A Focus on Factors Affecting Avian Influenza in Indonesia

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This paper looks at the main features within Indonesia which have predisposed the country to avian influenza infection. I examine cultural traditions and organization, such as the prevalence of small-scale poultry farming, trading, and the variety of different peoples who live in the country. I explain how the government of Indonesia initially responded to bird flu infection, as well as their current and on-going plans. Then I discuss through comparison how Thailand, Vietnam and most recently Laos have managed bird and human infection. I end by outlining some strategies the Indonesian government and international community should adopt in response to avian influenza.

Although birds are plagued by different versions of influenza all around the world, the notorious H5N1 strand of the flu originated in Asia. Here, the first confirmed case of human infection occurred in Hong Kong in 1997.[1] This strain of avian flu is currently concentrated in Southeast Asia, most notably in countries such as Indonesia, Vietnam, Thailand and China, although the virus has spread to over 50 countries.[2] Cases have been noted in humans in Europe, Northern Africa, and poultry in North America have also been infected.[3]

Since the first significant outbreak of bird flu in 2003, there have been 169 confirmed fatalities worldwide. This figure is from the World Health Organization, which is monitoring closely the spread of influenza infection.[4] Indonesia did not experience any deaths from avian flu for the first two years of this recent outbreak. Currently, however, the country has suffered the greatest number of deaths, and continues to have the highest death toll from bird flu of any country. To date, there have been 81 confirmed cases of infection in Indonesia and 63 confirmed fatalities.[5] It is entirely likely that these numbers are actually higher; however, of a lack of infection reporting and the substantial number of bodies buried before they were tested undermine the accuracy of figures for infection and death.

Indonesia has been unable to curtail the rate of infection; a look at how this has occurred is necessary before the situation can improve. To fully comprehend the factors affecting Indonesian infections, a variety of features will be studied in this paper. This examination will reach potential suggestions for a successful course of action to combat avian influenza.

First, I will discuss some necessary background information and the cultural traditions and organizations that influence the spread of avian flu. I will then explain the actions and policy of the Indonesian government in response to the bird flu.

Finally, I will compare Indonesia to other Southeast Asian countries affected by avian influenza that have been relatively successful in eliminating or controlling the spread of the virus.

Similar to humans, birds and other animals are susceptible to influenza-type viruses. Illnesses of this type are species-specific, and they do not pass easily between members of different species. From time to time, or in certain circumstances viruses like influenza can mutate and evolve into forms that are capable of infecting dissimilar species. It is this ability to mutate that ensures their longevity.

The mutation of diseases has lead to much discussion and media coverage in recent years of the H5N1 strain of avian flu, which is a particularly fatal strand affecting mainly poultry. This strain of avian influenza currently possesses three out of the four properties required to trigger a serious pandemic: it can infect people, nearly all humans are without natural resistance to the virus, and it is highly lethal. The final property, which the virus lacks, is the ability to pass from person-to-person; however with only a single mutation, this could become possible.[6]

Governments around the world take extra precautions in handling poultry in the wake of fears caused by the mismanagement of epidemics such as Severe Acute Respiratory Syndrome (SARS), and in remembrance of the Spanish influenza pandemic – which killed an estimated 20 million people following World War Two.[7] Many have published emergency infection plans and have developed policies for dealing with avian flu to prevent or quell any case of infection.

In many countries of Southeast Asia small-scale food production is a common means of supplementing income and reducing the costs of food. This is often achieved by cultivating a garden or raising animals.[8] Chickens are a particularly popular animal to keep, as they do not take up much space, can be easily kept in a backyard, and are a favourite food. Raising poultry such as chicken or ducks is also viewed as a hobby, and not simply a means of food production.[9] Keeping chickens in Southeast Asia can be likened to owning pets in North America.[10]

It is estimated that there are over 1.8 billion chickens on the islands of Indonesia. The majority of them are raised by lower class citizens who may not understand the biosecurity and health issues at stake.[11] In this case, 'biosecurity' is understood to mean the protection of a state's food supply from contamination and threat. Peasants and those without high incomes often favour these activities.

