human population densities and large numbers of pigs and wild birds. Battery chickens are sometimes kept directly above pig pens, depositing their waste right into the pigs' food troughs – a fact of considerable concern, given that pigs could act as "mixing vessels" for avian strains, and thus play a key role in any mutation of the virus. ¹⁴

The usual finger of blame however is invariably pointed at migratory birds and poor peoples' backyard chickens. Yet in Malaysia, the mortality rate from H5N1 among village chicken is only 5%, indicating that the virus has a hard time spreading among small scale chicken flocks. Similarly, the H5N1 outbreaks in Laos, which is surrounded by infected countries, have only occurred in the nation's few factory farms, which are supplied by Thai hatcheries. The only cases of bird flu in backyard poultry, which account for over 90% of production in Laos, occurred next to the factory farms.

The evidence from the Netherlands in 2003 to Japan in 2004 to Egypt in 2006, is that lethal bird flu breaks out in large scale industrial chicken farms and then spreads. In India, it has been reported that local authorities say that H5N1 spread from a factory farm owned by the country's largest poultry company, Venkateshwara Hatcheries.¹⁵

The Nigerian outbreak earlier this year began at a single factory farm, owned by a Cabinet Minister, distant from the major flight paths for migratory birds but known for importing unregulated hatching eggs, probably from a bird flu infected country like Egypt, a leading exporter of hatching eggs. This is not the first time that hatching eggs have been linked to the disease in Nigeria. In 2003, at the height of the bird flu outbreak in the Netherlands, a Nigerian poultry farm imported nearly 30,000 hatching eggs from one of the infected farms. Fortunately, the Dutch authorities notified their Nigerian counterparts in time for them to take measures to curtail the spread of the disease to other farms. The Nigerian factory farm first admitted to the import, then denied it, and then claimed to have destroyed all the eggs.

The Nigerian experience demonstrates how hard the global traffic is to police. The growing illegal import of chickens from China to Vietnam is another example, and is a concern for Vietnam as the smuggling poses a threat to the country's attempts to contain bird flu. Although the Vietnamese Prime Minister has issued a ban on the import and transportation of poultry from other countries in order to control the spread of bird flu, smugglers have managed to set up an elaborate system to get chickens from China across the border unchecked.¹⁶

Europe is also experiencing increased food smuggling from China. The EU currently bans the import of live birds and poultry meat from China, as a precautionary measure to prevent the spread of bird flu, and because residues of illegal antibiotics have been found in the past.

Last October Italian customs police confiscated 3,000 chickens, 36,000 duck eggs and 260 frozen ducks illegally imported from China. The huge haul of poultry and other foodstuffs, thought to be bound for the Tuscan textile town of Prato's large local Chinese community or local discount outlets, was intercepted at the northern Italian port of Genoa. The month before, five tonnes of meat, including poultry, was seized in Florence and Livorno, both in Tuscany, during spot checks on Chinese shops and warehouses.¹⁷

A month later in Northern Ireland, an illegal consignment of chicken shipped from China was intercepted, which led to raids on a meat

wholesaler where the authorities found evidence of other illegally relabelled meats. The number of times meat is traded and the distance it travels to meet today's manufacturing requirements have long concerned Environmental Health Officers, since it leaves the system open to abuse. Gary McFarlane, director of the Chartered Institute of Environmental Health in Northern Ireland, has said: "The 'farm to fork' cycle now typically involves multiple international borders, thousands of miles, and numerous pairs of hands in the commercial sector. The movement of food in this way, coupled with its clear capacity to act as a vehicle for disease, means that the potential threat to public health has increased."¹⁸

Such interceptions, of course, leave open the question of how much is still getting through undetected? The only way such a question can begin to be answered will be through a massive increase in surveillance and border controls.



