

A Resilience case study: The Abbess of Barking and a fishy tale

Storms and other freak weather events continue to fill our headlines. It's all down to global warming the pundits say. But there is nothing new in this. The same headlines could have been used in the late middle ages had been printing presses. Unlike the present, however, this was an age of climate cooling, at least in the North Atlantic region. At the end of the 13th century a relatively warm climatic phase was coming to an end and a cooling trend had set in which, with some temporary interruptions, led into the well-known 'Little Ice Age' of the early modern period. Associated with this climate change was an increase in storminess, particularly marked in the countries bordering the North Sea, where damaging storm surges became more common (see Figure 1). In the Low Countries such storms caused widespread loss of life and the permanent loss of extensive areas of land that had been reclaimed in earlier centuries. Numerous storms and storm surges battered the coasts of eastern and southern England between the 13th and 15th centuries.

Violent storms, which caused the deaths of men and animals, damaged buildings and infrastructure, sank ships and disrupted trade, naturally attracted the interest of contemporary writers. The chronicler Matthew Paris described how a major storm in November 1236 "deprived all ports of ships, tearing away their anchors, drowned a multitude of men, destroyed flocks of sheep and herds of cattle, plucked out trees by the roots, overturned dwellings [and] dispersed beaches." In the same year, Stow the historian of London, recounts flooding of the Thames which turned the river marshes to sea, while, "in the great palace of Westminster men did row with wherries in the midst of the hall."

Today, people living on the flood plains of tidal rivers face the prospect of more frequent and larger sea surges. And as the people of New Orleans have found, there is only so much technology can do to hold back the floods. It is time to revisit the lessons learnt in the Thames estuary in the 14th and 15th centuries.

Crown Estate-Caird Research Fellow, Dr. Jim Galloway investigated the impact of the increasing storminess upon the coasts of the Thames Estuary (including the tidal river downstream of London Bridge and the mouth of the Medway) between

In 1386 the Mayor of London wanted answers to a question that was bothering the entire city. Why had all the fish disappeared from the river Thames?

An official inquiry quickly identified those fishermen who were using illegal traps and nets but they were small fry. The real culprit was Maud Montagu, the Abbess of Barking.

Inside this Issue

A resilience case study: The Abbess of Barking and a fishy tale	1
Chikungunya: risk of imported transmission	3
Respect for Nature as Cornerstone to Community Resilience: The view from Katrina Ground Zero	4
London bombings key long term health issues	6
The African Regional Health Report: The Health of the People	7
New US Bird Flu Plan sets response levels	7
Don't be a goat: People will help others	8
H5N1 immunity for the Over 40s	9
Where have all the wild birds gone?	10
Upcoming Events	10
Editor's Soapbox	10



Barking abbey circa 1500 with the River Thames behind

(Continued on page 2)

(Continued from page 1)

1250 and 1450. This was one of the most economically advanced areas of medieval England, characterised by – for a pre-industrial society – significant levels of urbanisation and by a commercially-oriented agrarian sector. In no sense was it a subsistence economy wholly at the mercy of natural forces. Nevertheless, the climatic deterioration posed real challenges, particularly as it coincided with a ‘stalling’ of economic growth about 1300 and a collapse in population caused by recurrent outbreaks of plague (the ‘Black Death’) after 1349.

Besides the reports of chroniclers, Galloy also drew on less colourful but more reliable and voluminous documentary records created by the royal and local bureaucracies of medieval England. What he found closely matches the current experiences of the folk of New Orleans who seem so intent on repeating the experiences of those who lived alongside the Thames 600 + years ago.

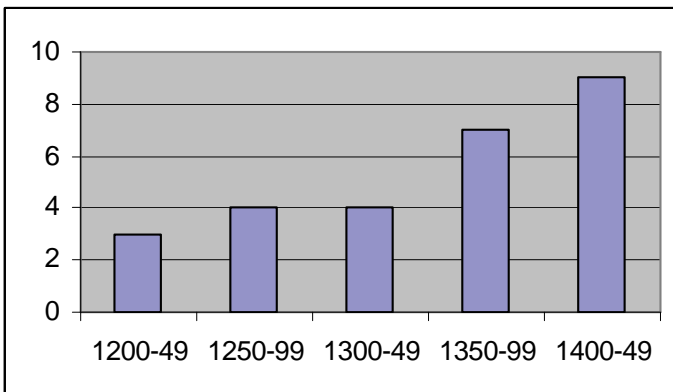


Figure 1: Storm surges affecting the southern North Sea (Source: E. Gottschalk, Stormvloed en Rivieroverstromingen in Nederland)

The Tidal Thames

Storms, allied to a high and growing tidal range, caused repeated breaches of the river walls along the tidal river downstream of London. In Stepney a sequence of damaging floods began on New Year’s Eve 1323 with the inundation of 100 acres of land, an event the lord of the manor described as, “a mighty flood, proceeding from the tempestuousness of the sea, which overflowed all the banks.” As the waters ebbed they tore a great breach in the river wall, allowing subsequent tides to flow across the land.

Some people fought back while others

gave up and left. Others found ways to profit from the changed environment. Landowners and their tenants shared responsibility for keeping the walls in good repair. But as the floods became more frequent the system began to creak. Sometimes disputes arose over who should make the repairs and who should pay.

