THE *NIPAH* VIRUS EPIDEMIC:
A Local Response to Disinformation

The Civil Rights Committee of the Selangor Chinese Assembly Hall was recently commissioned by the Federation of Chinese Chambers of Trade and Industry of Malaysia, the Federation of Livestock Farmers Associations of Malaysia, the Chinese Chambers of Trade and Industry of KL and Selangor, and the Selangor Chinese Assembly Hall to conduct a fact-finding mission on the Nipah virus outbreak. As part of their investigations, Aliran Exco member Dr Chan Chee Khoon (Co-ordinator, Citizens' Health Initiative) was interviewed on May 3, 1999. We reproduce below an edited transcript of this interview -- ***editors, Aliran Monthly****.*

SCAH: *Shortly after the Nipah virus epidemic spread to Bukit Pelanduk, villagers took the initiative to evacuate without waiting for help from the government. From your viewpoint, to contain the spread of the virus, what should the government have done immediately?*

CCK: What should the government have done at the time the community left in a hurry? With the benefit of hindsight, we now know that abandoned pigs and other domestic and farm animals should be put down, to prevent the virus' further spread to other animals and humans. At the time, things were more confused, but one important lesson learnt, from Ipoh as well -- adequate compensation for culled animals would reduce the incentive to move infected pigs out of the area, thereby reducing the risk of spread.

The present, official compensation however makes no provision for pig-farm employees who have suffered loss of livelihood. Only pig-farm owners are given compensation (quite meagre at that) for loss of animals.

SCAH: *From the time of the Ipoh "JE" outbreak right up until now, the Ministry of Health continues to assert that the country is facing a serious JE epidemic in addition to a more recently recognised Nipah epidemic. From your observations, is there any strong evidence to support that conclusion?*

CCK: From the information officially available from the National Task Force or the Ministry of Health, it is not possible to conclude that we had an accentuated JE epidemic recently in addition to an eruption of the Nipah virus epidemic. The firm diagnosis of JE fatalities is tricky under the recently prevailing conditions and detailed unambiguous evidence would have to be provided by the National Task Force to support its assertion that we had an accentuated JE outbreak this year. Scientists in particular accept no other basis for reasoned discussion about health or epidemiological matters. If firm evidence is not (yet) available, but practical, urgent decisions have to be made, we should be honest about the tentative, reasoned basis for our actions, and not hide behind an unjustified certainty which could bring about harmful consequences. The prevailing consensus in the health and scientific community is that this is a principally Nipah virus epidemic.

SCAH: *We understand that some local experts had quite early on questioned the initial JE diagnosis. Do you think the Ministry of Health was too confident in their early declaration of a JE epidemic?*

CCK: At the early stage of the epidemic (last quarter of 1998), it was not unreasonable to treat it presumptively as a JE outbreak, since the human cases were clustered around pig-farms (pigs being a major reservoir of JE virus), and the outbreak was also occurring during a seasonal peak for JE. The authorities however were quite slow in recognising the unusual epidemiological and clinical features of this outbreak as the fatalities began to accumulate. It was quite clear by the end of 1998 that i) this was not in fact a JE epidemic and that an unusual pig-infesting pathogen was the most likely cause of the dramatic increase in encephalitic deaths, and ii) that a major mode of transmission was close contact with live infected pigs and freshly-slaughtered carcasses. The logical, immediate control measures would then have included: extreme caution and protective gear in handling live pigs (especially in farms where there had been recent unusual pig illness and deaths), similar precautions for abattoir workers, a ban on movement of pigs between farms and out-of-state, while awaiting a decision on culling of animals and other measures. To be fair, this sounds clearer in hindsight, so all the more it was important to have clear-thinking, experienced leadership backed up by sound advice in such a hothouse atmosphere.

