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President's Column



Dr. Richard Suu-Ire

The first half of 2009 is over. Many CVA activities scheduled for this period took place across many countries of the Commonwealth. It again gives me great pleasure to bring you a progress report of our activities and discuss our future plan of actions.

There have been as usual, many activities undertaken by members of the Executive Committee of the CVA and I would like to pay tribute to the hard work of our able executives, councillors, and supporters/sympathizers. The commitment and enthusiasm they consistently show keeps all its members on their toes and helps the association to achieve its targets.

Dear colleagues, we live in a time of unprecedented world economic crises due to the global financial crunch. The association has to take pragmatic decisions and plan strategies to keep on course and to face the challenges. The economic downturn threatens not only human survival; it also borders on animal welfare. As a non-profit enterprise that relies on donor support, the CVA must thus endeavor to seek innovative approaches and methods in sourcing funding.

The CVA Officers meeting was hosted by the Malaysian Veterinary Association in Kuala Lumpur, Malaysia on the 17th and 18th of April 2009. Many issues were deliberated during the two day meeting and the able secretary has already circulated the minutes of the meeting to all members of the executive for action. The minutes reflect the proposed plans and strategies of the new executive for the years 2009/2010. I am aware that the realisation of CVA dreams is not easy and the way is long and difficult. I call again on all its members to take a serious look at the strategic suggestions from the meeting and initiate actions to move the association forward.

The officers also took the opportunity to participate at a research seminar organised by the Faculty of Veterinary Medicine, Universiti Putra Malaysia and had discussions with the Dean of the Faculty of Veterinary Science and other staff members on mutual collaboration.

The CVA's Continuing Professional Development (CPD) subcommittee has made encouraging progress in getting online learning of scientific information from developed members to be disseminated free to our developing and needy colleagues. The New Zealand Veterinary Association has offered at no cost their CPD SciQuest library. A significant development in the CVA continuing professional development program was the offer from the British Veterinary Association for all veterinarians of the Commonwealth to have free access to the UK based Wikivet website which will become a tool through which veterinarians in all member countries of the CVA can share information and collaborate on research, educational projects and resources I would urge CVA councillors to contact the CVA secretariat for accessing this information for the benefit of their members.. I take this opportunity to extend CVA's sincere appreciation for these two offers.

The veterinary fraternity the world over has just celebrated the World Veterinary Day. The CVA and its members actively participated in the celebration with member associations organising activities to mark the occasion. The theme of this year's celebration was "Veterinarians and Livestock farmers - A winning partners". Livestock farmers around the world play a crucial role in the fight against diseases. They are frontline soldiers in any disease outbreak situation and experience has shown the importance

of organisational and economic factors in enabling them to fulfill their vital role in the disease prevention chain. The CVA has been promoting the veterinary profession in the Commonwealth through projects and programmes. Our projects are designed to ensure capacity building of veterinarians and farmers especially women farmers and others within the Commonwealth. This year's theme of the World Veterinary day endorses the noble work of the CVA in recognising farmers as major stakeholders in the livestock industry.

Animal diseases crises that we continue to experience in the form of re-emerging epidemics have provided a clearer understanding of the benefit to the international community of applying the appropriate animal health policies and programme in order to safeguard public health. The current Influenza A H1N1 epidemic has already infected more than 12,000 people worldwide since the outbreak in Mexico in March raising concerns about the safety of pork and leading to trade restriction and culling of pigs in some regions. The 77th OIE General session advised that eating pork does not increase the risk of infection with H1N1 and counselled against culling of pigs. As stakeholders, it is our duty to carry the right message to policy implementors and politicians.

The CVA secretariat, East Central and Southern African Region and the Ugandan Veterinary Association are feverishly preparing for the forthcoming CVA ECS Regional Conference in Kampala, Uganda from 9th to 13th November 2009. The Executive Committee meeting is scheduled for the 7th and 8th November 2009 just preceding the ECS African Regional Meeting.

Please be aware of the call for papers. There will be so much to learn and take away from Uganda. There should also be much fun! This is the time to take this unique opportunity to visit Uganda, the Pearl of Africa.

July 2009

Richard Suu-Ire
President

Raising awareness with World Rabies Day

Rabies awareness and prevention groups will be joined by animal and human health organisations around the world to celebrate the third annual World Rabies Day on September 27, 2009.

The global campaign to raise awareness and understanding about the importance of preventing the 'oldest and deadliest disease known to mankind' aims to bring together hundreds of thousands of people around the world to spread the word that deaths due to rabies can easily be prevented.

The World Health Organisation (WHO) estimates that 55,000 deaths per year occur due to the zoonotic disease, up to half of which are in children. Rabies is considered fatal in both humans and animals once clinical signs develop.

The international awareness day is organised by the UK registered charity Alliance for Rabies Control (ARC) and supported by Centre for Disease Control and Prevention in the USA. Partners in the event include many drug and vaccine manufacturers, the Bill and Melinda Gates Foundation, the Veterinary Laboratory

Agencies, the Commonwealth Veterinary Association, the World Veterinary Association, the Food and Agricultural Organisation of the United Nations, the World Organisation for Animal Health (OIE), the WHO, the BVA and the Federation of Veterinarians of Europe.

Events on the day will include extensive media coverage and information distribution, as well as vaccination drives, free clinics and public lectures.

Another focus of World Rabies Day is fund raising for rabies prevention and control programmes.

The Executive Director of the ARC, Dr Deborah Briggs, said: 'Rabies is primarily a disease of children, who are particularly at risk from this terrible disease due to their close contact with dogs, the major global source'.

She said that a part of the problem is that children are often unaware of the danger presented by a dog bite and may not tell parents when a bite, lick or scratch from an infected animal has happened.

~ Alliance for Rabies Control

Epizootic Diseases And Their Threats In Our Global World/Village*

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Abstract

A few decades ago most of our food was sourced from within one's own country and where international movement of animals and animal products occurred it was very infrequent and took many days to occur. We now live in a world of substantial international movement of people, animals and animal products and carried along with these, animal pathogens. Furthermore, such movement is on a massive scale and occurs rapidly. Animal pathogens that were in Europe yesterday could readily be in India's and Malaysia's livestock to-morrow. This situation is exacerbated by policies of free trade in animals and animal products amongst many countries.

Consequently, the threat of the introduction of epizootic (exotic or emerging) diseases is greater than ever before. The veterinary profession must be closely involved with its national government and its agricultural industry in preventing or dealing with such an introduction. The reality is that we can certainly reduce the risk of introduction of an epizootic disease but we cannot eliminate its occurrence totally. A country's Contingency Plans to combat such diseases must be based upon three main elements and must be capable of delivering these elements:

- i. Aim to ensure that the disease does not gain access to the country;
- ii If it does gain access, the Plans must strive to find the first outbreak of the disease; and
- iii. Any such disease must be eradicated effectively and efficiently, with due consideration of animal welfare.

The need for the control of such diseases goes beyond animal health and welfare considerations. A country's ability

to demonstrate its freedom from a specific disease and have, in place, surveillance programmes and rapid alert systems for specific diseases are now basic demands imposed by most importing countries of animals and animal products.

General

Existing epizootic diseases such as Foot & Mouth Disease (FMD) and emerging diseases such as was Bovine Spongiform Encephalopathy (BSE) are not merely a continuing threat but modern circumstances make such diseases a greater threat than ever. Such exacerbating circumstances include much faster and markedly increased international transport, modified husbandry and feeding regimes and climate change. This threat applies to all countries of the world and demands appropriate action by all countries. It is one that we have addressed in Northern Ireland through our Contingency Plans and to be effective they require full participation by Government and the agricultural and veterinary professions.

Northern Ireland (NI) is an exceptionally small place compared to India and Malaysia but we have similar animals that are susceptible to the same diseases and we in the veterinary and agricultural professions have a responsibility to safeguard and protect the health and welfare of our animals. Universities, such as Alagappa and Putra, have a lead role in elucidating and advising on these safeguards.

The human population of NI is a mere 1.7 million people with a similar number of cattle. The sheep population is approximately 2 million but our pig population is relatively small at less than half of a million. The poultry population is, in relative terms, very large

* *Based upon papers presented at an International Colloquium at Alagappa University, Karaikudi, Tamil Nadu, India from 22 - 26 February, 2009 and at the Annual Seminar in Recent Advances in Animal Health & Production at the University of Putra, Malaysia on 17 April 2009.*

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and we slaughter in excess of 70 million birds each year. 75% of all animal products grown in NI are exported to the rest of the UK (50%) and to the wider world (25%). Thus you will appreciate that animal production is a major factor in the economy of our small province.

Let us now turn to the issue of exotic diseases and their control. There are three main reasons why a country would strive to control infectious diseases:

- i. They are killer diseases resulting in considerable deaths amongst livestock populations (e.g. Rinderpest);
- ii. They are serious zoonotic diseases that can cause severe disease amongst the human population (e.g. Rabies); and/or
- iii. They are highly contagious diseases, affecting large numbers of livestock and whilst the mortality rate may be low, many animals become sick. This results in serious welfare problems and produces significant economic loss to the livestock industry (e.g. Foot & Mouth Disease).

Why do such diseases affect large numbers of livestock? They do so by having the ability to spread readily from affected to susceptible animals. Such spread can occur by several different methods and include the following:

- i. Direct spread;
 - animal to animal (e.g. Rinderpest)
 - from a reservoir host (e.g. Cattle and Blue Tongue)
 - from wild animals (e.g. Badgers and Bovine TB)
- ii. Indirect spread;
 - Equipment, food, water, contaminated vaccines etc (e.g. Egg Drop Syndrome)
 - Insect vectors (e.g. African Horse Sickness)
- iii. Wind borne spread;
 - e.g. Foot & Mouth Disease.

World animal health organisations such as the OIE are only interested in those diseases that cause severe mortality or morbidity amongst livestock or that cause serious risks to human health and the list is well known to us all and includes the following:

- Rinderpest - now virtually eradicated from the world's animal population;
- Foot and Mouth Disease;
- Bovine Spongiform Encephalopathy - a recently "emerging" disease

- African Horse Sickness;
- Blue Tongue in sheep and goats;
- European Swine fever;
- African Swine fever;
- Rabies;
- West Nile Fever;
- Avian Influenza; and
- Newcastle Disease (Fowl Pest).

As already mentioned, the threat from epizootic diseases is greater than ever and this demands appropriate responses from governments and their veterinary and agricultural professions. Circumstances have changed dramatically in my short lifetime.

50 years ago animal products that I ate were sourced from within a 50K radius. Live animals were rarely exported or imported and consequently epizootic diseases occurred only rarely. Diseases that we then experienced, albeit rarely, included European Swine Fever and Newcastle Disease. A major strength in our fight against the importation of epizootic diseases was the then presence of a robust biosecurity system at every sea and airport. The possibility of the introduction of animal pathogens through the importation of animals or animal products was kept at a minimum. As we did not depend upon the importation of live animals and their products our Government set strict import conditions that were a major factor in maintaining our freedom from many exotic diseases.

50 years later, things have changed considerably in Northern Ireland and these changes are replicated throughout most countries of the world. Almost 40% of the animal products that we eat are imported. Live animals are imported daily into the UK. There is free movement of live animals and their products amongst the 27 countries of the European Union and thus biosecurity, at the ports level, has been reduced dramatically. Additionally, the sheer scale of imports makes any policing a very difficult job. With such massive movements, it is inevitable that epizootic disease pathogens will be imported on a regular basis - it is our role to ensure such pathogens do not make contact with our indigenous animal population. Consequently, in the absence of a robust biosecurity system at our ports, biosecurity at farm level ("Fortress Farming") has become an essential every day requisite for modern farming.

To summarise some of the changes over the past 50 years; the effectiveness of biosecurity at portal level is now much less and demands a much more effective

biosecurity system at the farm level. This is compounded by the massive increase in the importation of animals and animal products.