Over the following 100 years, numerous commissions of walls and ditches (later known as commissions of sewers) were appointed to oversee defence against the tidal river in Stepney and adjacent areas, but flooding still recurred. The Black Death had arrived in England and with 30 to 40 per cent of the population dead labour was scarce.

In 1375 a commission was sent to Barking to ensure repair work was carried out. The next year when the abbey land was flooded again the abbess ordered work to be done to “thrust back the water” but the land had changed and a lake had formed behind the walls. Whatever work the abbey had done it was not enough. The commission had to return in 1380 and 1384 by which time the land which had earlier yielded great profit was now near worthless.

And this is where Maud Montagu enters our story. When she became abbess of England’s great Benedictine abbey at Barking in 1377, becoming one of the most powerful women in England, she inherited a serious problem. The abbey was struggling to recover from a series of great floods caused by North Sea storms and tidal surges. The abbey relied on revenues from its land along the Thames, much of which was reclaimed marsh drained by ditches and protected by embankments, but this was now under threat.

In three successive years, Barking, 10 kilometres east of London, had been hit hard. Water overtopped the abbey’s embankments drowning the land

behind. During one of these floods the ebbing tide did more damage; as the debris laden water retreated it ripped a gaping hole in the river wall leaving the land exposed to every tide.

Montagu sent a series of begging letters to the king asking to be excused her taxes and other financial obligations. She won her concessions but had already decided to change the way she farmed the land. She cashed in on the catastrophe by renting her land to fishermen instead of farmers.

In 1386 the Mayor of London wanted answers to a question that was bothering the entire city. Why had all the fish disappeared from the river Thames? An official inquiry quickly identified those fishermen who were using illegal traps and nets but they were small fry. The real culprit was Maud Montagu, the Abbess of Barking.

Fish swimming upriver on the incoming tide entered the breach in the abbess’ wall and swam into the lake beyond in order to feed on the land there and be more comfortable than in the Thames current. And there they stayed. When the tide turned the fish swam into ditches. The abbess hired out these ditches to people who put weirs and other engines in them “whereby all fish great and small being unable to pass were destroyed.”

The Outer Estuary

In the outer estuary a variety of activities were threatened by an increase in the frequency and severity of marine flooding. Here extensive unenclosed salt marsh and mudflats coexisted with highly-valued reclaimed pasture and arable land behind sea walls. The reclaimed pasture was used for grazing large sheep flocks, producing wool for export and for the local cloth industries of Kent and Essex; and the unenclosed salt marsh for salt-making and fishing using large ‘kiddles’ or fish-traps. The ‘inned’ or reclaimed lands also provided highly productive arable land, the grain from which was in demand from London and other urban markets at home and abroad. The increase in storm surges threatened both environments, drowning sheep in open or lightly-defended marshes, eroding salt marshes, damaging salt-making and fishing structures and threatening reclaimed land with loss of crops and salt

(Continued on page 3)

(Continued from page 2)
damage to soils.

The extensive marshes around the mouth of the Medway in northern Kent were particularly vulnerable. Detailed manuscript accounts surviving for the manor of Barksore in this area show that it suffered serious damage in the storms of 1286–87, necessitating ten times the normal expenditure on walls and ditches in the marsh, and was even harder hit in the 1330s when large numbers of sheep were drowned. A major breach in a sea wall occurred in the winter of 1334–35, probably caused by the same surge that struck the coasts of Flanders, Holland and Zeeland in November 1334. Several thousand man-days of labour were expended in repairing and heightening sea walls on the manor over the following three years, only for the work to be largely undone by a further inundation in the winter of 1337–38.

Long-term Impacts

While many of the outer estuary marshes continued, by considerable human effort and expenditure, to be defended against 'the violence of the sea' throughout the later middle ages, in some locations there was long-term or permanent reversion to inter-tidal conditions. Slayhills marsh, part of the Upchurch marshes northwest of Barksore, was severely flooded, along with large parts of the Isle of Sheppey and the north Kent coast, by a storm surge

in the autumn of 1404. Four years later it was reported that the profits of the marsh there had been 'mostly lost' since that time, its lord's income from it falling from £10 to 26s 8d per year, and the tithe income accruing to Rainham church from the marsh had also fallen to no more than an eighth of its previous level. In the eighteenth century the 500 acre Slayhills marsh was described by the historian Edward Hasted as 'gone to sea...nearly the whole of it is become a tract of salts, which is covered by every spring tide.'

Overall indications are that there was no wholesale abandonment of marshland around the Thames estuary, but climatic deterioration, particularly the increasing frequency and severity of storms, made it increasingly difficult and uneconomic to defend the more vulnerable stretches of coast during the period 1250–1450. The abandonment of some land may, however, have enhanced the security of other areas by increasing the extent of inter-tidal and salt marsh buffer zones capable of absorbing the power of waves and storing the floodwaters driven against the coast by all but the most exceptional surges – strategies which would today be termed 'managed retreat.'

So there we have it. What will historians in the 27th century have to say about our attempts to adjust to the changes in our environment today? #

A vivid picture of the almost tsunami-like impact of a major storm surge in this same location several centuries later was given by Mr. A. Hawkins of Lower Halstow, adjoining Barksore in 1897:

'The day was the 18th of November 1897 and the wind had switched suddenly into the opposite direction from that it had been blowing the day before. The day was overcast and dull, and the morning tide had ebbed so far out that no water could be seen in the creek. After dinner the tide suddenly appeared far down the creek and rushing up with a ridge of white foam at its front edge. Very soon it was breaking over the sea walls, overflowing low-lying roads, houses and buildings. The marshes of great Barksore Farm were flooded and many sheep were drowned in spite of great efforts of Mr. Hanmer and his farm hands...'