SCAH: *In its epidemic control efforts, the government appears to be quite reluctant to consult and utilise the full range of relevant expertise in our country, such as Professor Jane Cardosa (virologist) and pig disease veterinarian Dr Henry Too. Why is this the case?*

CCK: The government is quite happy to assign competent professionals to these responsibilities as long as they strictly abide by rules of confidentiality and information management. At times, these may come into conflict with competing notions of professional ethics and integrity. I offered my help as a trained epidemiologist to the Ministry of Health, both during the Sarawak outbreak (1997) and the current Nipah epidemic, but never got a response.

SCAH: *Universiti Hospital scientists Dr Chua Kaw Bing and Professor Lam Sai Kit isolated the new virus on 5th March, and the Ministry of Health announced the confirmation of this on 19th March. But it was only on 28th March when the Ministry announced the precautions to be taken by pig farm workers, abattoir workers and lorry drivers. Do you think the Ministry should have moved faster in implementing the correct disease control measures?*

CCK: The crucial event is not the detection or identification of the new virus, but the analysis of earlier cases and fatalities and what they tell us about the likely modes of transmission. Identifying a new virus does not tell you how it can be spread. Unfortunately, that comes from human (sometimes fatal) experience, and from experimental findings. Preventive measures will have to be developed along with our accumulating knowledge of how the virus spreads (further guarding against the possibility of as yet undetected but plausible modes of spread), which animal hosts it can break out from, what are early warning signals we can be alert to to catch it at the earliest possible stage.

Once the virus is isolated however, it makes things much easier as you can develop antibody tests and other means of tracking the epidemic (and eventually allows for the

possibility of vaccine development). It is difficult to control an epidemic if you cannot reliably identify infected humans and animals, especially asymptomatic carriers who do not come to attention by falling sick.

SCAH: *Pig farmers have been blamed for creating a polluted environment that caused the outbreak of the Nipah epidemic. What is your opinion on that?*

CCK: The polluted farm environment was not the origin of the epidemic, insofar as we wish to distinguish the introduction of a novel pathogen from its explosive outbreak. Until we know more about how the virus spreads within and between animal populations, we can only guess that the unsanitary conditions in pig farms could have facilitated the rapid spread of the virus (possibly via animal urine, faeces, contaminated water etc). But sanitary conditions are clearly desirable for reasons of all-round health and other considerations.

SCAH: *The SCAH fact-finding team had learned from the villagers that there had been unusual occurrence of illness and death among cats, dogs, musang and other wildlife species early on during the Nipah outbreak. What can we deduce from these wildlife and animal observations?*

CCK: The origins of the epidemic are becoming more uncertain with the detection of earlier and earlier Nipah virus (human) cases. It is still important to establish the likely origin of this epidemic, but regardless of whether the virus came into the country in recent years from a foreign source, or whether it broke out of a long-established local animal reservoir, the practical consequence is that the virus is now more widely disseminated in our local ecology and animal populations -- pigs, dogs, cats, goats, horses, rats, bats and possibly other wildlife animals. This means that we should not be surprised by sporadic future outbreaks. Most importantly, we need early warning systems to catch these possible outbreaks so as to contain them at an early stage -- epidemic surveillance, early warning signs such as unusually frequent occurrence of atypical animal sickness and deaths among domestic animals and wildlife, and continuing efforts to detect and monitor presence of Nipah virus in a variety of potential animal reservoirs.

Random exposure to such animals (as opposed to intense exposure of larger numbers of humans such as occur in pig-farms) may result in isolated cases from time to time (if the virus manages to persist in a carrier state in a variety of animals). The danger is that the virus may once in a while break out from an isolated animal carrier into another susceptible animal population (such as pigs) which serve to amplify its lethal spread through the large scale contact of humans with this amplifying secondary host.

SCAH: *At the moment, the known mode of infection for the Nipah virus is close physical contact with infected live pigs or recently-slaughtered carcasses. Until we can rule out other possibilities, what kind of precautions should be taken by the authorities and the villagers in the meantime?*

CCK: As mentioned earlier, the authorities and community must be alert to the possibility of the virus breaking out from other infected domestic or wildlife animal carriers into livestock such as pigs which humans have extensive contact with.