50 years ago, in disease terms, we lived in isolated countries. Today we live in a global village. International movement is massive. It has been estimated that half a million people are in the air at any one moment of time. This movement is not only massive but it is also rapid and involves people, animals and animal products - and along with them, animal pathogens. This rapid and massive international movement and associated trade will remain with us. Our Contingency Plans to prevent the introduction of exotic diseases must recognise this movement and ensure that they will provide solutions to the risks involved. We must also remember that, if we are to continue trading with other countries then our control measures must be acceptable to them - to our trading partners.

At a recent international Conference, Dr. Slenning, from the North Carolina State University College of Veterinary Medicine underlined the reality of the global village element when he stated that "*Economic globalization and climate change combine to allow people, plants, animals, products, markets, vectors, and contaminants to move very rapidly across the globe, creating a changing mix of biological systems with which we have never had to deal before*".

Most countries in the world are members of the OIE and it is this organisation that aims to provide guidelines on disease control, for all member countries to adopt.

"*There is a growing demand among producers and consumers for Veterinary Services to protect the health of animals and the safety of animal products for both domestic and international markets. To do this, Veterinary Services rely on the Agreement on the Application of Sanitary and Phytosanitary Measures (SPS) of the WTO and on the standards defined by the Codes*". It is these Codes that lay down the guidelines for the necessary Contingency Plans for exotic disease control.

"*In response to increasing requirements for safe international trade, Veterinary Services must show that their structure, organisation, resources, and scientific and technical capabilities are in line with the needs of their own countries, and those of countries with which they trade. The standards contained in the Code are the foundation on which importing countries base their confidence in the quality of the Veterinary Services of their trading partners*".

My experience indicates that there are four main guarantees required by countries to which we export animal products.

- An effective animal identification and registration system in place;
- An ability to demonstrate our freedom from specified epizootic diseases;
- An ability to respond rapidly to any suspicion of an epizootic disease; and
- An ability to demonstrate strict quarantine and border posts facilities for animals and plant and animal products.

The reality of modern day movements of animals and their products is that we must always strive to reduce the risk of introduction of animal pathogens into our country and farms but we cannot eliminate that risk. Consequently, Government and the agricultural and veterinary professions must be prepared. Contingency Plans must be documented and implemented and they must be updated on a regular basis.

Such Plans should be based upon three main elements:

1. Aim to stop the introduction of pathogens into the country;
2. If introduced, have a system in place that will find the epizootic disease on the first farm; and
3. If an outbreak occurs, ensure that the disease is eradicated in an effective and efficient manner.

1. *Aim to stop the introduction of pathogens into the country.*

The inspection systems at ports must allow all legally imported animals and their products to be identified and checked. They must also be capable of identifying all illegally imported meat. This is a major problem for us within the UK as hundreds of tonnes of meat are estimated to enter the UK illegally on an annual basis. Such meat includes that from exotic and wild animals and these products are a very effective vehicle for epizootic and emerging animal pathogens.

2. *If introduced, have a system in place that will find the epizootic disease on the first farm.*

If found on the first farm eradication is relatively easy. We are dealing with a crisis.

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If found on the 51st farm eradication is very difficult. We are dealing with a catastrophe.

Contingency Plans must have a system in place that will ensure any suspicion of an epizootic disease is reported and acted upon promptly. The Plans must strive to identify the first outbreak.

3. *If an outbreak occurs, ensure that the disease is eradicated in an effective and efficient manner.*

Where a major outbreak occurs, as in England in 2001-02 there are significant problems in eradicating a disease such as Foot and Mouth Disease in an effective and efficient manner. The demand for prompt action against a disease that spreads so quickly makes the situation very complex and difficult. It was these elements of eradication that gained so much publicity (and so much political debate) in the UK and it was these elements that gained the most attention in the post-outbreak analyses. Whilst they are important they should not be addressed at the exclusion of the other important two elements in a Contingency Plan.

In order to protect our animal population it is essential that Government works in meaningful partnership with the major stakeholders - the veterinary and agricultural professions.

Specific Diseases

It is useful to consider my recent experiences with some of these epizootic diseases.

Foot and Mouth Disease

Foot and Mouth Disease is highly contagious and has a tremendous ability for wind borne spread. It affects all cloven hoofed animals and rarely man. Numerous strains exist and there is no effective multi-valent vaccine on the market. All infected animals excrete the virus but some more so than others. Pigs excrete massive amounts of virus (1 pig excretes the equivalent of that excreted by 3000 cattle) and a large pig farm can create a large cloud of virus for windborne spread. Cattle are the most susceptible and it has been estimated that one virus particle is sufficient to infect a bovine animal. In my experience, humane slaughter of contiguous herds/flocks (with or without vaccination) remains a vital tool in the control and eradication of FMD virus.

Following the 2001 FMD outbreak in the UK, several enquiries took place, all aimed at identifying the "lessons learned".

Those learned are those already mentioned:

- Have a system that will keep the virus out of the country and off the farm. Tighten the controls at sea and airports and practise Fortress Farming;
- Have a system that identifies the first infected farm ("crisis" not "catastrophe"); and
- Have a programme that will ensure rapid, effective and efficient eradication of disease and virus, with due attention to animal welfare.

A severe outbreak also occurred in the UK in the 1960s and a post-outbreak analysis, the Northumberland Report was published, detailing all the lessons learned. In some people's view this Report and its findings were largely ignored during the 2001 outbreak. Someone once stated that "The one thing that we learn from history is that we do not learn from it"! We must always be conscious of this danger; we can and must learn from the past.

It is useful to compare the FMD situation in 2001 in England and in Northern Ireland. Several hundred outbreaks occurred in England whilst only 4 occurred in Northern Ireland. The difference is not a reflection on the relative efficiency of the two Veterinary Services; it is a consequence of how quickly the presence of the virus in each of the countries was recognised. In the case of England, well in excess of 50 outbreaks had taken place before FMD was diagnosed. In Northern Ireland, being alerted of the situation in England, we were on high alert and the disease was recognised on the farm of introduction ("An effective animal identification and registration system in place"). Controlling and eradicating the disease in England was a gigantic and catastrophic task whilst that in Northern Ireland was merely a crisis.

This 2001 experience emphasises the importance of early recognition of the introduction of an exotic disease into a country.

Depending on our vigilance, we will be dealing with either a crisis or a catastrophe!

Avian Influenza

Avian influenza is a virus that probably affects all avian species. It also has the ability to affect some mammals including pigs, cats and man. Both harmless (avirulent) and harmful (virulent) strains exist and the

virus has a considerable ability to mutate from the avirulent to the virulent state. Ducks are often the carriers of avirulent strains. Recent years have seen a dramatic change in the epidemiology of avian influenza.

The traditional scenario was one where migrating ducks introduced an avirulent virus to domesticated poultry. Subsequently, the virus mutated to virulence (a chance event) in the domesticated poultry and caused a severe disease amongst them - especially in turkeys. Action resulted in the slaughter and removal of all infected birds. This action also resulted in the removal and destruction of all virulent virus. No virulent virus remained in the environment - neither in domesticated nor wild birds.

The emerging disease over the past 10 years is very different. A virulent virus appeared in domesticated ducks in the Far East and many birds died. Furthermore, it soon became apparent that the wild bird populations were also infected with the virulent virus and that they were maintaining the virus in the environment. The disease spread far beyond the Far East, largely through the movement of migrating birds. Research has established that some species of ducks (eg Mallards) become infected but do not develop clinical disease. Clinically healthy, but infected ducks excrete large quantities of virus for 15-20 days in their droppings.

In Europe, we recognised that migrating ducks could now transport virulent virus to our domesticated poultry and the chance event of mutation was not required. Subsequently, several outbreaks have occurred in the UK. Slaughter and destruction of infected, domesticated birds has not eradicated virulent virus from the environment as wild birds may still be infected and infective.

However, one major advantage in relation to avian influenza is that the virus is not windborne. Birds become infected through direct or indirect contact with infected droppings. Where birds are housed in wild bird-proofed houses they will remain free of avian influenza unless it is carried into them through the poultry house door. In such houses effective Fortress Farming will ensure that the intensively reared birds remain free from avian influenza virus. Nevertheless, more and more of our birds are being reared under extensive/semi-extensive systems and such birds are constantly at risk - especially during the migration period of waterfowl.

Whilst the virulent virus continues to be maintained and circulated in the wild bird population there is a continuing risk of the disease appearing in our domesticated poultry flocks.

Bovine Spongiform Encephalopathy

Bovine Spongiform Encephalopathy (BSE) is an example of a recently "emerging" disease. It is caused by a prion that is closely linked to scrapie, CJD and kuru. In the early stages of its appearance in England, it was established that cattle became infected through eating contaminated feed. Whilst many animal and zoonotic scenarios were envisaged with BSE it is a relief to find that most of these did not materialise and it is to the credit of all involved that this disease was successfully controlled and is now approaching eradication. BSE is unique in that an eradication programme was implemented in advance of our having a clear understanding of the pathogenesis and epidemiology of the disease. As more knowledge became available so the programme was amended.

This is the lesson that we must all retain about emerging diseases. Where it becomes necessary, we must have the courage to tackle a problem in advance of knowing all about the nature of the problem.

Blue Tongue

Blue Tongue is a non-contagious, viral disease of sheep transmitted by biting midges. Traditionally, in European terms, it was restricted to the Mediterranean and more southerly regions. Many regard its northward expansion as an example of the effects of climate change. The range of this disease is dictated by the range of vector hosts. In the past 2-3 years it has spread to Europe and has become established in several EU countries including the Netherlands, Belgium, Germany, France and England. It is now evident that both the vector and virus have survived in these more northerly countries and vaccination programmes have now been introduced in an attempt to control the disease.

African Horse Sickness

African Horse Sickness (AHS) is a disease of horses caused by a virus of the same family as Blue Tongue and is a disease known to India. Transmission is also by biting midges. Often quoted in veterinary books is the 1950s outbreak in India that is alleged to have resulted in the death of 800,000 horses. Whilst not currently in the EU there are concerns that if Blue Tongue can become established then it is possible that AHS will gain access to the European Union countries and become established.

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West Nile Fever

West Nile Fever is a virus disease, mainly of avian species but can also affect other species such as man and horses. The most likely means of introduction to a country is by infected birds. Spread within a country is by mosquitoes.

Until a decade ago West Nile Fever was largely a disease of Africa, Asia and the Middle East. The disease was recognised in the USA in 1999 and has now spread to almost all 50 States. Whilst not yet diagnosed in the UK it has recently been detected in France. We continue on full alert.

Conclusion

The ever increasing threat of the introduction of an exotic disease demands that we have Contingency Plans in place - Plans that specify Government's policy on exotic disease control and Plans that translate the policy into an Implementation Strategy at both central and local levels. Surveillance programmes, rapid alert systems and effective and rapid response programmes to the introduction of epizootic disease are essential elements to the Plans. Supporting such Plans should be a Fortress Farming strategy - at port and farm levels. However, we must also recognise that effective prevention of introduction at ports cannot be fully achieved and Fortress Farming at individual farm level has become the most important element in the prevention of the introduction of an exotic disease to our farm livestock.

Such on-farm biosecurity may include the isolation/quarantine of purchased animals, or adherence to a closed herd policy. An all-in-all-out policy has been the most effective tool in disease control in our intensive animal industries - initially practised in the poultry industry and belatedly adapted by the pig industry. In the face of the increased threat from epizootic diseases only essential visitors should be admitted to a farm and, where practical, they should have no contact with the farm livestock. We must also aim to reduce contact with wild animals, including birds and employ effective vaccination programmes.

In summary, irrespective of the size of our respective countries we all live in a global village in which we are no longer isolated one from the other. We share our animals and our animal products and along with them we share their pathogens. Distance no longer offers any protection against epizootic diseases and we must all proceed on the basis that epizootic disease pathogens will arrive amongst our animals.