(cited by J.H. Evans 'Archaeological horizons in the North Kent marshes', *Archaeologia Cantiana* 66 (1953), p118).

CHIKUNGUNYA: risk of imported transmission

Vector transmitted chikungunya virus has been creating havoc right around the Indian Ocean these past few months. Those infected present with symptoms not dissimilar to those with avian flu. In Europe there are increasing numbers of travellers returning home from abroad infected with the virus. However, without a local vector capable of carrying the virus, a spread from those infected travellers has been discounted.

The vectors of chikungunya are mainly African *Aedes* species including *Aedes aegypti* and *Ae. africanus* none of which occur in Europe or New Zealand. But another vector of chikungunya virus appears to be *Ae. albopictus*, an Asian mosquito that has been introduced into many countries outside Asia, such as the USA, Israel, Australia, New Zealand, Latin America, sub-Saharan Africa, and in 14 European countries. However, *Ae. albopictus* has not managed to establish itself in countries with relatively cold weather, such as those in northern Europe, or where efficient control has rapidly been directed at invasions.

There are various biological strains of *Ae. albopictus* and if the strain is a temperate one then it could survive in counties or areas where the mean summer temperature is at least 20 degrees C, and winter mean temperatures zero degrees C; in these conditions it would likely survive the cold months in the egg state.

So, there must be the chance that in New Zealand an infected person returning from overseas [during the warmer months] could be bitten by *Ae. albopictus* which could then bite and infect another person.

Ae. albopictus has been recorded from at least 28 States in North America, and it is an experimental vector of several viruses including the equine encephalitis ones, and has been found naturally infected in the USA with Eastern equine encephalitis.

Both *Aedes aegypti* and *Ae. albopictus* occur in Japan, and it is possible that there could be transmission of chikungunya in the warmer areas of both Japan and the USA, but as yet there is no evidence of such transmission. #

Respect for Nature as Cornerstone to Community Resiliency: The View from Katrina “Ground Zero”

Less than a year after my article “What if Hurricane Ivan Had Not Missed New Orleans?” appeared in the November 2004 issue of the *Observer* as part of the Disasters Waiting to Happen series, Hurricane Katrina struck and played out in a manner that was eerily familiar. And even though the magnitude of the storm could have been greater, it was a category 3 storm when it made landfall in Louisiana, the magnitude of its impact on the populace (which was exacerbated by Hurricane Rita when it struck the southwest Louisiana coast only a month later) far exceeded the impact of any other hurricane in American history.

My predictive article was based on warnings by a number of scientists—a core of 50 Gulf Coast scientists and another 50 collaborators from around the United States—from a variety of disciplines (physical, social, and life sciences) regarding what was likely in store for New Orleans and the Louisiana coast. My own research on hurricane evacuation challenges represented only a small portion of the data that I included.

The shock generated by the accuracy of the predictions made in the article produced a response from readers around the world. In this article, I will discuss my thoughts on two of the most commonly asked questions as well as what can be done to prevent similar questions from arising in the future.

Question 1: How Could Katrina Have Been So Accurately Predicted and Yet Its Impact Not Prevented?

Since the hurricane, I have undertaken an exploratory research effort to understand why the scientists’ warnings went unheeded. Other scientists who issued warnings about the reality of the hurricane threat to New Orleans are also doing research on this issue and have published their own speculations. Some of the reasons for the disregarding of the warnings are distrust of scientists, who are seen as self-serving in their catastrophe predictions

(positioning for funding to study the threat); competition of the warnings with so many sensationalized media and entertainment visual representations that attention for the real event is difficult to garner; the insularity of scientists that causes them to “speak to the choir” rather than to the public; and a lack of respect by national leaders for local scientists from a marginalized part of our society (Louisiana).

All of these proposed reasons are interesting, worthy of pursuit, and are likely a part of the explanation. However, as a victim of the storm, my interest is also in knowing the answer to the larger, more fundamental question, How does a society such as ours, so bold in its confidence of capacity to manage itself with sophisticated organizations and bureaucracies, so advanced in its science, and so laden with laws, regulations, and processes supposedly created to reduce risk let an event of such magnitude happen?

Question 2: What Is the “Big Picture” of How Katrina Came to Be?

In a recent article in the *Proceedings of the National Academy of Sciences*, R.W. Kates et al. describe the “levee effect,” which was first defined by Ian Burton in 1962: “each consecutive generation builds higher levees, which provide an aura of greater protection, and behind which more and more human activity occurs until the levee breaches, yet again, and the destruction is all the more devastating. Such is the pattern of community growth throughout the 300-year history of New Orleans.”