The majority of those who raise chickens in Southeast Asia often do not have especially sanitary or spacious homes. This means that birds and their owners live in very close proximity, facilitating the spread of illnesses. Many peasants cannot afford coops or other shelter for their chickens, so when it rains they bring their birds inside. This close proximity can often last for the five-month duration of the monsoon season each year.[12] Not only do these people live close to their poultry, they also live close to each other. Recent outbreaks of avian influenza have spread along roads in urban areas where people and poultry are highly concentrated.[13]

Traditions of trading and giving birds as gifts also assist in the spread of infection across different flocks.[14] History has indicated that poor populations experience a higher rate of disease and death from infectious disease, with factors such as malnutrition

and comorbidities playing a significant role. Thus poverty-stricken Southeast Asian countries such as Indonesia are at a greater risk of infection and death than nations which are not as poor.[15]

Open-air markets in Thailand play a significant role in spreading infections amongst domestic animals.[16] Since community markets are common throughout Southeast Asia it is very likely that they have provided a means for avian influenza to spread in Indonesia. By September 2006 the virus was located in 29 out of the country's 33 provinces.[17]

Other factors affecting the spread of avian flu include Indonesia's large population and the diverse collection of cultural groups within its borders. A single approach to the defence against bird flu for all these people would be impractical and inefficient. For example, some villages whose inhabitants practice shamanism have blamed witchcraft for the cause of infection and death and have refused to take an antiviral drug offered to them.[18] Islam, Christianity, Hinduism and Buddhism are also practiced in the country, and people from these different religions may each have their own methods for dealing with and explaining avian influenza.

Political factors also facilitate the spread of this disease. In 1998 the Indonesian government experienced significant reforms in response to former Indonesian President, Suharto, and his corrupt administration.[19] At that time, both democratization and decentralization were put into place, giving local governments extensive powers while reducing the power of the central government.[20] While this system has reduced some of the corruption characteristic of the former centralized government, it has proved incredibly unconstructive in battling the spread of avian flu. The local branches of government have most of the power, and it has been very difficult to mount a united defence against the flu.[21]Strong countrywide action and cooperation are essential in combating a virus such as avian flu. This type of response becomes very challenging in the presence of a decentralized government.

The World Health Organization has recommended the culling of infected birds and those which may have come in contact with them, in conjunction with the use of vaccinations.[22] A lack of initial action and ineffective procedures, however, has prevented these measures from full implementation. As a result, avian flu has become a nearly endemic problem in Indonesian poultry.

The number of bird deaths and infections is now so large that the country is no longer even reporting these figures to the WHO. [23]The poultry infection has been allowed to "spiral out of control"[24]and humans are now far more likely to come into contact with infected birds. Controlling the spread of the disease, therefore, becomes increasingly more difficult.

Indonesia's initial response, which has been criticized as "disorganized and underfinanced" by the World Bank,[25] included limited culling and vaccination of birds around the cull sites.[26] It has subsequently become clear that nowhere near enough birds were killed. The country's response had neither the scope nor the funding to stop the spread of avian flu infection.

When culling was utilized, few incentives were provided to the public to participate. The subsidy offered by the government was less than the market value for chickens. It was also far lower than the value of fighting birds and songbirds, which are also raised by many Indonesians and are susceptible to the virus. Culling has been made all the more

difficult because of the prevalence of small-scale poultry farms, which are not conducive to the mass slaughter required to prevent the passing of infection.[27]

Despite the poorly mounted response of the Indonesian government there are some external factors inhibiting the government's ability to successfully eradicate avian flu. A lack of funding has proved to be the greatest obstacle, paired with low numbers of trained veterinarians and others who are able to spot or diagnose avian influenza.[28] The country's health system is also not able to handle the high numbers of bird infections, as well as possible and confirmed human cases. These factors play a large role in the underreporting of infection for which several Southeast Asian countries, including Indonesia and also China have been criticized.[29]