It is our responsibility to maximise procedures that will keep pathogens out of the country and away from our animals and to minimise any impact of such pathogens gaining access to our animals. We must ensure that we have Contingency Plans that clearly state our policy on epizootic diseases and the associated various implementation programmes; we must ensure that such Contingency Plans are encompassing, appropriate, relevant and practical and that they are owned by Government, the entire agricultural industry and the veterinary profession.

Rabies Project Kibera, Nairobi, Kenya

"Rabies is a killer, together we can fight it and win". Those are the words from the slogan echoed in local dialect in Kibera every weekend during the ongoing public awareness campaign against rabies. This grass root campaign is the first of its kind in the field of veterinary public health in Kenya and has been well received by the community. Many thanks to the Alliance for Rabies Control whose financial support has enabled the project to take-off.

Kibera, just like many other parts of Africa consists of a large number of dogs and lacks proper public health structures. This innovative campaign, spearheaded by Kibera youths is a positive approach aimed at providing the public with accurate information concerning rabies to reduce the risk of infection. This information is expected to trickle down to those who have not heard of rabies.

The activities conducted include education campaigns in schools, door-to-door home visits, public clinics and open air market where there is an interactive question and answer session. Other activities include dog vaccination, public demonstrations and distribution of posters. The education aspect of the project emphasizes responsible dog ownership, the threat posed by rabies and appropriate management and treatment of dog bites. Through this initiative and many others being conducted in other parts of the world, I believe the realization of a rabies free world is possible.

Project information and additional photos available on the ARC website: <http://www.rabiescontrol.net/EN/Programs/Projects-Overview/projects-kenya.html>

~ Rapid Bytes, ARC Newsletter, Vol.12

Animal Research In Hong Kong: The Evolution Of Its Welfare Laws And Future Opportunities For Laboratory Animal Science

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Abstract

Hong Kong (HK) first enacted legislation for the control of animal experiments in 1963, which largely focused on the need to minimise pain in animals undergoing experimentation. However, according to international norms for animal welfare, HK is currently lagging behind the majority of Western jurisdictions in animal welfare. For example, the definition of animal experimentation does not fully encompass all types of scientific procedures conducted on animals. There have, however, been incremental increases in animal welfare in HK with, for example, greater scrutiny of animal experimentation licences by the government, as well as the production of a voluntary Code of Practice on the Care and Use of Animals for Experimental Purposes. The relative merits of this incremental approach with a comparison to a similar approach adopted by New Zealand, which now enshrines in the legislation the concept of "duty of care", are discussed, as well as the role animal welfare groups plus governmental and veterinary bodies have to play. Hong Kong's potential role as well as its strengths and weaknesses, in the burgeoning biotech and pharmaceutical industries in HK and China are also analysed. This analysis demonstrates that HK has sufficient strengths in talent and legal protection for the industry to be attracted to and expanded in HK, but its current weakness in animal experimentation ordinances and protection laws, as well as the unwillingness of government to fully invest in adequate lab animal science infrastructure may restrict its development. In conclusion, it appears that although HK has adopted an incremental approach to improving its animal welfare laws in general, it still has a long way to go in improving animal experimentation legislation to meet international standards. Further investment by the government is also urgently needed into facilities that would create the critical mass needed to attract major biotech companies to HK. Only then would laboratory animal science in HK be able to compare favourably with other advanced regional jurisdictions, such as New Zealand.

Introduction

Animal research in the Hong Kong Special Administrative Region (HK) is largely conducted in

academic institutions, with small biotech or pharmaceutical industries either contracting out to academic institutions, or to Contract Research Organisations (CRO) in China. With the increasing popularity of the moving of animal research to Asia by big pharmaceutical companies, which is to do with cost as well as pressure from animal rights organisations, there is now an opportunity for HK to develop its expertise in laboratory animal science. There are however a number of barriers that may prevent this from happening, namely its outdated animal experimentation laws, and also its lack of suitable animal facilities that meet international standards for Good Laboratory Practice (GLP). This paper will discuss HK's current animal experimentation legislation and will discuss the opportunities for the development of the animal science industry in HK, which might have application in other developing countries.

Current Problems with Hong Kong Research Law

Animal research in HK is controlled by an individual researcher-licensing system as defined in Chapter 340, Animals (Control of Experiments) Ordinance, commonly called "Cap 340"¹. Current legislation controlling animal experimentation in HK is outdated and cannot cope with the changes in both animal research protocols and veterinary bioethics that have taken place over the 45 years since the legislation was first enacted. Except for minor revisions, it has not been updated since it was first enacted in 1963. It could be argued that the law has not kept up with changes in the international trends on animal welfare and the use of animals in research.

Some of the problems with the current HK legislation on the control of animals used in experiments reside in the definition of 'experiment'. The HK definition of 'experiment' is: "*any experiment performed on an animal and calculated to give pain*". Yet, for example, the definition used by the Australian National Health and Medical Research Council (NHMRC)² is: "*all those purposes which aim to acquire, develop or demonstrate knowledge or techniques in any area of science including teaching, field trials, environmental studies, research, diagnosis product testing,*

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and the production of biological products". This latter definition is more all-encompassing and can include any procedure, not just those that cause pain. The current HK legislation is geared to a "vivisection" mentality about animal research. The legislation states "*throughout the whole of the experiment the animal is under the influence of some anaesthetic of sufficient power to prevent the animal feeling pain; and if the pain is likely to continue after the effect of the anaesthetic has ceased, or if any serious injury has been inflicted on the animal, the animal is killed before it recovers from the influence of the anaesthetic that has been administered*". There is provision for an exemption to this requirement but again it is worded on the assumption that all experiments cause pain.

The problem for laboratory animals in HK is that as the country pushes to advance its biotech industry, and in particular the development of a scientific basis for Traditional Chinese Medicine (TCM), the welfare of animals is at risk of being overlooked or, at worst, sacrificed. Without a doubt the current situation is an improvement on what was happening ten years ago³. The Department of Health (DoH) is now questioning researchers about the details of the research they have described in their licence applications, and the DoH is more rigorous in its pursuit of animal experiment returns.

Incremental Improvement in Hong Kong's Research Law

Using Mellor and Bayvel's concept of incremental improvement⁴ the Animal Welfare Advisory Group (AWAG) set about to rectify some of the deficiencies of the current situation by writing and publishing a Code of Practice on the Care and Use of Animals for Experimental Purposes⁵. The development of such a Code was an incremental step towards a new gold standard⁶, which not only reflects international norms in animal research but also provides the basis for good laboratory practices in the use of animals. The adoption of a voluntary Code of Practice in HK, serves as a model for HK institutions, which do not have strong standards of welfare for animals in research and yet want international recognition for their biomedical research. This approach was successfully applied in New Zealand's management of animal welfare. It is therefore appropriate to describe the New Zealand experience in order to identify a potential role model for HK⁷.

The 1970's in New Zealand saw the emergence of a greater awareness of animal welfare based on the link between health, production and welfare, and activity in these areas increased so the identification of problems and

the consequential improvement in science-based animal welfare resulting in incremental improvements in animal welfare that saw the country move towards a possibly unattainably but none the less visionary gold standard which to date has resulted in the current Animal Welfare Act of 1999 which is now enshrined in the legislation the concept of "duty of care". The process of change required leadership of the opinion makers, participation of all stakeholders irrespective of the diversity of their background, the inclusion of such documents as the original voluntary codes of practice as drawn up by the various stakeholders and finally the inclusion of the revolutionary concept of duty of care into the legislative process⁷.

HK is not as advanced in this process as New Zealand but having created its first voluntary codes regarding transport of farm animals⁸, dogs in the construction industry⁹ and the use of animals in experiments⁵ and with the increasingly assertive role of opinion-makers in such organizations as the Society for the Prevention of Cruelty to Animals (SPCA), Hong Kong Veterinary Association (HKVA) and international researchers, the HK Government via the University Grants Committee (UGC) has funded an 18 month academic study into a "Review of Animal Welfare Legislation in Hong Kong (project number 7010-PPR-5)"¹⁰ with the aim of providing the HK Government details of international best jurisprudence. This study could be described as the next incremental step on the road to a gold standard.

The mention of opinion-makers such as the SPCA, HKVA and international researchers implies that the path to improvement runs the risk of being hijacked by animal rightists, vested interest groups and foreign interest groups. This is not the case! In HK the SPCA gets a subvention from the Government to help maintain the SPCA's work and to assist the overall animal management strategy of the HK Government. This strategy ascribes a leading role for the Agriculture Fisheries and Conservation Department (AFCD) and a major supporting role for the SPCA along with professional input from the HKVA. Therefore, although the interests of the Government and the SPCA do diverge, the reality is that the SPCA tends to represent the opinion of mainstream welfarists and is therefore unlikely to hijack government efforts. The international researchers represent a small group of stakeholders who, none the less, have a major influence on the welfare of animals used in research in HK. According to Mellor the influence of external stakeholders is acceptable and inevitable because of the increasing trend of food production, research and leisure pursuits to become more globalized⁴.

Western Biotechnical and Pharmaceutical Industry Interest in Asia

The western Biotech and Pharma Industry (BPI) is increasingly moving into Asia and the following reasons have been proposed for the reason for this move¹¹:

- o interest in TCM from western BPI
- o the high cost of performing research / drug development in developed economies (i.e. western BPI is outsourcing research)
- o animal welfare concerns/animal rights lobbyists are making animal research in the western jurisdictions difficult
- o legislative restrictions on research are adding to the difficult research environment for western BPI.

Deficiencies in Hong Kong's Animal Research Capabilities

At the Laboratory Animal Services Centre (LASEC) in the Chinese University of Hong Kong there are approximately six requests a year to perform safety tests on "new" drugs - requests are always for the test to be performed and the data to be collected in such a way that it will satisfy the US Food & Drug Administration (FDA) - Good Laboratory Practices (GLP) standards¹². LASEC is certified to the International Organization for Standardization's ISO standard 9001 - 2000¹³, but this means that its activities are focused on quality management rather than animal care, although the two are not mutually exclusive as there is an overlap between quality management, good science and good welfare. However, as an academic institution with an eclectic mix of academics, and with only a small number of these academics having an interest in complying with GLP standards or seeking Association for the Assessment and Accreditation of Laboratory Animal Care (International) (AAALAC) accreditation¹⁴, it would seem difficult for LASEC to achieve either USFDA GLP standards or AAALAC accreditation. At the University of Hong Kong (HKU) focus has been on animal care standards and AAALAC accreditation has therefore been achieved¹⁵, but again because HKU is an academic institution and its facilities designed for research, there is little likelihood it could achieve or would try to achieve USFDA GLP standards for its animal facilities. The other universities of HK that have biomedical research interests have no accreditation from any international accrediting body and should be considered to be basic conventional facilities.

There is no real pressure from legislation on HK's academic and research institutions and there is little desire to seek recognition for animal care from independent international accrediting bodies. The standard of animal facilities in HK, in terms of architectural design, physical layout, mechanical services technology, quality of fixtures and fittings, the availability, use and servicing of modern laboratory animal-specific equipment and the access to professional and competent advice in the field of laboratory animal associated technology (architects, engineers, representatives of suppliers, specialist support services and technical and professional associations), ranges from below average to possibly just average when compared to international standards and industry best practice¹¹. Certainly the AAALAC-accredited facilities of HKU meet the standards required by this body for standards of animal care and physical facilities, and are by far the best in HK, but HKU suffers from being in HK where access to the other individuals and services in the list above is difficult or the choice is limited.