IMAGE: COMPASSION IN WORLD FARMING

VILE AND VIRAL: THE CONDITIONS IN POULTRY FACTORY FARMS

Around 5.9 billion broiler chicks are reared for meat in the EU every year. Most are intensively farmed and kept in windowless, barren and crowded sheds holding tens of thousands of birds for the whole of their brief 6 – 7 week lives.

Egg-laying hens fare little better. There are now approximately 29 million egg-layers in

the UK, over 70 per cent of which are housed in battery cages. Today three-quarters of the UK's eggs come from fewer than 300 units, each with 20,000 or more layers. Some battery operations have as many as half a million birds. Most battery cages house four or five birds, each having 550 square centimetres of space – or about as much room as an A4 sheet of paper.¹⁹

THE WELFARE OF BROILER CHICKENS

The welfare of broiler chickens in the EU was considered by the March 2000 report on by the European Union's Scientific Committee on Animal Health and Animal Welfare (SCAHAW). This found that:

- Selective breeding for ever-faster growth rate and feed conversion efficiency has caused most of the welfare problems broilers suffer from today.
- Because they grow too fast, millions, and possibly tens of millions, of EU broiler chickens a year suffer from painful lameness due to abnormal skeletal development or bone disease, so that many have difficulty in walking or even standing. Lamé broilers spend up to 86% of their time lying down. They may be unable to reach up to their drinking water containers and may go without water for several days.
- As a result of selective breeding, broiler chickens' hearts and lungs often cannot keep up with their bodies' fast growth rate. They frequently suffer from heart failure when they are only a few weeks old. Nearly 130 million broilers may die in the EU from heart failure annually.

High stocking density in broiler sheds restricts the broiler chickens' behaviour and causes health problems. It leads to increases in infections, lameness, breast blisters, and foot-pad dermatitis.

- Crowded broiler sheds lead to wet litter, increased air pollution from ammonia and dust particles, and poor temperature and humidity control, all of which damage the broilers' health and welfare.
- Broilers that are allowed to grow to adulthood to be used for breeding are restricted to between one fifth and one half of the amount of food they want to eat during their growing period and 'appear to be chronically hungry, frustrated and stressed'. Across the EU, the annual number of broilers that die during the process of catching, packing into crates and transport may be as high as 18 – 35 million. In the UK, 40% of broilers that are 'dead on arrival' at the slaughterhouse may have died from thermal stress or suffocation, due to crowding on the transporter.

Compassion in World Farming, Welfare of Broiler Chickens in the EU, 2005

Once inside densely populated factory farms, viruses can rapidly become lethal and amplify, and air thick with 'viral load' from infected farms can be carried for miles.²⁰ In an FAO report on the Newcastle Disease virus, which could become a blueprint for developments in avian flu since it has already become endemic in most poultry farming areas, researchers Alders and Spradbrow stated, "In large commercial poultry units, the virus enters flocks through some break in biological security [on food, people, eggs, vehicles], by the introduction of infected birds in multi-age farms, or by aerosol [in the air] from an adjoining property. Once a few birds are infected, spread within the flock will be mainly by aerosol. Large flocks will produce copious quantities of aerosol virus, which can spread with movements of air to other flocks."²¹

Integrated trade networks spread the disease through many carriers: live birds, day-old-chicks, meat, feathers, hatching eggs, eggs, chicken manure and animal feed. In Eastern Europe, for example, huge numbers of live chickens are imported. According to official FAO figures for 2004, Romania alone accounted for over 16 million live birds, Russia and Ukraine for almost 12 million each, and Turkey for nearly 2 million.²² The real numbers could be even higher, since there is a well-known underground poultry trade moving through the region.²³

Hatching eggs are a well-known source of the spread of bird flu. The Hastavuk Company in Turkey operates Europe's second largest hatchery, with the capacity to produce over 100 million hatching eggs per year, a substantial portion of which are exported to Eastern Europe and the Middle East. Yet, despite the clear risks, there is hardly any regulation or monitoring of the poultry and egg trade in the region.