The continuing follow-up of recovered Nipah patients is an important step in the right direction, to accumulate information on the natural history of the disease, efficacy of treatment, and latency and infectivity. There is a report of Nipah virus being detected in pig semen -- if it has not been done already, human semen and other body fluids of recovering patients need to be tested also for viable virus, to ensure that sound advice is offered to patients and family members, with compassion and sensitivity.

SCAH: *Many villagers have lost their relatives and jobs and as a result are suffering from severe social, psychological, and economic pressures. What kinds of treatment and supporting schemes do you think are needed by the community?*

CCK: The clinical treatment and follow-up scheme so far as I can tell appear quite reasonable (clinicians can answer this better). Rehabilitation of recovering patients is also important as we know of cases who are still severely weakened and variously dysfunctional even after a year past discharge.

The affected communities however require much more assistance to help the families put their lives back in order -- economically, socially, psychologically. The existing official compensation, meagre as it is, does not cater to the needs of pig-farm employed workers. This tragedy, among other things is an occupational health calamity and SOCSO, with its very substantial assets is in a position to do much more than what it has done so far. It is a statutory scheme for compensation of occupationally-derived health problems, and it should consider setting aside a special sizeable allocation for this national disaster.

SCAH: *In its handling of the Nipah outbreak, as well as the 1997 Sarawak outbreak of viral myocarditis, the credibility of the Ministry of Health has been severely dented. What needs to be done to restore public confidence in the Ministry's capabilities, including its handling of information dissemination?*

CCK: Let me say that in an emergency situation of outbreak investigation and control, the government in principle should have the discretion for timely and responsible release of information. Having said that, let me add that the government must sustain the confidence of the public that it is doing a competent, just and credible job in the broader interests of the ***entire*** community. Sacrifices are often necessary when confronting national emergencies. The government must exercise accountable, exemplary leadership in implementing well-considered and firm but necessary measures in a difficult situation, and in ensuring that these are equitably borne as a national, social compact. There is no other way to sustain confidence, broad-based support and unity in facing such challenges. Gag orders on public and professional discourse fail miserably in averting disquiet and panic -- this can only be achieved by accurate, timely information from a credible, competent and responsible source.

SCAH: *In this Nipah virus outbreak, what are your thoughts on the role and public conduct of biomedical researchers and the healthcare professions?*

CCK: The Malaysian Medical Association (through its Berita MMA editor-in-chief Dr David Quek), the Malaysian Medical Tribune, the Academy of Family Physicians of Malaysia have joined leading biomedical scientists like Jane Cardosa, Lam Sai Kit,

Chua Kaw Bing in an international scientific consensus (extending to CDC, CSIRO, WHO, Science Magazine, ProMED, etc) that the current epidemic is principally a Nipah virus outbreak.

It appears that only the Ministry of Health, other government agencies and the local media are persisting in this portrayal of a "Nipah JE epidemic" -- a meaningless use of terminology which can have hazardous consequences because of the confusion that it causes.

SCAH: *More generally, what are your suggestions for future efforts aimed at controlling emerging infectious diseases in our country?*

CCK: There are many things to be considered, let me just mention one of the more important for now:

We cannot depend on CDC and similar international, foreign agencies to carry out routine epidemic surveillance and monitoring of emergent and re-emergent infectious disease. This has to be done on-site with local personnel, institutions and resources. At some point in an outbreak investigation, we may need to call in foreign assistance (e.g. CDC, by the nature of their national and international work, have accumulated the most extensive database and collection of pathogens which are essential in identifying, classifying or confirming obscure or previously unencountered pathogens). We should have learnt from the Sarawak experience of 1997 that the Ministry of Health needed to set up our own epidemic surveillance system, a mini-CDC of sorts within the country, utilising the full range of human and institutional resources which are locally available.

I am concerned for instance that medical ecology, a key expertise in outbreak investigation and infectious disease control has been de-emphasised as a priority within our health research capabilities. This is shortsighted. Our efforts to cope with emergent and re-emergent infectious disease is crucially dependent on these and other skills.