To understand HK's biomed and biotech efforts, it is worthwhile to perform a SWOT analysis of HK's capabilities (Fig. 1). The SWOT analysis demonstrates that HK has sufficient strengths in educational systems in place to produce the talent needed to supply the professional workforce necessary, as well as the legal protection for patents, and in addition contracts, for the biotech industry to be attracted to HK. However weakness in animal experimentation ordinances and protection laws, as well as the unwillingness of government to fully invest in adequate lab animal science infrastructure so as to create the critical mass needed for the industry to develop, may jeopardise the full potential of HK. There is also a major threat from China as there¹¹ is an ever increasing number of private Contract Research Organisations (CRO) starting up in China. Although private, the CROs are availing themselves of Peoples Republic of China (PRC) Government assistance in some form or other. In fact many CROs are in some form of strategic alliance/partnership with BPI and/or PRC government agencies. Most CROs are keen to get western accreditation and although most CROs are State (China) Food and Drug Administration (SFDA) GLP accredited they would also like to be US FDA GLP compliant and AAALAC accredited too. However at the moment the US FDA does not recognize SFDA's GLP status but an increasing number are achieving AAALAC accreditation¹⁵ None the less this may change and it may be only a matter of time before the first PRC CRO achieves USFDA status providing PRC's biotech capabilities a real boost in their involvement in drug development. However, as a gateway to China, HK could

GENERAL ARTICLES**Fig. 1. SWOT Analysis of HK's Biotech Industry****STRENGTHS**

- Educated and professional work force (equal to anything in the world)
- Excellent intellectual property laws
- Excellent contract laws
- Good legislation covering many of the requirements for acceptable clinical research

WEAKNESSES

- The laissez-faire style of governance (cf. Singapore or mainland China or even Taiwan)
- The animal welfare and animal research laws are hopelessly outdated (cf. Singapore and to some extent Taiwan and Japan)
- The yet-to-mature biotech/pharma industries, (which includes their willingness to invest in research)
- Poor to fair legislation covering the requirements for acceptable animal research.

OPPORTUNITIES

- The opportunities are best examined by looking at the current situation across the border, in the PRC

THREATS

- Hong Kong gets left behind by the regional powerhouses of India,
- Japan, Korea Taiwan and Singapore.
- Hong Kong does not use its strengths to form strategic and synergistic relations with China

also exploit its close economic and political ties to China to attract companies to establish research facilities in HK where there are sufficient professional staff and legal protection, but have a manufacturing base in China.

Conclusion

In conclusion, it appears that although HK has adopted an incremental approach to improving its animal experimentation laws, it still has a long way to go in improving legislation to meet international standards. The incremental approach needs further advancing so that definitions such as "duty of care" as well as a broader description of animal experimentation can be included in legislation. HK clearly has the human resources and legal protection for businesses to be attracted to HK but further investment by the government is urgently needed into facilities that would create the critical mass needed to attract major biotech companies to HK. Only when all these criteria are met will HK be able to compete effectively with the likes of regional biotech powerhouses of China, India and Singapore.

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Caterpillars causing Pregnancy loss in Mares

Research has found a link between hairy caterpillars and a syndrome associated with pregnancy loss in mares in Australia.

Research funded by RIRDC and the Hunter Valley Equine Research Centre has discovered a link between the processionary caterpillar (a type of hairy caterpillar with the scientific name *Ochragaster lunifer*) and pregnancy loss in mares, similar to a syndrome recently identified in the United States.

History in the US

In 2001-02, a syndrome of pregnancy loss in mares was identified in the United States' mid-west (Ohio and central Kentucky) after reports of unusually high abortion rates in mares.

Known causes of abortion in horses were ruled out through field and laboratory testing; and monitoring of pasture, soil and climatic factors did not identify any association between these and the pregnancy losses.

The syndrome was named Mare Reproductive Loss Syndrome (MRLS), and symptoms included abortion, foetal death, ophthalmitis and pericarditis.

Retrospective epidemiological studies identified several factors that warranted further study - including the eastern tent caterpillar (ETC), which was eventually identified as the cause.

Trials were carried out and it was demonstrated that ingestion of ETC exoskeleton in pasture, feed or by direct administration, would result in abortion in mares.

History in Australia

In Australia, a number of abortions were reported by Thoroughbred farms during the winter of 2004. many exhibited unusual and consistent symptoms with abortions detected from mid pregnancy to term. The syndrome was named Equine Amnionitis and Foetal Loss (EAFL).

EAFL was the biggest single cause of abortions in the Hunter region in 2004, with 28 out of 76 investigated abortions (37%) identified as being caused by EAFL. Most affected farms had one and occasionally two cases, but a small number of farms were more heavily affected.

~ RIRDC Equine Research News, September, 2008

Evaluation Of Therapeutic Utility Of Benazepril And A Nutraceutical (Vitamin E) In The Management Of Congestive Heart Failure In Dogs

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Introduction

Heart failure is a state wherein the cardiac output is inadequate to meet the perfusion to support normal tissue metabolism and the exercise capacity is limited (Ettinger, 2004). Heart failure is a progressive disease because the compensatory mechanisms activated to maintain blood pressure and cardiac output during heart failure will ultimately lead to myocardial cell death, further compromising myocardial function. Thus, once a certain point of myocardial dysfunction is reached, CHF becomes a progressive, irreversible disease (de Moraes, 2002). Hence, goals of therapy are to enhance quality of life, reduce morbidity and where possible, prolong survival. Over the past twenty years, there has been a dramatic change in approach to the treatment of heart failure. Progress has occurred from an era where the only drugs available were digoxin and diuretics, to an era where multiple new drugs with different strategies are becoming available (Fuentes, 2002). These include angiotensin converting enzyme inhibitors, newer antiarrhythmic agents, positive inotropes and nutraceuticals. The present work was undertaken to evaluate different regimens for the treatment of congestive heart failure in dogs.

Material and Methods

Dogs presented to the Veterinary College Hospital, Bangalore with one or more signs of cardiac involvement such as weakness, cough, dyspnoea, ascites and peripheral edema were considered for the present study. Out of these, 24 cases diagnosed with congestive heart failure based on hematology, biochemistry, electrocardiography and radiology were selected and subjected to different therapeutic regimens. The 24 cases were randomly allotted to one of the four treatment groups, Groups I, II, III and IV, each group having 6 test subjects.

Group I animals were treated with digoxin (Lanoxin 0.25 mg tabs, Burroughs Wellcome) at the rate of 0.02 mg/kg b.i.d for small breeds, 0.01 mg/kg b.i.d for medium to large breeds and 0.005 mg/kg b.i.d for giant breeds,

p.o; enalapril (Envas 2.5, 5, 10, 20 mg tabs, Cadila Pharma) at the rate of 0.5 mg/kg b.i.d, p.o, and frusemide (Lasix 40 mg tabs, Hoechst Marion Roussel) at the rate of 2-4 mg/kg b.i.d, p.o.

Group II animals were treated with digoxin, enalapril and frusemide at the same dosage as Group I animals and a nutraceutical, vitamin E (Evion 200 and 400 mg caps, E-Merck) at the rate of 200 mg per day for dogs weighing up to 20 kg and 400 mg per day for dogs weighing more than 20 kg, p.o.

Group III animals were treated with digoxin (Lanoxin 0.25 mg tabs, Burroughs Wellcome) at the rate of 0.02 mg/kg b.i.d for small breeds, 0.01 mg/kg b.i.d for medium to large breeds, and 0.005 mg/kg b.i.d for giant breeds, p.o, benazepril (Benace 5, 10, 20 mg tabs, Novartis) at the rate of 0.5 mg/kg s.i.d, p.o, and frusemide (Lasix 40 mg tabs, Hoechst Marion Roussel) at the rate of 2-4 mg/kg b.i.d, p.o.

Group IV animals were treated with digoxin, benazepril, frusemide at the same dosage as for Group III animals and the nutraceutical vitamin E (Evion 200 and 400 mg caps, E-Merck) at the rate of 200 mg per day for dogs weighing up to 20 kg and 400 mg per day for dogs weighing more than 20 kg, p.o.

The cases were monitored for a period of one month and the different treatment regimens were evaluated at weekly intervals based on clinical signs, hematology, biochemical findings, and electrocardiography.

Results and Discussion

There were no adverse reactions to the drugs used in the trial. All the 6 animals had recovered by the end of the study period in Groups I, II and IV. In Group III, 5 animals had recovered by the end of the study period and one animal developed azotemia after the third week, which failed to resolve despite reduction in the doses of digoxin and benazepril and withdrawal of frusemide.

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Table 1. Mean number of days taken for the disappearance of clinical signs

Clinical sign	Mean no. of days			
	Group I	Group II	Group III	Group IV
Anorexia	12.00	9.50	14.50	9.23
Dyspnoea	5.75	3.40	6.10	4.00
Exercise intolerance	22.53	17.60	21.00	15.20
Weight loss	27.00	18.50	20.80	13.30
Cough	10.35	6.40	12.10	8.66
Pallor of mucosae	13.13	9.46	15.80	11.71
Orthopnoea	15.00	11.25	11.90	10.60
Ascites	11.00	5.00	9.30	6.50
Total	116.76	81.11	111.50	79.20

The mean number of days taken for the clinical signs to disappear from animals belonging to the different groups is depicted in Table 1. Anorexia resolved in 12, 9.5, 14.5 and 9.23 days; dyspnoea in 5.75, 3.4, 6.1 and 4 days; exercise intolerance in 22.53, 17.6, 21 and 15.2 days; weight loss in 27, 18.5, 20.8 and 13.3 days; cough in 10.35, 6.4, 12.1 and 8.66 days; pallor of the mucosae in 13.13, 9.46, 15.8 and 11.71 days; orthopnoea in 15, 11.25, 11.9 and 10.6 days, and ascites in 11, 5, 9.3 and 6.5 days in Groups I, II, III and IV respectively.

The 24 cases were monitored regularly once a week by clinical examination, hematology, biochemistry and ECGs. Monitoring was done not only to evaluate the efficacy and safety of different regimens of treatment but also to allow early detection of complications (Ware and Keene, 1999). Monitoring was done in accordance to Roudebush and Freeman (1999) and Kittleson (2000) who recommended weekly evaluation for the first two weeks or after a change in medication and that monitoring should include measurements of body weight and condition, serum electrolytes and renal function.

While the safety of the different regimens of treatment was monitored by laboratory tests, the efficacy was monitored by the mean days it took for the clinical signs to disappear. Group III showed resolution of clinical signs earlier to Group I. Thus Group III regimen can be considered better than Group I regimen. Also Group III

regimen is superior to Group I regimen as Group III required just once a day administration of the ACE inhibitor benazepril as opposed to twice a day administration of enalapril in Group I. Owner's compliance with respect to drug administration and the animal's acceptance to be medicated orally are important considerations in the successful management of heart failure, which requires chronic drug therapy (Roudebush and Freeman, 1999). Thus, benazepril ensures that adequate drug levels are maintained in the patient's blood despite of once a day feeding. Also benazepril is the only ACE inhibitor used in dogs which is mainly excreted by the liver. The other ACE inhibitors like enalapril are excreted mainly through the kidney (Fox and Sisson, 1994). Hence, benazepril may be safer in treatment of CHF where azotemia and renal

failure as consequences of combination therapy are important considerations (Moser, 1989).

Group II animals had resolution of clinical signs in fewer days than Group I animals. Also Group IV showed quicker resolution of clinical signs than Group III animals. This can be attributed to the addition of the nutraceutical vitamin E. This is in agreement with the finding of Dove (2001) who reported that although its exact mechanism of cardioprotection was yet to be determined, vitamin E supplementation is beneficial in animals with compromised cardiovascular function.

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The Changing Faces Of Zoo Veterinary Medicine In Malaysia: The Journey and the Destination

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Summary

Presently there are 4 zoos and 3 bird parks in Malaysia. The first established zoo is the Johor Zoo followed by Zoo Negara Malaysia, Taiping Zoo and Malacca Zoo. The early veterinarians who worked with zoo animals in Malaysia were Malaysians graduates from India followed by those from the USA. The first established bird park is the Penang Bird Park followed by Kuala Lumpur Bird Park and the Langkawi Bird Park. The other parks opened in the last one decade include the Butterfly Park, Crocodile Farm, Deer Farms and Aquarias namely Underwater World, Langkawi and KLCC Aquarias. This paper highlights the employment of veterinarians in zoos and parks prior to and after 1980 and also discusses the development in the various fields of zoo and bird park management.