The global trade in poultry feed, another factor in the spread of avian flu, is dominated by the poultry giants. One of the standard ingredients in industrial chicken feed, and most industrial animal feed, is so-called "poultry litter" – in other words, faecal matter, feathers, bedding, etc. Chicken meat, under the label "animal by-product meal", also goes into industrial chicken feed. According to the WHO, feed is a further possible medium for the spread of infection between farms.²⁴ Following an outbreak of H5N1 at a large-scale factory farm in the Kurgan province of Russia, where 460,000 birds were killed, the authorities pointed to feed as one of the main suspected sources. Yet, globally, little is being done to tighten regulations or improve monitoring of the feed industry.

Equally alarming, and insufficiently researched, are the effects of the widespread practice of using poultry manure (chicken, duck and other poultry faeces) in agriculture and aquaculture as fertiliser, and in untreated form as food for pigs and fish. Birds infected with the H5N1 virus excrete virus particles in their faeces, where it can survive for up to 35 days.²⁵ Thus, putting untreated faeces from infected birds into fish ponds and on to fields provides a potential new source of infection. This was recognised as early as 1988, yet there has been very little investigation into the risks of this practice for spreading influenza viruses.

The FAO has described the use of untreated faeces in fish farming as a "high risk production practice". Russian fish farms have recently started using chicken faeces as fertiliser, and this practice is also used in Eastern Europe where poultry faeces are spread onto agricultural land and the discharge inevitably runs off into waterways. Last October, Mute Swans died at fish farms in Croatia and Romania. The Government of Vietnam has warned local residents against

the risk of dumping tonnes of chicken faeces into rivers and lakes as fish food; one boy has died of bird flu after swimming in a river where infected chicken carcasses were

discarded. Where untreated poultry manure is collected, transported and sold, this could be a highly effective way of spreading the virus.

OFFICIAL DISREGARD OF REAL SOURCE OF AVIAN FLU

Governments, the European Union, and international agencies like the FAO appear to be doing nothing to investigate how the factory farms and their

by-products, such as animal feed and manure, spread the avian flu virus. Indeed some of these bodies are using the avian flu crisis to push for a further increase in the industrialisation of the poultry sector.

THE LESSON FROM LAOS:

IMPORT CONTROLS AND CULLING FACTORY FARMED CHICKENS

The principal reason why Laos has not suffered widespread bird flu outbreaks, even though it is surrounded by neighbouring countries that have, appears to be that there is almost no contact between its small-scale poultry farms, which produce nearly all of the domestic poultry supply, and its commercial operations, which are integrated with foreign poultry companies.

When a total of 45 outbreaks were confirmed in Laos in 2005, 42 of these occurred on commercial chicken and egg factories. By closing the border to poultry from Thailand and culling chickens at the commercial operations, the authorities in Laos effectively eradicated the disease. Since, unlike in Thailand and Vietnam, small-scale farmers in Laos are not supplied by big companies with day-old chicks or feed and, outside of the capital, poultry is produced and consumed locally, there was much less concern about the disease spreading out from the affected farms.

The lesson from the Laos experience suggests that the best way to protect backyard poultry and people from bird flu is to protect them from industrial poultry and poultry products. In a country like Laos, this is relatively easy to do, since there are few factory farms, little use of outside inputs and essentially local food systems. It is much more difficult to extricate the industrial system from the small-scale poultry system in Thailand, Indonesia or China, where both are so intimately connected by geography, markets and production. In these countries, it will be essential to radically reform poultry production – to replace intensive, integrated factory farming and globalised production with support for more small-scale operations.