Compounding this history of false protection in New Orleans is the Mississippi River Gulf Outlet, constructed in 1965 to connect the Gulf of Mexico to the city so that ships would not have to navigate the challenging and lengthy path of the Mississippi River. Known

This paper, by Shirley Laska from the Department of Sociology, Centre for Hazards Assessment, Response and Technology (CHART) University of New Orleans (slaska@uno.edu) was first published in the November 06 edition of the *Natural Hazard Observer*. Reprinted with permission



as MR-GO, the channel is little used (about one ship one way every two and one-half days) and extremely expensive to maintain due to the dredging required (\$13 million/year or almost \$100,000 per trip for each deep draft ship). Additionally, MR-GO has acted for decades as a conduit of highly saline Gulf water that has systematically killed a large swamp forest, a natural storm barrier, on the Gulf Coast side of New Orleans. During Katrina, the channel funnelled the storm surge into the Industrial Canal, which resulted in the breaching of the floodwall that inundated the city on both sides of the canal. Many people caught in this unnaturally forceful surge were killed instantly.

Despite the strong scientific concurrence regarding the massive destruc-

(Continued on page 5)

(Continued from page 4)

tive contributions of MR-GO to the Katrina catastrophe, many members of the business community are advocating that it be re-dredged and reopened to ship traffic. Similarly, in reference to the repair of the floodwalls and levees, a high-level Louisiana state official declared, more than once, "Man is in a battle with nature; and man will win." Is the message not getting through or is it just not being heard?

Resilience and Working with Nature

As an environmental/community sociologist first and a disaster specialist second, I focus on the society/environment interface, especially at regional and local levels. I believe that the uncontrollable urge to control nature that most modern cultures demonstrate plays a major role in negative disaster outcomes. As a nation, we must overcome that urge. We should not just accept this cultural flaw as a given and continue to plan non-structural mitigation and resiliency activities as add-ons.

Two strong proponents of this issue are Kathleen Tierney, director of the Natural Hazards Centre, and Margaret Davidson, director of the National Oceanic and Atmospheric Administration Coastal Services Centre. For the last two years, Tierney has ended her summary of the annual hazards workshop with such a warning. And Davidson has ended her presentations at several national events since Katrina with a similar message: the toll such disrespect for nature is taking on the flexible wealth of the nation is such that we are quickly coming to the tipping point where we have to choose between providing the broad social services that underpin our society and paying for natural disaster recovery.

Community resilience has a growing

following among academics, practitioners, and community stakeholders as a way to reduce risk to natural hazards. Often times described as multidimensional—personal, social, economic, natural, and physical—the concept of resiliency directs our attention to the pre-existing conditions that are necessary to prevent or reduce the severity of disaster impacts. Social scientists agree that an approach to disaster risk reduction that embraces resiliency, especially non-structural mitigation (as opposed to large physical structures such as levees), definitely has the potential to provide comprehensive and long-lasting protection from disaster-related harm. Such an approach also calls for very close scrutiny of social vulnerability to disasters. This means focusing on the populations that would suffer the most after a disaster because of their income, race, ethnicity, and/or marginality and exploring ways in which their vulnerability may be reduced.

To avoid similar tragedies in the future, we should use the idea of social resiliency of a community to lay the foundation for environmentally sound communities. Among other things, a socially resilient community trusts in leadership, believes that the community will serve the interest of all members, has full participation of members in decision making, and gives as much credence to local knowledge as to scientific knowledge. When setting a course for community resiliency, we must begin with a cornerstone that promotes living with the environment rather than one that continues to try, unsuccessfully, to control it. Resilience capacity should not be wasted on accommodating continued environmental resistance.

That said, New Orleans is severely challenged by shortcomings in social resiliency. Thus, areas of the city will be rebuilt that should not be because

they require too much structural protection. And non-structural mitigation of homes and businesses (e.g., elevation) will not be implemented because the community is only weakly engaged in learning about these safeguards and opportunities for assistance. There is a lot of pressure to return New Orleans to the pre-Katrina normal of control of nature. The attitude is that it can be done, and it can work, regardless of the evidence to the contrary.

How Can You Help?

What these Gulf Coast communities need now is leadership from the disaster researcher and practitioner community. Specifically, they need leadership in the vetting of locational and infrastructure components of proposed individual, institutional, economic, and community plans as to whether their implementation will contribute to natural hazards risk. These communities also need help identifying resilient alternatives. Look at the mess that coastal Louisiana has gotten into because of the failure of the federal government, corporate private sector, state and local communities, and individuals to address the resiliency issue. The environment has been drastically compromised—thousand of miles of wetlands lost since European habitation—and the structural solution to that degradation—levees—has failed, over and over again.

Rebuilding the wetlands and finding ways for communities to function resiliently without relying on massive levees are both daunting and possible goals. Those of us at "ground-zero" for both Katrina and Rita ask for you to join our efforts to make Gulf Coast communities *truly* safer from natural hazards. Efforts that, once proven successful, can be applied to other similarly challenged regions of the United States. #

Coffee can fend off Alzheimer's

Three cups of coffee a day can keep Alzheimer's away; suggest new research published in The Independent on February 9th. A 10-year study found this was all it took to make a four-fold reduction in the rate of mental decline in old age.

Scientists who tracked 670 elderly men aged 70 to 90, from Finland, Italy and the Netherlands, found those drinking three cups a day had a smaller decline in mental ability. Researchers believe caffeine protects the brain from damage by the disease, which affects 750,000 people in the United Kingdom and coffee has long been linked with such a protective effect. #

London bombings key long term health issues

The first findings from the public health follow-up study for those exposed to the July 2005 bombings were announced at a special international conference *The London bombings: health protection lessons from London and other international incidents* organised by the Health Protection Agency in November 2006. The follow-up study was part of the overall public health response to the explosions. Those who reported they had been directly exposed to fumes, blood or blast effects were asked to join the follow-up, as well as anyone in the immediate vicinity or helping with the emergency response.