This paper also gives the history and development of veterinary medicine in Malaysia for the past 45 years with special emphasis on captive breeding and reintroduction programs.

The potential role of zoo director, curators and veterinarians in zoos and bird parks by the year 2020 in the field of wildlife conservation and their responsibilities will also be discussed.

Introduction

The aim of zoos and bird parks is conservation, breeding, research, education, recreation and

entertainment. The role of directors, curators and veterinarians in zoos and bird parks is to provide veterinary care, administration, research, conservation, breeding of animals in captivity and education of the general public. The present zoos and parks in Malaysia are shown in Table 1, while Table 2 shows proposed zoos and parks in the year 2020. Presently there are about 1,850 registered veterinarians and the number is anticipated to increase to 2,030 by the year 2020 with an annual increase of 60 veterinarians. Table 4 shows the employment of veterinarians in Malaysia prior to 1980. In 1980 there was only one zoo and wildlife veterinarian. Today there are about 22 veterinarians involved in zoos, bird parks and aquaria. Thus, it is anticipated by 2020, an increase in the number of veterinarians in wildlife or zoo animals. The opening of future zoos and parks is anticipated to increase the employment of veterinarians to above 50 by the year 2020. Table 6 gives the list of wildlife collections in resorts and Table 7 shows zoos and parks with veterinary facilities. Table 8 gives a list of zoos and parks closed down in Malaysia.

Population of Employment of Veterinarians (2007)

Total Vets	22
Curators (Vet Degree)	1
Asst. Vet Officer (Diploma holders)	6

Table 8 shows the list of zoos and parks closed in Malaysia.

Pioneer Veterinarians involved in Zoo Medicine

Malaya obtained independence from the British on 31st August 1957. In 1963, Malaysia was formed and included the state of Sarawak and Kuching from the Borneo Island. Singapore separated from Malaysia and became an independent country in 1963. For the past 50 years numerous development have taken place at all levels of zoo management.

Johor Zoo

The Johor Baru Zoo, founded in 1928, was the private collection of the Sultan, his highness, Sultan Sir Ibrahim Ibni Al-Marhum Sultan Abu Bakar. The Sultan's collection was discontinued and transferred to the Johor Baru Zoo (a public zoo that the Sultan also supported, even though the Johor State Government operated it) in 1962. Renovations and expansion occurred at the zoo and the new zoo was completed in 1965. Table 9 shows the list of the pioneer veterinarians who worked in Johor Zoo.

Dr. Han Peng, a Malaysian veterinarian graduate from India, was the first veterinarian to work in Johor Baru Zoo. Dr. V. Mukudhan, a 2nd Malaysian graduated with a DVM degree from Mymensingh, Bangladesh, took over the position as Manager cum Veterinarian in June 1966 to April 1970. Dr. Mukudhan left for greener pasture to Jurong Bird Park, Singapore in May 1970 as a curator. Later he became the Manager cum Veterinarian of Jurong Bird Park, Singapore, a position he held till April 1976.

Taiping Zoo

Taiping Municipal Council founded the Taiping Zoo (Taman Mergastua Idris Shah) in 1962 to attract tourists. It is one of the most naturalistic zoos in the country and its 1995 master plan put an emphasis on conservation, research, and education programs.

Table 10 provides a list of the pioneers and current veterinary officers at Taiping Zoo.

Malacca Zoo

Malacca Zoological Garden was founded in 1964 to attract tourists as well. The Department of Wildlife and National Parks Malaysia administers Malacca Zoo. With its large open enclosures and systematic breeding programs, it is one of the best zoos in the country. Malacca Zoo also takes in problem tigers (because they prey on livestock) the Wildlife Department captures. In fact, all confiscated and illegally trapped wildlife are sent to Malacca Zoo. The zoo, in a way, undertakes the role of a

rescue and rehabilitation centre, as it is also managed by the Department of Wildlife, Peninsular Malaysia. Table 11 lists the early and current veterinary officers at Malacca Zoo.

Development of Zoo Medicine at the National Zoo (Zoo Negara)

Zoo medicine rapidly evolved in Zoo Negara in 1967. The first veterinarians involved with zoo medicine in Zoo Negara were Dr. R. A Vosdingh and Dr. J. S. Walker. Both of them acted as honorary veterinarians (Table 12). The third Malaysian to be involved with Zoo Medicine was the late Dr. J. A. Vanniasingham who rendered his services for a decade, Dr. Gary Kuehn, the first veterinary officer at Zoo Negara was seconded from San Diego Zoo under the Peace Corps Organization Services from September 1969 to 1972 (Table 12).

Table 13 gives the list of the veterinary officers employed at Zoo Negara Malaysia from 1969 to date.

From October 1976 to September 1980, there was no full time veterinary officer. Hence, the services of the Department of Veterinary Services and Faculty of Veterinary Medicine and Animal Science were utilized.

From 1973 to 1984, Zoo Negara Malaysia had also engaged veterinary consultants (Table 14). Dr. Jeffery Lee Yat Seng, a veterinary pathologist and lecturer from UPM, was the first veterinarian to be employed as Zoo Director from 1st October 1984 to 31st December 1988.

The year 1980 is a significant year for Zoo Medicine in Malaysia. The author was the first veterinarian to complete a Master's Degree in Wildlife and this was followed by Dr. Zainal Zahari in 1995. Table 13 and 14 give the list of veterinarians employed in established zoos and parks prior to 1980 and after 1980 respectively. In 1994, Dr. Kevin Lazarus, a veterinarian of Taiping Zoo, was promoted as Zoo Director. Currently, there are 20 active Zoo and Wildlife veterinarians in Malaysia. The senior personnel are Dr. S. Vellayan, Dr. Zainal and Dr. Kevin. The late Dr. Vanniasingham was the longest serving veterinary consultant to Zoo Negara. The longest Residential Zoo Veterinarian for Zoo Negara was Dr. S. Vellayan.

It is anticipated that with the opening of future zoos and parks, the employment of veterinarians will be increased to above 60 in the year 2020 (Table 5).

GENERAL ARTICLES

Zoo Negara

Zoo Negara Malaysia, Malaysia's "National Zoo", can trace its roots to 1957 when the Malayan Agri-Horticultural Association organized a small collection for an annual exhibition. The popularity of this animal exhibit was such that the association continued to exhibit animals at its annual exhibitions. Between 1957 and 1963, the exhibition animals were kept in the five acre garden of Late Tan Sri Dato' V. M. Hutson, who organized the shows on behalf of the association. Hutson's garden was located at Bangsar Estate (now Bukit Damansara), Kuala Lumpur. Nevertheless, during weekends people from the city would drive out to see the animals. In those early years the collection included a Malayan tiger, three orangutans, six estuarine crocodiles, and other animals. In 1961, it was decided to establish a permanent zoo site for these animals and a working committee was appointed to form a society and establish the zoo. This decision resulted in the formation of the Malayan Zoological Society in 1962 with plans for a small zoo in or near Kuala Lumpur. The society would fund and manage the zoo, but the Malaysian government would support the effort. After searching for a location, the society selected a 42-acre site at Ulu Klang, with another 100 acres earmarked for future expansion. An initial 36 acres of secondary jungle was converted into a zoological garden, which opened November 14, 1963. Surrounded by jungle and rubber estates, it was called the "zoo in the jungle". This location, 10 km from the centre of Kuala Lumpur, was considered too far out of the city; nevertheless, the zoo enjoyed good attendance, and by 1997 the city had grown around and past the zoo site. With successful fund-raising and government support, the zoo developed an additional 22 acres, built an aquarium, and created a five acre drive-through Safari Lion Park. However, the latter was closed in 1983 and converted into an African savannah exhibit. A veterinary hospital, modern reptile building and Ape Centre have been added and the zoo has the beginnings of an excellent educational program.

Veterinary Facilities

In the early 1970's Zoo Negara was the first zoo to have a small zoo clinic, comprising of a dispensary, reception office area, small laboratory, a store and an inpatient ward. In 1990, the entire facility was upgraded to an international zoo hospital, consisting of laboratory, office, dispensary, surgery room, treatment room, investigation laboratory, veterinarian office, kitchen, night duty room, discussion hall, a store, locker room, wash room, upgraded inpatient wards for various species of animals, exercising area and a complete autopsy facility.

In 1985 Malacca Zoo and later followed by Taiping Zoo established zoo clinics on a much smaller scale. In 2007, Taiping Zoo has constructed a new Hospital Complex. The Kuala Lumpur Bird Park and the Penang Bird Park has a fairly small scale clinic for the sick and injured birds.

Historical Development of Zoo Veterinary Medicine

The facilities of Veterinary Medicine and Animal Science, Universiti Pertanian Malaysia (now Universiti Putra Malaysia), UPM, was established in 1972. The first batch of graduates graduated in 1977. Dr. S. Vellayan was the first veterinarian to undertake a Master's Degree in Wildlife Nutrition at UPM (1978 to 1981). He was the first Master Science graduate in Primate Nutrition from the Department of Animal Science, Faculty of Veterinary Medicine UPM. The awareness of Zoo Medicine started in 1980. Subsequently, local Veterinary students showed interest in Zoo and Wildlife Medicine. In the mid 1980's the chance of veterinarians working in the zoos were encouraging. Currently there are 20 full time zoo veterinarians employed in Malaysia. There are about 180 full time veterinarians engaged in private animal clinics. In the early 1990's due to the rapid development of Malaysia, with the destruction of the jungle and forest, numerous wildlife were exposed to threat and danger. The general public were keen in keeping wildlife as pets. Private clinics started to receive wildlife cases. Since 1990, veterinary and zoology students were keen to undertake Zoo and Wildlife projects in all the local zoos.

The Future Role of Veterinary Medicine

Veterinary medicine plays an important role in the continued survival of many wildlife population in the zoo. Management concerns for the curator, wildlife manager and veterinarian occur at three different levels, namely the individual animal, the social group and the population. Clinical zoo veterinarians are ultimately responsible for protecting and restoring the health of compromised endangered species. This responsibility requires knowledge in the animals fundamental nutritional and behavioral needs, in addition to readiness and skills in identification and treatment of health problems. In Malaysia, the zoos have been progressing in their line.

Recommendations

Research is necessary to develop diagnostic and treatment protocols for the entire spectrum of wildlife species and to study the types of diseases affecting the

various species and there is a collaboration between local zoos and various research institutions. The work of veterinary pathologist will supplement zoo medicine.

More collaboration between clinical veterinarians and behavioral scientists is needed. The importance of stress as an induced factor in modernized zoos and parks involving animal species and personnel, needs greater emphasis.

Thus, zoo epidemiologists have to focus on health related problems of the entire population rather than the individual in Malaysia. There is a serious need for measures for the control of over population of a particular species and application of effective methods for contraception, in particular, the macaques. These techniques will have to be reversible, effective in a single application and have an acceptable level of mortality. In a modernized zoo, the veterinarians should develop expertise in chemical immobilization, sedation and transport or translocation of different animal species.

The veterinarians should contribute to the maintenance of genetic diversity. Thus, the zoo veterinarians must continue to develop effective and safe means for capture, restraint and transport of animals. One implication of the emerging conservation missions of modernized zoos is that their primary perspective towards animals' needs is focused on populations rather than on individuals. However, there are circumstances where these two perspectives may be in conflict. The future of wildlife conservation in Malaysia may depend much on our resolution of various ethical issues and ecology. Although clinical and administrative responsibilities often preclude their direct involvement in research, zoo veterinarians have much to contribute in collaboration with nutritionist, behavioralist and other specialties in the medical field.

A veterinarian should collect valuable biological specimens for genetic analysis whenever he has the opportunity. This warrants a guideline to be drawn and never taught to younger veterinarian. The species survival commission of the World Conservation Union (IUCN) has a Veterinary Specialist Group that focuses on issues of wildlife diseases. The IUCN's Captive Breeding Specialist Group (CBSG) also has Veterinary Working Group which focuses on problems affecting captive animals and the Malaysian Zoo and Wildlife veterinarian should closely work together in a team.