GRAIN, "Fowl Play: The poultry industry's central role in the bird flu crisis". Feb 2006, p.9

Analysis of the many papers, statements and strategy documents coming out of the FAO, WHO and relevant government agencies show that they contain 'barely a whisper' about the implications of industrial poultry for the bird flu crisis. Instead, backyard farms are being blamed, resulting in calls for tighter controls on their operations and greater "restructuring" of the poultry sector. Indeed the big poultry corporations have been accused of trying to use the bird flu outbreaks as an "opportunity" to do away with what is left of small-scale poultry production. According to Margaret Say, Southeast Asian director for the USA Poultry and Egg Export Council "We cannot control migratory birds but we can surely work hard to close down as many backyard farms as possible,"²⁶

In its promotion of what might be termed "cheap chicken to the newly affluent", the FAO dimly recognizes the risks of its strategy, but fails to act upon them:

"It is worth noting at this point the importance of Thailand in the region, not just as the most advanced country for poultry production and export of poultry meat, but also as a major supplier of poultry genetics, poultry production inputs and technical assistance. The Thai companies are obviously influencing the development of the poultry sectors, particularly in Cambodia and Vietnam. This is a strength in terms of regional poultry technology transfer, and the need to supply cheap protein to growing populations who are becoming richer. However, it is also a potential weakness in the regional control of HPAI."²⁷



IMAGE: COMPASSION IN WORLD FARMING

✧SECTION TWO ✧

THE ROLE OF VACCINATION IN EUROPE

"The use of targeted vaccination has been a key issue we've raised, writing personally to the prime minister in October of last year. Despite meeting with officials to discuss this directly, I am dismayed that no action has been taken to secure sufficient stocks of vaccine, should they be required."

PATRICK HOLDEN, DIRECTOR OF THE SOIL ASSOCIATION²⁸

The outlook of the Department for Environment, Food and Rural Affairs (DEFRA) on vaccination has not changed a great deal since the foot-and-mouth outbreak of 2001. Ministers and officials echo government scientists who assert that vaccines would only "mask" the disease rather than control it. Ben Bradshaw, the DEFRA Minister, claims that "overwhelming scientific advice" shows that the disadvantages of their use greatly outweigh the advantages.²⁹

Yet the key to effective vaccination use is quality control of the vaccines and proper control of the process of administering the vaccines. Examples in Europe include use of the H5/H7 'bivalent' vaccines and the use of unvaccinated or 'sentinal' birds in a flock that is other wise fully vaccinated. If these unvaccinated birds become infected they die quickly and so the disease is not 'masked' by the longer survival of the vaccinated birds.³⁰

The fact that the government appears to be refusing to consider the role of ring-vaccination is of particular concern. As Vice-President of the European Parliament's Temporary Committee of Inquiry into the handling of foot and mouth, I witnessed first hand reports of the devastation caused to the countryside, and to those whose livelihoods depend upon it, by the government's anti-

vaccination strategy five years ago. Since then - and largely as a result of the findings of the Committee - the EU has changed its policy on ring vaccination, now viewing it as a tool of first resort. It is also the method of control endorsed by both the FAO and the World Organisation for Animal Health (OIE).

Despite this official support, DEFRA does not currently 'expect' vaccination to be part of the UK avian influenza control strategy.³¹ However, other EU countries, such as Spain, have stockpiled sufficient supplies of vaccine to undertake an effective ring-vaccination control strategy. The US also maintains stocks of bird flu vaccine for poultry to be used to create buffer-zones around any outbreak, should they occur. Currently, the UK has none. Yet time is of the essence. Building up sufficient stocks would require at least 3 months to produce the vaccine plus three months potency testing.³²

The Soil Association has repeatedly called on the Government to adopt targeted 'ring vaccination' as a first-stage control to combat any outbreak of avian influenza in the UK. Any infected flock would be culled, with flocks in the immediate vicinity vaccinated to provide a firebreak to slow the spread of the disease. Beyond this circle of ring vaccination, there would be a further zone of increased surveillance. According to

Soil Association experts, this use of vaccination in the form of a ring-fence is a proven, effective tool that should be used ahead of any moves to bring organic and free-range poultry indoors throughout the country, and to prevent the mass-slaughter of UK poultry. This strategy has been successfully used in other countries.