As avian influenza continues to spread, threatening the lives of more Indonesians, and the vital tourism industry, the government is reevaluating its tactics. Several new initiatives are being developed, and some are already in use. In September 2006, the government of Indonesia released information about a plan to vaccinate 300 million poultry starting the following month; this number is greater than all the bird vaccinations that have taken place in the country since 2004.[30]

In a move to educate Indonesians about the threat of bird flu, the government has contracted a popular national talk show host and comedian, Muhammad Farhan, to appear in public service announcements discussing avian influenza. The 30second-long broadcasts starring Farhan are currently playing on all nine of the country's national television channels. It remains to be seen whether they will have a positive effect in curtailing the spread of infection.[31]

Indonesia has been battling avian flu with many of the same handicaps as other Southeast Asian countries hit by the virus, and it yet is has suffered the highest number of deaths. While it is certain that the size of the Indonesian population in comparison to other countries in the region is much larger, this has only proved a disadvantage. The virus has been allowed to spread too far. In contrast to Indonesia, the initial and subsequent responses and the plans of action from neighbouring countries have been far more successful in containing the virus.

Similar to Indonesia, Thailand originally faced disapproval for taking limited actions against avian flu. As soon as the country experienced a second major outbreak, however, the Thai government rushed to bolster its defences and increase safety measures. The government began by identifying high risk zones, opening a call center for those with questions or information about bird flu, initiating a door-to-door educational campaign, and issuing fines for those who have failed to report incidents of the flu.[32] The major Thai response to preventing infection has been the extensive culling of millions of birds, and it seems to be working: the country experienced only three deaths in 2006, and none to date in 2007, down from 12 in 2004.[33]

Before Indonesia had the highest death toll from bird flu, Vietnam was at the top of the chart. Suffering 20 deaths in 2004, and 19 the following year, Vietnam mounted a highly coordinated defensive plan of major vaccinations, and this past year the country did not experienced a single confirmed human death.[34]

Vietnam has not had to battle avian flu on its own, as one team of scientists from Winnipeg demonstrates.

They have been tracking avian influenza in the country since early 2004. This group has also provided training for local Vietnamese to recognize the signs and symptoms of the flu, and to be able to educate and train others.[35]While the Indonesian government and some foreign experts have initiated their own training program, there are too few volunteer trainers to make a significant short-term impact. Once locals have been trained they are then needed immediately to educate others. At the rate at which this program is currently moving, it will be two to three years before enough people have been trained to cover all of the country's provinces.[36]

Laos is the most recent Southeast Asian country to experience human deaths from avian influenza, and already the country has a new comprehensive list of preventative measures which have been distributed to the public. Not only do the measures focus on hand-washing, avoiding contact with sick or dead poultry, and reporting incidents of bird sickness or death, but they also include instructions not to eat sick or dead poultry. This is important, because the H5N1 strand is easily transmitted in this manner, and so traditional habits must change to prevent avian flu infection[37].

Current educational and vaccination schemes may prove helpful as avian flu prevention programs, but more invasive measures are needed to eliminate the virus. The decentralized government of Indonesia must create a temporary arrangement. This would allow for a coordinated response, taking into account the complicating features listed in this paper.

Looking at the cultural factors facilitating the spread of the disease will hopefully help create custom-tailored plan to fight avian flu; it is doubtful that any plan would be successful without taking these factors into consideration. Studying the effective features of other countries' defence strategies will also provide a proven framework from which to begin. A successful plan will incorporate effective methods used by other countries, which are then modified and supplemented by measures developed according to Indonesia's unique circumstances and needs.

International aid logically focused in Vietnam while it suffered from the highest death toll.

Now that Indonesia's figures are escalating to unheard-of proportions it will take more than the efforts of the country on its own to exterminate avian influenza. It is up to foreign countries and organizations such as the WHO to step up and come to Indonesia's aid. Effective approaches may include contributing to acts of goodwill and social responsibility, as well as ensuring that the virus does not spread any further and become a world-wide pandemic.

Limitations to writing this paper included the relatively recent subject matter, as avian flu has only been a major source of concern since 2003. As a result, the greater part of information on this topic is found in news media, such as newspapers, magazines, and some journals, most of which is located on the Internet.

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