Conclusion

In conclusion, the current clinical zoo and wildlife veterinarians in Malaysia have focused their attention on the following areas:

1. Collection and analysis of necropsy data for all Species Survival Plans (SSP)
2. Development of procedures for necropsies, disease surveys and collection of biological samples for use in research and routine health assessment.
3. Collection and analysis of data on the diseases of captive animals and finally, this should include data on physiological parameters, mortality and their causes and incidence of various diseases in captive populations.
4. Development of effective methods for diagnosis, treatment and preventions of diseases.
5. Investigate into emerging and re-emerging diseases both in zoos and in wild.

The distinction between captivity and the wild is disappearing. If current trends in human population growth (sustainable development) continue, habitats will be lost at a rapid rate and the remaining wildlife populations will soon be restricted to national parks and reserves. To preserve their wildlife, such parks will require intensive management similar to that practised by zoological gardens. In the future the veterinary implications of these developments will be enormous. This is an appropriate time for anybody interested in wildlife to get involved. The threat to continued survival of wildlife species is very grave, and if we fail to act collectively, many culturally, economically and ecologically important species will become extinct.

Acknowledgements

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GENERAL ARTICLES

Table 1: List of Current Zoos and Parks in Malaysia

No.	Year of Establishment	Location	Name of Zoo / Park
1.	1928	Johor	Johor Zoo
2.	1961	Perak	Taiping Zoo
3.	1963	Selangor	Zoo Negara
4.	1963	Malacca	Malacca Zoo
5.	1963	Perlis	Kangar Snake Farm
6.	1970	Sabah	Sabah Wetland Centre
7.	1970	Sarawak	Semanggol Orangutan Perhilitan Centre
8.	1972	Sabah	Sepilok Orang Utan Rehabilitation Centre
9.	1980	Sarawak	Matang Wildlife Centre
10.	1983	Pahang	Pekan Mini Zoo
11.	1983	Kedah	Taman Jubilee Park
12.	1984	Parliament	Parliament Deer Park
13.	1985	Negeri Sembilan	Negeri Deer & Bird Park
14.	1985	Terengganu	Terengganu Mini Zoo
15.	1986	Penang	Penang Butterfly Farm
16.	1986	Perak	Kampar Mini Zoo
17.	1986	Kuala Lumpur	Lake Garden Deer Park
18.	1986	Kelantan	Kuala Krai Mini Zoo
19.	1987	Malacca	Malacca Butterfly & Reptile Sanctuary
20.	1987	Penang	Bukit Jambul Reptile Park
21.	1988	Malacca	Malacca Snake Farm
22.	1988	Prai	Penang Bird Park
23.	1988	Malacca	Crocodile Farm
24.	1989	Johor	Johor Deer Farm
25.	1990	Sarawak	Taman Tumbina Bintulu
26.	1990	Seremban	Mini Zoo Lipis
27.	1991	Pahang	Kuantan Mini Zoo
28.	1992	Kuala Lumpur	K.L. Butterfly Park
29.	1992	Sabah	Sabah Zoology and Botany Garden
30.	1995	Johor	Saleng Zoo (T.C. Arapaima & Tropical Fish Sdn. Bhd.)
31.	1995	Pahang	Deerland
32.	1995	Selangor	Pet Century Ostrich Farm
33.	1995	Seremban	PD Ostrich Farm
34.	1999	Langkawi	Crocodile Farm Langkawi Sdn. Bhd.
35.	1999	Kedah	Lye Huat Gardens
36.	1999	Perak	Ming Wildlife Sanctuary
37.	1999	Seremban	Port Dickson Mini Zoo
38.	1999	Pahang	D-Paradise Tropical Fruit World & Aboriginal
39.	2000	Sabah	Sabah Zoo (Dept. of wildlife)
40.	2000	Perak	Orang Utan Sanctuary Bukit Merah
41.	2001	Malacca	A'Famosa Safari Wonderland Sdn. Bhd.
42.	2001	Selangor	Kampung Jawa Peeling Zoo
43.	2001	Kuala Lumpur	Aquaria KLCC
44.	2003	Perak	Taiping Night Safari
45.	2004	Selangor	Zoo Negara, Zoo at Night
46.	2004	Malacca	Malacca Zoo Night Zoo
47.	2007	Selangor	Sunway Wildlife and Interactive Zoo
48.	2008	Negeri Sembilan	Taman Ular Sawa Ulu Bendul Kuala Pilah
49.		Langkawi	Underwater World Langkawi Sdn. Bhd.
50.		Langkawi	Wildlife Park
51.		Langkawi	Snake Sanctuary
52.		Pahang	Wildlife Farm Breeding to Research

Table 2: Proposed future zoos and parks in the year 2020

No.	Locality	Proposed Zoos/Parks
1.	Penang	Penang Zoo
2.	Kuantan	Kuantan Zoo
3.	Kedah	Kedah Zoo
4.	Negeri Sembilan	Port Dickson Marine Park
5.	Johor	Johor Development Corporation Park
6.	Selangor	National Bird Park
7.	Sarawak	Sarawak Zoo
8.	Selangor	Malaysia Night Safari Park
9.	Selangor	Open Zoo
10.	Kelantan	State Zoo
11.	Terengganu	State Zoo
12.	Pahang	State Zoo

Table 3: Employment of Veterinarians in zoos and parks in Malaysia prior 1980

No.	Organisation	Vet's Employed
1.	Zoo Negara	Veterinary Consultant (1) Off and On Full Time Veterinarian (1)
2.	Johor Zoo	1966-1970 Vet (1) 1970 – Services of Vet. Dept.
3.	Ex-Morib Zoo	Service of Vet. Dept./Zoo Negara / UPM
4.	Malacca Zoo	Service of Vet. Dept. a Services from Zoo Negara
5.	Ex-Frazer's Hill Zoo	Services of Vet. Dept.
6.	Taiping Zoo	Services of Vet. Dept. And Services from Zoo Negara
7.	D.W.N.P (Sarawak)	Services of Peace Corps Volunteers
8.	D.W.N.P (Sabah)	Services of Peace Corps Volunteers
9.	D.W.N.P (Peninsular Malaysia)	Services of Peace Corps Volunteers/Dr. Chin How Chong / Dr. Roy Sirimanne and Services of Zoo Negara.
TOTAL VETS (2)		

Table 4: Employment of Veterinarians in Zoos and Parks in Malaysia after 1980 to 2008

No.	Organization	Vet's Employed
1.	Zoo Negara	Director (1) till 1980, Veterinary Consultant (1) Full Time Vet (1) since 1981 to 2005, 2001-2003(1) Curator (1) since 1995 to 1991, 2001-2003 (2)
2.	Johor Zoo	Asst. Vet. Officer (1) (1985 to date) Services of Vet. Dept.
3.	Ex-Morib Zoo	Services of Zoo Negara, DVS
4.	Malacca Zoo	Full Time (1) (1986 to date)
5.	Taiping Zoo	Director (1) (1987 to date) Vet Officer (11) (2006 to date/ Asst. Curator (1) (2002 to date) Asst. Vet. Officer (1) (1999 to date)
6.	Kuala Lumpur Bird Park	Full Time Vet. (1) (1988-1989); services of UPM/DVS
7.	D.W.N.P (Sabah)	Full Time Vet (1) (1995 to date) Vet Officer (1)(2003 to date)
8.	D.W.N.P (Sarawak)	Full Time Vet (1) (1999 to date)
9.	DWNP (Peninsular)	Full Time Vet Officers (3) (2004 to date)
10.	A' Famosa Safari Park	Full Time Vet. (2000 to date)
11.	Sunway Animal Kingdom	Part Time Vet. (1995-2005) Full Time Vet (2006 to date)
12.	Bukit Merah Orang Utan Sanctuary	Full Time Vet. (1)(1999 to date)
13.	Underwater World Langkawi Sdn. Bhd.	Full Time Vet (2) (2000 to date)
14.	Matang Wildlife Centre (Sarawak)	Full Time Vet (1) (1999 to date) Service of Private Vet.

GENERAL ARTICLES

Table 5: Projected Employment of Veterinarians in zoos and parks in Malaysia in the year 2020

No.	Organization	Vet's Employed				
		Director	Chief Vet	Vet	Asst. Vet.	Curator
1.	Zoo Negara	1	1	--	3	3
2.	Johor Zoo	--	--	1	1	--
3.	Malacca Zoo	--	--	2	3	--
4.	Taiping Zoo	1	--	2	1	--
5.	Kuala Lumpur Bird Park	--	--	1	1	--
6.	Penang Bird Park	--	--	1	--	--
7.	Taman Tumbina Bintulu	--	--	1	--	--
8.	Proposed National Bird Park	--	--	1	1	--
9.	D.W.N.P (Sarawak)	--	--	3	2	--
10.	D.W.N.P. (Sabah)	--	--	5	3	--
11.	Perlis Snake Farm	--	--	1	1	--
12.	Malacca Snake & Crocodile Park	--	--	1	1	--
13.	Negeri Sembilan Deer & Bird Park	--	--	1	1	--
14.	Orang Utan Centre, Sepilok	--	--	2	2	--
15.	Sabah Zoo	--	--	2	3	--
16.	Wildlife Rehabilitation Centre, Sarawak	--	--	1	1	--
17.	Johor Deer Farm	--	--	1	2	--
18.	DVS Wildlife Farm	--	--	3	3	--
19.	Penang Zoo	--	--	1	1	--
20.	Kuantan Zoo	--	--	1	1	--
21.	Kedah Zoo	--	--	1	1	--
22.	Open Zoo	--	--	2	2	--
	Total Vets (different position)					= 43
	Total Asst. Vet. Officers					= 34

Table 6: Wildlife collection in private resorts

No.	Name of Resorts	Locality	Year Established
1.	Belle View Aviary	Penang	1984
2.	Mines Wonderland	Selangor	1995
3.	Sunway Theme Park	Selangor	1995
4.	Hotel Flamingo	Selangor	1996
5.	Duta Palms Resort	Selangor	1997
6.	Duta Vista Resort	Selangor	1997
7.	Sunway Petting Zoo	Selangor	2003
8.	Tambunan Tiger Valley	Perak	2000
9.	Amazing Ten Animal Kingdom	Pahang	2006

Table 7: Established Veterinary facilities in zoos and parks in Malaysia

Year Established	Zoo / Parks	Comments
1965	Zoo Negara	1990 Extensive Renovation
1984	Malacca Zoo	2000 Renovation
1984	Penang Butterfly Park	-
1987	Taiping Zoo	2007 New Facilities
1990	KL Bird Park	-

Table 8: Zoos and parks closed down in Malaysia

No.	Name of Zoo/Park	Locality (State)	Year Opened	Year Closed
1.	Frazer's Hill Mini Zoo	Pahang	1975	1985
2.	Morib Zoo	Selangor	1975	1994
3.	Johor Safari Park	Johor	1980	1987
4.	Taman S.M. Noor	Perak	1984	1994
5.	Taman Binatang Sarawak	Sarawak	1989	1991
6.	Pulau Singa Wildlife Sanctuary	Kedah	1989	1993
7.	Bukit Cahaya	Shah Alam	1987	1999
8.	Desaru Resort Park	Johor	1989	1995
9.	Behrang Ulu Wildlife Breeding Farm	Selangor	1989	1998
10.	UPM Deer Farm	Selangor	1990	2002
11.	IOI Estate, Tangkak	Johor	1995	2003

Table 9: Pioneer and Veterinary Officers and current AVO's at Johor Zoo (1965 to date)

No.	Name	Designation	Year	Duration
1.	Dr. Han Peng	Veterinarian	1965-1966	3 months
2.	Dr. V. Mukudhan	Manager Cum Veterinarian	Jun 1966 - April 1970	4 years
3.	Services from the Johor State Veterinary Department (DVS)	-	1971-1981	10 years
4.	Veterinary Services from Zoo Negara Veterinarian (Dr. S. Vellayan)	-	1981-1986	5 years
5.	Mr. Mohd. Talkah Othman	Asst. Vet. Officer	1985-2000	15 years
6.	Mr. Zakaria Razali	Asst. Vet. officer	2000 to date	7 years