The government's complacency in its refusal to consider this strategy is strongly criticised by, Patrick Holden, Soil Association Director, who sees direct comparisons with the outbreak of Foot and Mouth:

"This gives me an awful sense of déjà vu. In the early days of the Foot and Mouth outbreak, the Soil Association met with the Prime Minister and urged him to adopt a vaccination policy to control the spread of the disease - our views were overruled by those putting their export trade ahead of science and animal welfare. The economic, human and welfare costs of that error of judgement are well known. Vaccination is now the adopted method of control for Foot and

Mouth - it should also play a key role in any strategy to control an outbreak of bird 'flu... action is required now to build up a vaccine bank."³³

One of the most serious implications of pursuing a strategy without vaccination is its impact on organic and free-range poultry. The Government's Chief Scientist, Professor Sir David King, the man whose presided over the Government's rejection of vaccination during the Foot and Mouth outbreak of 2001, is already looking at a future for poultry where the official response would mean that "organic and free-range farming would come to an end. It would change farming practices."³⁴

The vaccination and quarantining of poultry is an important protection, especially for free range and organic poultry. However, it can never be a long-term solution for the intensive chicken sector, since they are too prone to becoming "viral factories," and risk becoming the route for H5N1 to mutate and hence spread resistance to available vaccines.

✧SECTION THREE ✧

EUROPE MUST TAKE THE LEAD

“Even in areas with significant outbreaks in poultry, virus prevalence in wild birds is low, and the role of these wild birds in spreading the disease is unclear. It is clear that the H5N1 problem originated from outbreaks in poultry and that the outbreaks and their geographical spread probably cannot be stopped without implementation of proper control measures in the global poultry industry.”

GLOBAL PATTERNS OF INFLUENZA – A VIRUS IN WILD BIRDS, Science, 21 April 2006³⁵

The response of the European Union so far has been for temporary import controls on everything but cooked meats from infected countries or areas of countries, and a temporary ban on the global trade in wild birds. At least 57 non-EU countries have also imposed import restrictions on exports of EU poultry and poultry products. The European Commission has stepped up preventive measures and agreed on tighter bio-security, such as exclusion zones, increased surveillance, and keeping all poultry indoors. EU legislation on avian influenza has been recently reviewed and includes new measures such as authorising preventive vaccination in very specific cases. Understandable as these measures are in the short-term, they do not go nearly far enough.



IMAGE: COMPASSION IN WORLD FARMING

IMPORT CONTROLS AND AN END TO THE EUROPEAN POULTRY FOOD SWAP

Since the international trade in live poultry and hatching eggs seems to play such a crucial role in the spread of avian flu, an important precautionary measure must be to halt all such imports and exports.

There is a huge trade in poultry products, including both live birds and their "waste" – the faecal matter and feathers processed and sold on as fish farm fertiliser or animal feed. Much of this trade takes the form of a bizarre great food swap, with millions of live birds passing each other as countries trade back and forth between themselves.

Live Poultry (HM Revenue & Customs)

	UK exports to	UK imports from
Irish Republic	9,946,341	6,488,248
Netherlands	2,941,007	2,656,912
France	1,111,018	1,971,170

The import and export of hatching eggs is also now a major industry, and could itself have a significant role to play in the spread of

avian influenzas. At the time of writing, it is suggested that the birds involved in the recent H7 outbreaks in Norfolk were imported as chicks from France.³⁶

Hatching Eggs (HM Revenue & Customs)

	UK exports to	UK imports from
Irish Republic	639,373	41,704
Greece	487,999	nil
Germany	359 687	67,147
Hungary	199,471	nil
Netherlands	90,193	94 316

Official statistics don't disaggregate between birds eggs, in shell, fresh, preserved or cooked: poultry eggs for hatching other than of turkeys or geese