The two major long term health consequences (apart from those resulting from serious blast injuries) reported by the 158 people who completed a detailed follow-up questionnaire are:

- the psychological effects of involvement in the bombings
- hearing problems, especially in those who were close to the explosions

80% of those who took part in the follow-up, including both injured and uninjured survivors, reported emotional upset. **80%** of these received some counselling. Where appropriate, the remainder were referred to services that specialise in screening for post traumatic stress disorder.

59% of the people which responded to this questionnaire were injured in the blast. They were asked a series of questions about symptoms they may have experienced, including; vision, hearing, breathing, coughs, swallowing and other.

Of these injured, the Agency found that one third reported ongoing problems with their hearing. In contrast, none of the uninjured group reported ongoing hearing problems. Ongoing problems with breathing and headaches were reported by **2%** of both the injured and uninjured. These results provide reassurance that there are no other long-term health effects.

The Agency also assessed the possible risk to the public and emergency responders from exposure to airborne particles (dust and fibres), which may have been present in the air after the explosions. The only material released by the blasts to which people may have been exposed was identified as tunnel dust. An analysis of the possible toxicity of this material suggests that the risk it posed to the public and emergency responders was **very low**.

Professor Pat Troop, Chief Executive of the Health Protection Agency, said:

"This follow-up is an important element of the overall public health response to the tragic events in the Capital last July. Experience from similar incidents in New York and Madrid has shown the immense value both for those involved in the actual incident, as well as providing vital information to help protect the wellbeing of those involved in any future incidents in the



UK.

"These first findings highlight the key long term health issues facing those Londoners and visitors to the Capital exposed to the explosions – namely the psychological effects and hearing problems. These results provide reassurance that there are no other long-term health effects.

"We have passed on all the names of those completing our questionnaire to the post traumatic stress disorder screening team. We've also alerted the GPs of all those who consented to be in the study that a patient of theirs was involved in the bombing incidents and sent them information packs. Furthermore, we have provided information on workshops dealing with the physiological management of tinnitus to all those who suffered hearing problems.

"The Agency will continue to monitor, and provide feedback to all those who took part in the follow-up." #

Because it is Valentine's

He loved her very much and he wanted this Valentine's Day to be special. So he bought a bottle of her favorite liquor imported from France for the occasion. On his way home, he stopped at the local florist as he planned to have a bouquet made with her favorite flower, white anemones. But to his dismay, he found that the florist had sold all her flowers and had only a few stems of feathery ferns left for decoration.

In a moment of inspiration, he had the answer. He asked the florist to make a bouquet using the flask of liquor instead of flowers and what she produced was magnificent - well beyond his expectations. He added a card, and proceeded home. When he arrived, his wife was beautiful in her most elegant gown, and it was apparent that she had spent much of the day preparing a romantic candlelight dinner for the two of them. He presented her with his gift, and she opened the card to read, "Absinthe makes the heart grow fonder."

With a tear in her eye, she whispered to him lovingly, "Yes, and with fronds like these, who needs anemones."

The African Regional Health Report: The Health of the People

The Health of the People is the first report to focus on the health of the 738 million people living in the African Region of the World Health Organization. While acknowledging that Africa confronts the world's most dramatic public health crisis, the report offers hope that over time the region can address the health challenges it faces, given sufficient international support.

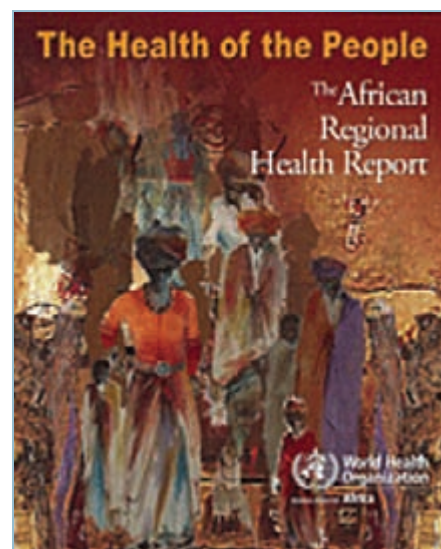
It provides a comprehensive analysis of key public health issues and progress made on them in the Africa Region.

- HIV/AIDS continues to devastate the WHO Africa Region, which has 11% of the world's population but 60% of the people with HIV/AIDS. Although HIV/AIDS remains the leading cause of death for adults, more and more people are receiving life-saving treatment. The number of HIV-positive people on anti-retroviral medicines increased eight-fold, from 100 000 in December 2003 to 810 000 in December 2005.
- More than 90% of the estimated 300–500 million malaria cases that occur worldwide every year are in Africans, mainly in children under five years of age, but most countries are moving towards better treatment policies. Of the 42 malaria-endemic countries in the Afri-

can Region, 33 have adopted artemisinin-based combination therapy - the most effective antimalarial medicines available today - as first-line treatment.