Table 10: Pioneer and current Veterinary Officers at Taiping Zoo

No.	Name	Designation	Year	Duration
1.	Dr. Nagaratnam	Perak State Vet. Officer (DVS)	1970-1980	10 years
2.	Dr. Kevin Lazarus	Veterinary Officer	1987-1994	7 years
3.	Dr. Kevin Lazarus	Director	1994 to date	13 years
4.	Dr. Choong Siew Shean	Veterinary Officer	2002-2004 (Temporary)	2 years
5.	Dr. Inirah Che Ishak	Veterinary Officer	2007 to date	8 months

Table 11: Pioneer and current Veterinary Officers at Malacca Zoo (including PERHILITAN)

No.	Name	Year	Duration
1.	Services of the of Malacca State Veterinary Services; DVS and Volunteer Veterinarians (Dr. Chin How Chong and Dr. Roy A. Sirimanne)	1965 to 1980	15 years
2.	Services of Zoo Negara Veterinarian (Dr. S. Vellayan)	1981 to 1987	6 years
3.	Dr. Zainal Zahari Zainuddin	1986 to date	22 years
4.	Dr. Razeem Mazlan Abdullah	1995 to 2004 (contract)	9 years
5.	Dr. Choong Siew Shean	2004 to date	3 years
6.	Dr. Abraham Mathew	2004 to date	3 years

Table 12: Early Veterinary Officers at Zoo Negara Malaysia (1967-1972)

No.	Name	Designation	Year	Duration
1.	Dr. R. A. Vosdingh	Hon. Vet. Advisor	1967-1970	3 years
2.	Dr. J. S. Walker	Hon. Vet. Advisor	1970-1971	1 year
3.	Dr. J. A. Vanniasingham	Visiting Veterinary Officer	1970-1972	2 years
4.	Dr. Gary Kuehn	1st. Resident Veterinary Officer	Sept. 19 69 - April 1972	2½ years

Table 13: List of Veterinary Officers employed at Zoo Negara Malaysia (1969-to date)

No.	Names	Period	Qualification	Duration
1.	Dr. Gary Kuehn 1 st Resident Veterinary Officer	Sept. 1969 - April 1972	DVM (USA)	2½ years
2.	Dr. Chin How Chong (Asst. to Supt)	1973 - Feb 1975	BVSc & A.H. (Bombay)	2 years
3.	Dr. N. Sewellingam (Asst. to Supt)	Jun 1975 - Oct 1976	BVSc (Madras)	1 year 4 months
4.	Dr. Sommai Chin Ratnapitaksa (Zoo Vet).	Sept 1980 - Jul 1981	DVM (Bangkok)	10 months
5.	Dr. S. Vellayan (2 nd . Resident Zoo Vet)	Oct 1981 - 30 May 2005	BVSc., (Madras) MS (Serdang)	23 years 8 months
6.	Dr. Vijaya Jayam (3 rd . Resident Zoo Vet.)	Nov. 2001- Dec. 2003	DVM (Serdang)	2 years
7.	Dr. Azlan Che' Amat	June 2005 - Dec. 2005	DVM (Serdang)	6 months
8.	Dr. Mat Naim Hj. Ramli	June 2005 to date	DVM (Serdang)	2 years 2 months
9.	Dr. Muhammad Danial Felix Abdullah	April 2006 to date	DVM (Serdang)	1 year 4 months
10.	Dr. Muhamed Reza Mohamed Tarmizi	August 2006 to date	DVM (Serdang)	1 year

Table 14: List of Veterinary Consultants at Zoo Negara Malaysia (1973-1984)

No.	Names	Period	Duration
1.	Late Dr. J. A. Vanniasingham	1973-Aug. 1980	7 years
2.	Dr. Roy A. Sirimanne	Sept 1980-Aug. 1981	1 year
3.	Late Dr. J. A. Vanniasingham	Sept. 1981-Aug 1984	3 years
4.	Dr. Jeffrey Lee Yat Seng	Sept 1983-Sept 1984	1 year

EU unites behind Animal Welfare Declaration

On 23 March 2009, the European Union added 27 voices to the chorus of support for animal welfare by formally announcing support for a Universal Declaration on Animal Welfare (UDAW).

The Ministers for Agriculture for all 27 EU states unanimously backed the declaration, making the European Union the first regional forum to pledge support for a UDAW.

"With today's announcement, the EU has recognised the strong links that animal welfare has with other

established globally important issues such as climate change, food security, human health and poverty reduction," said Justine Holmes, Head of the UDAW campaign at WSPA.

EU support constitutes a very positive step towards a global partnership on animal welfare. To date, WSPA's campaign to see animal welfare recognised as an issue of worldwide concern has also been endorsed by the governments of Cambodia, Fiji, New Zealand, Palau, the Seychelles and Switzerland.

CVA Continuing Professional Development Program

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Continuing Professional Development (CPD) has been a key part of the CVA's activities since its inception in a number of ways including organising workshops and conferences, short term study grants, supporting visiting lecturers and other specialists, a book and journal program, a CVA journal, a CVA website etc.

It was decided at the executive meeting at PCVC4 in Barbados in 2007 that the CVA would establish a group dedicated to developing the CVA's CPD capabilities.

As we now live in the age of the internet the emphasis of the CVA CPD group has thus far been on the provision of on-line resources.

It is recognised that a high percentage of people in developing countries have internet access. In fact, in professionally isolated areas of the world such as the Pacific the internet is probably even more heavily relied upon than in the larger, richer countries. Furthermore, the provision of on-line resources makes information potentially available to an unlimited number of people and it is relatively cost free.

Whilst the CVA's CPD program is still in its infancy, we have been particularly fortunate in having our CVA members be given free access to the New Zealand based SciQuest® and the United Kingdom based WikiVet.

SciQuest®

The New Zealand Veterinary Association (NZVA) has generously given CVA members access to the New Zealand and Australian publications found on SciQuest®.

When using SciQuest it is best to use Internet Explorer. To view the publications available and to access SciQuest® use the web address www.SciQuest.org.nz.

To access the privileges given to CVA members on SciQuest® you will need to forward your home or work email address to your CVA country councilor with your expression of interest. Your CVA country councilor in consultation with your CVA regional representative will in turn will verify that you are eligible for the rights available to CVA members before forwarding your email address on. You will then be notified of your permission to log on to SciQuest®.

WikiVet

WikiVet is a website designed to provide a free, comprehensive online knowledge-base for veterinary students, nurses and graduates world-wide. The project is a partnership between the United Kingdom veterinary schools, Higher Education Academy and Joint Information Systems Committee (JISC).

Aiming to cover the entire veterinary curriculum, WikiVet has been created in a similar way to its big brother Wikipedia, but with three distinct differences. Firstly all the content relates specifically to the veterinary curriculum. Secondly, veterinarians and veterinary students have authored the content, which is subsequently peer reviewed by subject specialists at one of the participating veterinary schools. Finally, access to the site is restricted to the veterinary community in order to ensure that the general public is not able to view or edit the content.

Registration is free of charge and open to all veterinarians and nurses. Go to www.wikivet.net to apply for an account which requires an email address, the veterinary school attended and year of graduation. The WikiMaster will then verify that the applicant is a veterinarian or veterinary nurse and will email a password to the email address supplied. This can subsequently used to log on and access the information in all areas.

It is hoped that Wikivet will become a tool through which veterinarians internationally can share information and collaborate on research, educational projects and resources. This will be done by building informal links between veterinary faculties and individuals worldwide so students and veterinarians can upload information relevant to their peers which may not be readily available in other countries (for example video footage and locations of disease outbreaks) as well as providing a forum for discussions and potentially exchange visits. WikiVet would therefore welcome the involvement of veterinarians and students from anywhere in the Commonwealth.

The Future

As mentioned the CVA's CPD program is still in its infancy. We will endeavour to continually provide an update what is available and to make the registration and

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logging in process as straightforward as possible. In addition, the capabilities of the existing offers SciQuest® and WikiVet will continue to evolve.

The New Zealand Veterinary Association has made an online hub named VetSpace available for the CVA to place additional CPD material. We are currently accessing appropriate material such as course notes and training modules to place on VetSpace.

For further information regarding SciQuest® and WikiVet and the CVA CPD program in general, and to

give ideas for the future direction and development of the CVA's CPD program please feel free to contact:

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Rabies Detective work in Rural Tanzania

Late one evening last July, I arrived at the hospital which is my research base and was met by Marwa and his father. They had travelled more than 100km to reach the hospital, because Marwa had been badly mauled by a dog 2 days previously whilst playing outside his house. By now Marwa's wounds had become septic and his fingers had to be amputated. It was clear from interviewing Marwa that the dog which had bitten him was rabid; fortunately anti-rabies vaccines were available and were given to Marwa immediately.

The distinctive clinical signs and memorable mode of transmission makes rabies amenable to a research method typically used for infectious diseases spread by humans. Contact tracing is a medical intervention for disease control based on tracing chains of infection – this medical detective work involves iteratively interviewing infected individuals to identify others that may have been exposed, as well as potential primary (or index) cases of infection. Contact-tracing has been applied to sexually transmitted diseases such as HIV and gonorrhoea, where an infectious contact is well-defined, but has also been used successfully in response to the emergence of SARS and in controlling remnant foci of infection during the final stages of the smallpox eradication campaigns. For rabies, contact tracing involves interviewing animal-bite victims like Marwa to identify the source of the rabid animal, the animal's owner and other people and animals with suspected bites. Two recent scientific papers describe some of the insights gained from contact tracing of rabies in rural Tanzania.

The first paper focuses on the burden of rabies within affected communities. Contact tracing can uncover information about the many rabies cases (exposures and deaths) that go unreported in national statistics. More than 20% of victims exposed to suspected rabid dogs in the study were not recorded in any medical facility. The series of investigations spurred by Marwa's case brought to light the case of Mwita. The dog that bit Marwa was likely to have been infected three weeks previously by an unknown rabid dog which had bitten Mwita. Mwita however was much less fortunate; after failing to find vaccines locally he had not sought treatment elsewhere. In August he presented with symptoms of rabies at the local hospital. Despite the prognosis, Mwita headed towards the capital in desperation, but died en route. The research paper highlights the common but completely avoidable obstacles like

lack of awareness and difficulties in obtaining vaccine that are typical of victims like Mwita and Marwa.

The second paper investigates the dynamics of infection and identifies the effort needed to control and potentially eliminate rabies based on epidemiological data collected by contact tracing, including the movement and biting behaviour of rabid animals. An important finding was that, on average, rabid dogs appear to only infect a small number of other individuals (many don't bite any animals, or only one or two), which is good news as far as control is concerned. However, a small number of rabid dogs do cause disproportionate amounts of damage. For example, contact tracing revealed that one rabid dog bit 21 people (mostly children) and 11 other dogs during a 2 day, 20-kilometre frenzy before its death. Fortunately, these 'super-spreaders' appear to be the exception, but they clearly contribute to the spread and persistence of rabies and its unpredictability. The take-home message from the data and models presented in the paper is that, because rabies transmission is actually relatively low compared to infections like measles and flu, elimination through vaccination is a feasible objective – but the speed with which domestic dogs reproduce and replace themselves within a population means that vaccination coverage can quickly fall to ineffective levels. Domestic dog vaccination campaigns therefore need to aim for high coverage and, critically, they must be sustained.

An attack of a rabid dog can be terrifying and with the disturbing symptoms that lead to inevitable death, there is no doubt why rabies is such a famed and feared disease. After conducting hundreds of contact tracing interviews it becomes apparent that the traumatic and tragic personal stories like those of Marwa and Mwita are commonplace for people living in areas where rabies is endemic in domestic dog populations. Though it is too late for Mwita, with any luck, large-scale vaccination programmes planned for Southern Tanzania will have a major impact on rabies incidence and may help to make their stories a thing of the past.