A bizarre example of the poultry 'food swap' merry-go-round involves trade between the EU and Thailand. The UK along with France, Germany, Poland and the Netherlands are the major exporters of breeder chickens to Thailand. Meanwhile Thailand's exports of cooked chicken meat are expected to jump 30 per cent this year, due largely to increased demand from bird-flu infected markets in Europe. Thus it would appear that chickens

are shipped from Europe, used for breeding in Thailand, then cooked chicken is sent back again to Europe.³⁷

And this from a country that is Asia's biggest producer of poultry and poultry feed for exports. Day old chicks, exported to Cambodia, Laos and Vietnam, are already thought to have brought avian flu to these countries.³⁸

A shift to greater self-sufficiency nationally should not be so difficult given the amount of poultry 'food swap' that exists at present within the EU. This would require a dramatic change in WTO and EU trade rules, but this has to be set against the potential of avian flu to provide a rerun of the 1918 flu pandemic when over 40 million died. A Localist Rural and Food Policy could replace the EU's Common Agricultural Policy. Its goal would be to keep production much closer to the point of consumption and to help protect and rebuild local economies around the world.³⁹

✧CONCLUSION✧

EUROPE AS A BEACON FOR GLOBAL ACTION

“One of the most difficult things to explain to the public after a pandemic would be why we weren’t prepared, because there have been enough warnings.”

KLAUS STOHR, CO-ORDINATOR OF GLOBAL INFLUENZA PROGRAMME, WHO⁴⁰

The European Commission must take the lead and urge the WHO and FAO to join them in an immediate investigation into the increasing evidence that suggests factory farming is the source of the development of the deadly strain of avian flu H5N1; and that the regional and global trade of factory farm waste and manure for fertiliser and feed for fish farms has been the source of its contamination of wild birds.

Since the evidence for this is considered by many to be already persuasive,⁴¹ urgent parallel measures should be developed to promote the transition to an alternative poultry system. Groups like Compassion in World Farming and the Soil Association have already suggested changes in practices⁴² such as:

- moving away from the traditional "biosecurity" approach (building more and more expensive and complex systems for keeping influenza out of factory farms that are increasingly susceptible to the disease and prone to spreading it) and towards methods for managing disease, based on diverse, healthy production systems.⁴³
- moving away from selective breeding, which narrows the gene pool through concentrating on fast growing breeds, in favour of slower growing breeds that are better adapted to the local conditions and capable of resisting disease.

- lowering stocking densities and adding new litter as required.
- ensuring that travel to slaughter is limited to 4 hours.
- an eventual switch to a system of organic farming whereby chickens must spend most of their lives outdoors, which is thought likely to allow them to develop naturally strong immune systems.

The development of a set of EU policies, grants and compensation to ensure a rapid transition away from factory farming and towards a free range, more organic system must be prioritised.

Whilst such mechanisms are under consideration, the EU must move to ensure existing free range and organic farmers are protected from misinformed policy initiatives that include seeking to scapegoat the sector as a major source of risk, introducing policies of driving all flocks inside and hence effectively closing it down, with disastrous consequences for farmers, consumers, animal welfare – and for the likelihood of any future successful shift towards low-intensity farming.

The EU must step up its own – and support for others' – surveillance and policing of the significant illegal smuggling and cross-border trade in live birds and poultry products, and address the effects of the use of poultry waste and by-products as livestock feed and fertiliser.

European member state governments should also be involved. To set an example and speed up this process, the UK government should call an emergency roundtable with relevant stakeholders e.g. farming organisations like the NFU and those representing smaller farmers; the British Poultry Council; the Association of Poultry Processors and Poultry Trade in the EU; consumers; retailers; veterinarians; and NGOs such as Compassion in World Farming, the Soil Association, the RSPB and BirdLife

International; to work out a practical path to this transition. The costs incurred should be weighed up against the potential cost of an avian flu epidemic. Higher prices will require some compensation for consumers on lower incomes, perhaps through the benefits system. But it is high time that it was generally recognised that in the case of all factory farming, cheap is very, very nasty, and in the case of poultry, it could one day prove fatal to millions of us.