- River blindness has been eliminated as a public health problem, and guinea worm control efforts have resulted in a 97% reduction in cases since 1986. Leprosy is close to elimination - meaning there is less than one case per 10 000 people in the Region.
- Most countries are making good progress on preventable childhood illness. Polio is close to eradication, and 37 countries are reaching 60% or more of their children with measles immunization. Overall measles deaths have declined by more than 50% since 1999. In 2005 alone 75 million children received measles vaccines.

While drawing the world's attention to recent successes, the report offers a candid appraisal of major hurdles, such as the high rate of maternal and newborn mortality overall in the Region. Of the 20 countries with the highest maternal mortality ratios worldwide, 19 are in Africa; and the Region has the highest neonatal death rate in the world. Then there is the strain on African health systems imposed by the



high burden of life-threatening communicable diseases coupled with increasing rates of non-communicable diseases such as hypertension and coronary heart disease. Basic sanitation needs remain unmet for many: only 58% of people living in sub-Saharan Africa have access to safe water supplies. Non-communicable diseases, such as hypertension, heart disease, diabetes and are on the rise; and injuries remain among the top causes of death in the Region.

The report stresses that Africa can move forward on recent progress only by strengthening its fragile health systems. The full report can be downloaded from www.who.int/bulletin/africanhealth/en/index.html #

New US Bird-Flu Plan Sets Response Levels

Future influenza pandemics will be scored in the United States much like hurricane under just issued federal guidelines. The guidelines are the first detailed advice for what states and communities should do before a vaccine is available to control a flu pandemic.

The system, developed by the Centers for Disease Control and Prevention and the U.S. Department of Health and Human Services, ranks pandemics from Category 1 to Category 5.

A Category 5 outbreak would be the worst imaginable, with a mortality rate of 2 percent, or 1.8 million deaths, in the United States. That is, at the level seen in 1918. A Category 1 pandemic would

resemble the last flu pandemic, in 1968, with a death rate of less than 0.1 percent and fewer than 90,000 deaths. About 36,000 people die in a normal flu season in the United States, and 250,000 globally.

Category 5 under the new definitions, would cause a shock equivalent to 15 Katrinas," Dr. John Bartlett, an infectious-disease expert at Johns Hopkins University in Baltimore, told reporters.

The report recommends voluntary isolation of ill persons in Category 1 pandemics.

For Category 2 and Category 3 pandemics, communities may consider voluntary quarantines of household members ex-

posed to an infected person, as well as "social distancing" measures such as flexible working hours and limited school closures. In a Category 5 pandemic, schools and child-care facilities may be closed and businesses may be asked to be liberal in allowing leave.

Experts said closing schools and businesses could cause more problems.

"If you are going to ask somebody to stay home, what ethical obligation (do you have) to provide them with antivirals?" asked Dr. Bruce Gellin, who helps coordinate pandemic planning at the Health and Human Services department. "We also need to think about how vital medical and food supplies will reach those who are quarantined." #

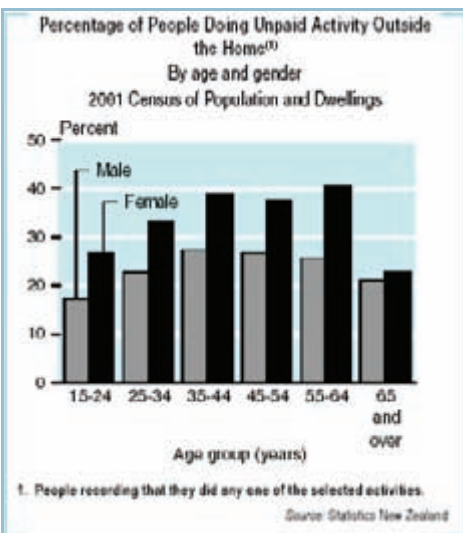
Don't be a goat: People will help others

How will the community behave in an influenza pandemic? Will self interest dominate with people isolating themselves and refusing to help others in need? Will the community response be as altruistic as it was in 1918? The answers to these questions are critical as we plan our response. Now is the time to put a stake in the ground. The evidence suggests that our communities are socially connected and will look after those in need.

Social connectedness' describes reciprocal relationships that sustain social participation. Relationships, often built around common goals, help people to feel that they belong and have a part to play in society and contribute towards building communities and society and social interaction is a part of social connectedness. Regular contact with family/whanau and friends is a measure of social interaction and support via informal relationships.

A Ministry of Social Development's Survey of Living Standards of Older New Zealanders measured the proportion of the population who participated in family/whanau activities and who had family or friends over for a meal at least once a month. A high proportion of the population (87 percent) reported having taken part in family/whanau activities and 71 percent reported having had family or friends over for a meal at least once a month.

People's involvement in unpaid work outside the home is a measure of social participation and caring for others.



Voluntary involvement in work outside the home contributes to community cohesion, building social support networks and enhancing the well-being of both those giving and receiving assistance. It can reflect social connectedness because unpaid work usually involves connecting with others.

In the absence of frequent face-to-face interaction, access to telecommunications is key to people's ability to access, support and maintain social connectedness. The Internet also gives access to a growing stock of services, information and knowledge. In 2001, 92 % of New Zealand households had access to a telephone, a figure which has not changed significantly since 1981. The 2001 Census was the first New Zealand census to measure Internet access. Results showed that 37 % of households in New Zealand had access to the Internet. The 2006 census results will show a higher Internet take-up.

But a pandemic will be different you say. In our modern society where individualism is emphasized people will panic and get themselves as far away from the perceived danger as possible.

The *Longman Dictionary of Psychology and Psychiatry* defines panic as "an acute reaction involving terror, confusion, and irrational behaviour." This is the definition that is most often attributed to disaster behaviour. The word itself has its origins in Greek mythology and is attributed to Pan, a pipes-playing god with the horns, legs, and ears of a goat, who was known for instilling great and unfounded fear in solitary travellers as well as herds of animals and crowds of people, which sent them fleeing, or stampeding, in panic.

Getting away from danger is hardly irrational. An ancient Chinese proverb says that of the 36 ways to escape danger, running away is the best. But people quickly stop running once they realise that there is no escape. Watching the morning and evening gridlock on the Auckland motorways is instructive. While there are always a few who try and duck and dive to find a slight edge on their daily journey, most drivers are resigned to sitting in their lane and

courteously (or resignedly) letting other push in ahead of them.

Almost every profession is now working on worst-case scenarios of biblical proportions - greater earthquakes, worldwide pandemics, global warming, more hurricanes, even asteroids. We have become more inventive in constructing possible combinations; terrorists, for example, might destroy an atomic energy plant in an urban area during an earthquake. And the media and popular culture regularly provide us with visual images of panicky mobs rushing toward the exit of civilization.

Unfortunately, without the ability to predict the future, and given current attitudes about human behaviour, we often build our models of emergency management without recognizing our social resources for problem solving and empowering our citizens. We move in the direction of government paternalism and away from developing local self-sufficiency.

Yet resilience studies currently underway in this country under the aegis of Civil Defence emphasise local self-sufficiency and social cohesion as the key predictors for a resilient community.

Emergency response has become the province of experts and therapists. Too often the only role for citizens is as victims. While we may understand our vulnerabilities, we are not so good at recognizing our own capabilities and resilience. Local knowledge and local resources are devalued and the emphasis on external assistance undercuts the importance of local coping skills. In addition, the emphasis on external intervention discounts existing social networks and local social capital in order to create victims to help.

Threats and disasters create problems for people, but they do not create problem people. In most disaster situations, people work together and help each other (at times to their own detriment). They likely feel fear, but they rarely panic. #

H5N1 Immunity for Over 40's

Nearly 90 per cent of the people who've been diagnosed so far with H5N1 avian influenza virus infection were under age 40, a new analysis from the World Health Organization shows. And 2 British scientists suggest that as-yet-unexplained phenomenon could be a clue that widespread immunity to infection with this virus may exist in people aged 35 and older.

In a letter to the March 2007 [to be published] issue of the journal *Emerging Infectious Diseases*, Matthew Smallman-Raynor of the University of Nottingham and Andrew Cliff of the University of Cambridge note that the age distribution of H5N1 human cases is "consistent with a biological model of geographically widespread immunity to avian influenza A (H5N1) in persons born before 1969."

"Such a model would account for the similar rates of disease activity in younger age categories, the sudden and pronounced reduction of cases in patients over 30-35 years of age, and the age skew that transcends the socio-cultural and demographic contexts of countries and continents," wrote Smallman-Raynor and Cliff, who teach analytical and theoretical geography respectively.

It is not known why H5N1 seems to prefer the young and rarely infects the elderly, the age group hardest hit by seasonal flu. Suggested theories have included that children and young people may have closer exposure to poultry in countries where outbreaks are occurring. Another possibility could be that older people are actually being infected but suffer such mild illness that they

don't come to the attention of health authorities. The few studies that have looked for mildly symptomatic or asymptomatic cases don't support this idea, but larger studies need to be done before it could be ruled out.

The 2 British scientists looked at ages of reported cases and compared them to population figures for countries reporting human infections, looking to see if the demographic compositions of those countries provide some clues. Their analysis showed that the imbalanced distribution of cases is seen in both genders throughout the duration of the ongoing H5N1 outbreak (which began in late 2003) and across all countries which have had enough human cases so that statistics could be crunched. That suggests that the trend probably isn't due to local cultural or geographic factors, argued Smallman-Raynor and Cliff, who said the idea needs further study. "If an element of immunity to avian influenza A (H5N1) does exist in older populations, its possible association with geographically widespread (intercontinental) influenza A events before the late 1960s merits further investigation," they said.

The WHO analysis, published in the agency's online journal the *Weekly Epidemiological Review*, also argues that the higher proportion of cases in younger age groups probably isn't just due to the fact that young people make up a big part of the age structures of affected countries. The report, which covers the 256 laboratory confirmed cases that occurred between 25 Nov 2003 and 24 Nov 2006, showed that the median age of cases was 18 years

Smallman-Raynor and Andrew Cliff state that "Although anecdotal, reports of completed surveys point to a lack of widespread human infection with the virus. Current evidence indicates that pandemic influenza of humans since 1918 has been restricted to 3 influenza A virus subtypes: H1 (1918-57 and 1977-present); H2 (1957-68); and H3 (1968-present).

If an element of immunity to avian influenza A (H5N1) does exist in older populations, its possible association with geographically widespread (intercontinental) influenza A events before the late 1960s merits further investigation."

old. 52 of cases were younger than 20 years old and 89 per cent were under age 40. Men and women made up virtually an equal number of cases.