“The chief lessons taught by the successive poultry epidemics...is that, with avian influenza, the local is always global.”

MIKE DAVIS, THE MONSTER AT OUR DOOR: THE GLOBAL THREAT OF AVIAN FLU, 2005

BEYOND EUROPE

While the EU has a key role to play in pioneering this shift away from intensive poultry farms, it is clear that it also has a responsibility towards the rest of the world as well. As Dr Anarfi Asamoah-Baah, the head of the WHO's communicable disease division, has noted, “as a global community we are still ill prepared – and as long as one of us is not prepared, none of us is prepared.”⁴⁴

The European Commission has announced that it is well on track to fully mobilize the 100 million Euro pledged at the Beijing conference to help combat avian influenza around the world, ahead of the target date. This is to be warmly welcomed.

However, as well as dedicated funds for avian flu, further funding for poverty eradication for some of the world's poorest countries is also desperately needed. Malnutrition, overcrowding in urban slums, and lack of sanitation are not only unacceptable in themselves, they also render people

especially vulnerable to the spread of disease.

The WHO is most worried about Africa. “Without a doubt, the virus will get there. The situation will be much, much worse than anywhere else, “ the WHO's Klaus Stohr told *Science* in October 2004. The 27 million or more Africans who are HIV positive would be at the centre of any H5N1 pandemic. According to a fact-sheet from the Centre for Disease Control, “People with HIV/AIDS are considered at increased risk from serious influenza-related complications”.⁴⁵ Yet in many countries in Africa, public health systems have already collapsed under the weight of AIDS and civil war. Clearly, urgent action is needed to tackle these related crises.

It is in Africa or Asia that H5N1 is most likely to cross the ‘species barrier’ and become rapidly transmissible between humans. In the age of jet travel, contagious diseases can race from continent to continent faster than control measures can be instituted. The richer countries of the world therefore have a

responsibility to enable developing countries to defend the 'species barrier' against the human version of H5N1, or any successor form of avian flu. And, if a sense of responsibility is not enough to motivate wealthy nations, then self-interest adds a new imperative to drive forward the necessary human protection measures. As Laurie Garrett, Senior Fellow for Global Health at the US Council on Foreign Relations, warns, "No nation can erect a fortress against influenza – not even the world's wealthiest country."⁴⁶ In a world where most wealth is concentrated in less than a dozen nations, the capacity to respond to global health threats is, she remarks, "severely imbalanced". International action is needed to build up poor countries' capacity to respond – with monitoring and surveillance, vaccine production and distribution systems, and veterinary and health professionals.

At the same time, international agencies like the FAO must stop supporting an export-oriented corporate model of poultry production that threatens to ruin small farmers throughout the developing world. According to Louise Fresco, Assistant Director-General of the FAO, "The backyard chicken is the big problem and the fight

against bird flu must be waged in the backyard of the world's poor".⁴⁷ An increasing body of research suggests that this analysis could not be more wrong, nor more damaging for small-scale producers.

As Devlin Kuyek of GRAIN, an NGO working to protect biological diversity, explains: "Backyard farming is not an idle pastime for landowners. It is the crux of food security and farming income for hundreds of millions of rural poor in Asia and elsewhere, providing a third of the protein intake for the average rural household. Nearly all rural households in Asia keep at least a few chickens for meat, eggs and even fertiliser, and they are often the only livestock that poor farmers can afford. The birds are thus critical to their diversified farming methods, just as the genetic diversity of poultry on small farms is critical to the long-term survival of poultry farming in general".⁴⁸

Instead of putting the blame for the spread of avian flu on backyard poultry-keepers and migratory birds, international agencies should urgently recognise that diverse small-scale poultry farming is part of the solution, not the problem.

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