The death rate was highest among cases aged 10 to 19; 76% of cases in that group died. Cases aged 50 and over had the lowest death rate (40 %) followed by children under age 5 (44 %) and children aged 5-9 (49 %). The total case fatality rate was 60 %. Cases have increased over time, the unnamed authors reported, with the cases in the 2nd year of the 3-year period twice as high as those recorded in the 1st year. From year 2 to year 3, the number of cases rose by about 25 %.

A graph of cases showed that while there are definitely seasonal peaks and troughs in human infections, there have been cases recorded every month since November 2004. #

(Continued from page 10)

brought it into England and onto the property.

In Africa and Asia, several countries have emerged as perpetual bird flu trouble spots, with constant cases in birds and some transmission to humans: Indonesia in Asia and Egypt and Nigeria in Africa. "There's still some way to go in these 3 places," Jutzi said. "In most places where we've seen outbreaks this year -- like South Korea, the U.K., Thailand, Viet Nam -- the disease has re-emerged as we expected it would from time to time, but we're confident that it has been brought under control."

Although bird flu was presumed to be under control in Nigeria late 2006, there has been a recrudescence in recent months. Tony Forman, a scientist with the UN team said

there was "fairly good circumstantial evidence" that illegal poultry imports and transport were responsible for bird flu problems in Egypt and Nigeria, particularly of eggs and chicks. Such trade is very hard to trace and control, if only because of the volume. "The poultry sector is the most globalized in agriculture," Jutzi said. "There is incredible movement of chicks and other products."

Why the change? Why are wild birds surviving this year? Scientists are unsure, although they speculate it might have to do with warmer weather. Last year, extremely cold weather in areas in Central Asia where bird flu is endemic might have forced birds like swans that normally do not migrate very far to travel longer distances across Europe. #

HEMNZ Bulletin

The HEMNZ Bulletin is published monthly by the Risk Management Unit of St John Northern Region for all those interested in emergency management in health care settings

Articles and comment on emergency management issues are welcomed

Editor: Bruce Parkes
St John, Northern Region
bruce.parkes@stjohn.org.nz

Check out our Web site at
www.hemnz.org.nz

Editor's soapbox

Across the land and across the world emergency planners are working themselves to a standstill planning and preparing for the next influenza pandemic.

Yet, although we know it is coming as certainly as we know the sun will rise tomorrow, we know very little else about what we can expect. All we can do is base our plans on what has happened in the past and what we think will happen next time.

Whether or not we succeed will depend entirely on the capacity of our communities to adapt to the new environment. Whatever that might be.

This month we lead with a case study from 600+ years ago on how one community adapted to climate change and contrast that with a recent example where New Orleans, with resources galore at its disposal is having trouble accepting and adapting to its new environment.

We will only be overwhelmed if we insist on trying to deliver planned services when our capacity to do so has run out. Always think the unthinkable and have a plan B in your back pocket so you can change direction and survive to fight another day.

Bruce Parkes



Up coming Events

30 April— 1 May 2007

5th Annual Enterprise Risk Management Conference

Rydges Hotel, Auckland
Cost: \$1895 + GST

More information from www.conferenz.co.nz

10 - 11 May 2007

Improving the Delivery of Emergency Care: sharing the lessons learnt

Carlton Crest Hotel, Brisbane
Cost: A\$595 before 26 April

More information from
www.changechampions.com.au

13 - 16 May 2007

15th World Congress on Disaster and Emergency Medicine

Amsterdam, Netherlands
Cost: EUR €760.00

More information from www.wcdem2007.org

19 - 22 June 2007

13th International Congress on Infectious Diseases

Kuala Lumpur, Malaysia
More information from

www.isid.org/13th_icid/index.shtml

Where have all the wild birds gone?

A year ago wild birds were the popular culprits for the spread of H5N1 across Asia, into Europe and even down to Africa. The evidence was compelling but not necessarily convincing. Some commentators could not always draw the connection and suspected the global poultry trade.

Most of the scattered bird flu outbreaks so far this northern winter can probably be traced to illegal or improper trade in poultry. This includes recent outbreaks in Nigeria and Egypt as well as the large outbreak on a Bernard Matthews turkey farm in England.

Last winter, wild migrating birds were deemed the primary culprit in the bird flu infestations that hop scotched across Europe and Africa. Dead swans and ducks were found in many countries, including Austria, France and Italy. "Many of us at the outset underestimated the role of trade," says Samuel Jutzi, director of Animal Production and Health at the United Nations Food and Agriculture Organization in Rome. "The virus is behaving rather differently than last year; it's rather enigmatic."

No outbreaks have been attributed to wild birds so far this season, and not a single infected wild bird has been detected in Europe or Africa, despite a heightened surveillance system devised in the wake of the crisis in 2006. In most of the world, there have been far fewer outbreaks compared to a similar period in 2006. In Europe, there has been only been the linked cases in Hungary and England.

Although they have not reached a final conclusion, investigators from the Food and Agriculture Organization and the British government suspect that trade may have set off those outbreaks. The large poultry farm that was the site of the outbreak in Suffolk was owned by a company, Bernard Matthews that also raises birds in Hungary. Partially processed meat was routinely shipped from the company's Hungarian farm to the one in Suffolk for final processing. Although the avian influenza virus is killed by cooking, it survives well in raw meat, and such shipments may have

(Continued on page 9)