The two articles, both by Hampson et al., are available online via <http://biology.plosjournals.org> and <http://www.plosntds.org> using 'Rabies' in the search article boxes

~ Dr Kate Hampson, a Henry Wellcome Postdoctoral Research Fellow, University of Sheffield, UK in Rapid Bytes, ARC Newsletter, Vol.12



The Editor,
Journal of the Commonwealth Veterinary Association.

Dear Sir,

The recent CVA Conference held in Samoa was notable for two reasons: firstly, this is the first time an international veterinary conference has been held in Polynesia; and secondly, the diversity of countries represented and the experience of their delegates.

I had a particular interest in this conference as I am Samoan by birth and worked in Samoa when I first graduated from the Veterinary School, University of Queensland. I spent the years from 1967-1970 and 1973-1977 in Samoa then on and off in the 1980's and 90's.

The majority of the people in the South Pacific island nations are village dwellers who make their living off the land. Veterinarians and other farming professionals are faced with the problem of attempting to lift the living standards of these farmers by improving the efficiency of their livestock production. These farmers usually have neither the initiative nor the resources to discover and apply new ideas. Veterinarians working in developing countries have to focus on two points:

- the economic viability and efficiency of a particular livestock industry
- the health of the animals

Some island delegates were partial to **subsidies**. These must be used prudently, for specific purposes and tightly controlled. If there is no market, it is irrational to subsidise an industry in order to produce. Subsidies have a pernicious effect on the attitude of farmers, providing a feeling of false prosperity. There is no incentive to seek information or improve efficiency. Their attitude is no different from those of the peasant farmer. These effects are evident in Pacific French territories.

Respective governments in the Pacific have programmes in place to expand and improve livestock production for two important reasons. These are:

- as an import substitute to reduce the dependence on importation of meat, meat by-products (including pork and poultry meat) and milk which are a major drain on foreign reserves and
- to improve the nutrition and health of the people.

A spin-off of these programmes is the emergence of commercial livestock enterprises. A problem hindering the efficiency and expansion of these is that they are served by a multitude of experts working in isolation.

Basic to animal production are feeding (nutrition) breeding (all its facets) and management. In management, the producer is limited by finance, time and qualified labour. Climate and government policy are added constraints at times. I was encouraged to see the conference acknowledge and highlight these constraints and emphasise the need for an integrated approach. Many of the delegates present were key players in their respective governments and have gone away with a better understanding of the prevailing systems. The diversity of disciplines, expertise and experiences of delegates at the conference was impressive.

The conference noted that the needs for veterinary services were common to all economically developing nations. Animal production, **not** disease, is acknowledged as the main constraint. In beef production, the key to success of efficient beef production lies in management. Improving the productivity of herds starts with pregnancy testing. Increasing production efficiency does not require expensive resources in new breeds, equipment or investing in high technology. The key is the need for greater attention to **herd fertility**. There can be no productivity if there are no calves or feed. The same principle applies to other animal production systems.

All beef farms in Pacific nations carry a high number of cows and bulls with poor fertility. These farms tend to be heavily stocked with unproductive cattle. With limited land and increasing costs of production, farmers need productive cattle to improve economic returns. To begin with, cattle weights can be increased from fewer but more productive cows running on smaller areas of land. This can be done by: shifting sex ratios (run fewer bulls and keep more fertile and productive cows); setting correct stocking rates for the type of country; introducing pregnancy testing and culling empty or late calvers that are out of phase with the rest of the herd. The latter concentrates calving and increases average weaning weights. My message to the conference emphasised that veterinarians can contribute significantly in lifting efficiency of production by introducing pregnancy testing in cattle herds. Information thus obtained allows for the introduction of appropriate breeding and management options.

The scientific sessions were excellent but most island delegates would have been better served by including more on the application of appropriate technology in animal production to suit diverse island nations. Technology for advanced agricultural systems cannot be imported unmodified, but must be tailored to suit different agricultural systems.

To sum up, the conference was a valuable forum for presenting diverse disciplines and highlighting methods used to overcome production and veterinary problems in island nations. The meeting brought together professionals with similar interests, thus bridging the isolation which frustrates veterinarians and agricultural personnel in the region. The network formed offers a valuable pool of expertise for workers in the Pacific to tap.

~ Oskar G Stünzner

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Affordable Higher Education Textbooks

In spite of all the advances in electronic resources and communication, affordable yet reputable books are still essential to the training of doctors, engineers, veterinarians, agriculturalists and business leaders in countries lacking reliable or widespread access to the Internet and electronic databases. This is particularly so in countries in sub-Saharan Africa, the Indian sub-continent & the Caribbean where GNI per capita is less than \$1,000 per annum.



some donation schemes. With the possible exception of India locally-published textbooks are still not a practical alternative, as individual higher education markets are too small to be viable; while in Africa, trade restrictions still make exports to neighbouring countries unfeasible.

While most governments seem to disregard this problem, a small UK registered charity is doing its best to provide the material so desperately needed. BookPower works with publishers to produce special, affordable editions of basic higher education textbooks for thirty-nine low-income Anglophone countries. It was set up only twelve years ago, but already has a remarkable track-record based on minimal resources in terms of both finance and staffing.

BookPower subsidises the production costs of its own editions of successful textbooks. Its contributions enable them to be sold for between only one fifth and one third of the cheapest standard edition price and therefore makes them affordable to low-income students and their institutional libraries. The books are also at least 10% cheaper than International Student Editions. All are top quality titles, which have already proved their value; wherever possible they are chosen from university and college reading lists from the countries participating in the scheme. Advice is also taken from Overseas Partners in seven key countries; and approval of all additional titles is sought from a team of UK-based Academic Advisers - all of whom have experience of, and close links with, developing countries. Production standards are high: good quality paper is essential and to ensure durability all books have properly sewn sections, although they are in distinctive soft covers. The texts themselves are identical with those of the standard editions.

The original publishers of the books market and distribute BookPower's low-priced editions through their existing overseas channels at no cost to the scheme. This method both boosts the business of local book trades and keeps the charity's administration costs low. It also ensures that only genuinely needed books are in the scheme, as inessential titles would simply not be bought; and prevents the wastage involved in

BookPower was founded only in 1996, following notice of the abolition of a similar British government-funded scheme which had run for nearly forty years and covered wider geographical and subject areas. By the end of 2008 BookPower had produced 635,950 copies of 44 titles. As surveys have shown that each book is owned by an average of six readers during its life (and borrowed by others) the scheme has therefore already assisted nearly four million beneficiaries.

But it needs to expand to a minimum of one hundred titles to make a truly meaningful contribution to higher education resources. The main constraint is funding, as BookPower receives no regular income and nothing at all from the UK government. It is therefore primarily dependent on donations from trusts, foundations, commercial companies and individuals. With minimal staffing it is hard work both to keep these contributions coming in and to organise occasional fundraising events.

When funds allow, the charity intends both to increase coverage of existing subjects and to extend its list into the sciences. Meanwhile, as it becomes better known, production of existing titles increases year on year and users are highly appreciative. Here is just one sample of the comments received:

"The majority of students at our medical school are highly intelligent but come from poor backgrounds, so they find the basic cost of course textbooks unaffordable. We are now very fortunate that BookPower provides high quality, affordable textbooks for tertiary students at prices that they can afford. This goes a long way in maintaining the quality of education" (Dr Peter Mwaba, Head, Dept. of Medicine, University of Zambia)

Further information about the scheme and the titles currently included is available on the BookPower website at www.BookPower.org; or contact Valerie Teague at 120 Pentonville Road, London N1 9JN (Tel: 020 7843 1938; email: BookPower@mistral.co.uk).

Nipah Virus Infection

Nipah Virus Infection (NiV) is an emerging infectious disease of public health importance in the South-East Asia Region.

The virus

The virus is named after the Malaysian village where it was first discovered¹. This virus along with Hendra virus comprises a new genus designated Henipavirus in the subfamily *Paramyxovirinae*².

Reservoir of virus

Fruit bats of the genus *Pteropus* have been identified as natural reservoirs of NiV. A seroepidemiologic study in Malaysia implicated four fruit bat species, *Pteropus hypomelanus*, *P. vampyrus*, *Cynopterus brachyotis*, *Eonycteris spelaea*, and an insectivorous bat, *Scotophilus kuhlii*³. Nipah virus has been isolated from the brain and spinal fluid of victims in Malaysia⁴. Infective virus has also been isolated from environmental samples of bat urine and partially-eaten fruit in Malaysia⁵.

The species-wise distribution of fruit bats in Asia is presented in Table 1. Given the distribution of the locally abundant fruit bats in South Asia, NiV outbreaks are

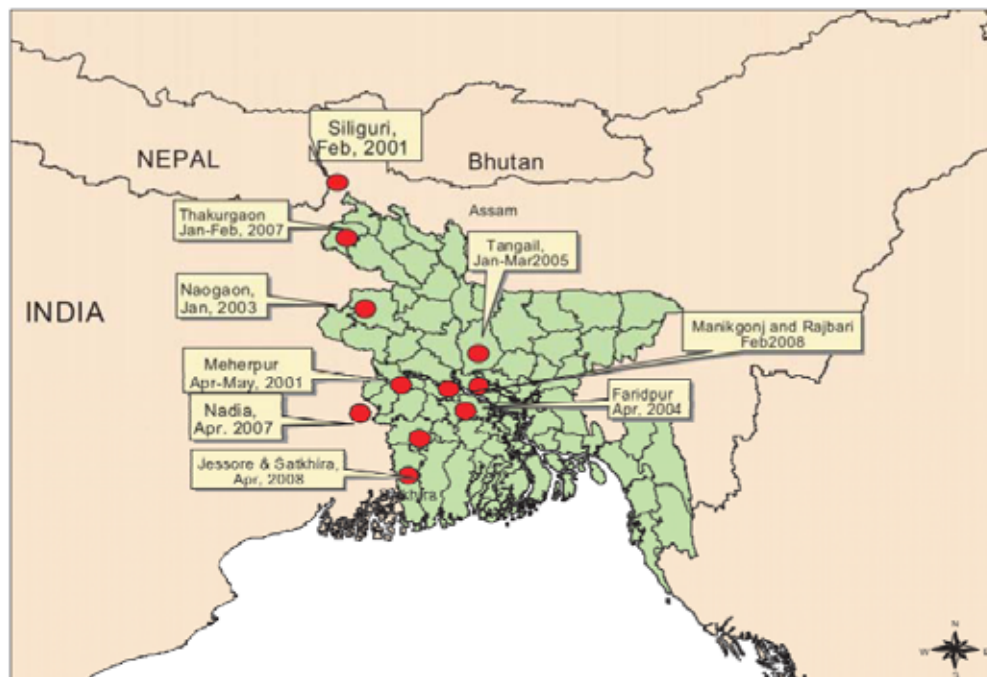
likely to continue to occur in affected countries. The bats are migratory⁶. This has generated intensive surveillance for evidence of Nipah virus infection in bats in these countries. Evidence of NiV could be demonstrated in *P. giganteus* in Bangladesh⁷. Nipah virus has been isolated from Lyle's flying fox (*Pteropus lylei*) in Cambodia⁸ and viral RNA found in urine and saliva from *P. lylei* and Horsfield's roundleaf bat (*Hipposideros larvatus*) in Thailand⁹. Antibodies to a Nipah-like virus have been found in sera from fruit bats collected in India, Indonesia and Timor-Leste¹⁰. The status of NiV infection in other countries of the South-East Asia Region is not known.

Antibodies to henipaviruses have also been found in fruit bats in Madagascar (*Pteropus rufus*, *Eidolon dupreanum*)¹¹ and Ghana (*Eidolon helvum*)¹² indicating a wide geographic distribution of the viruses. No infection of humans or other species has been observed in Cambodia, Thailand or Africa.

Epidemiology

So far, NiV has infected 477 people and killed 252 since 1998. The distribution of NiV outbreaks in Bangladesh and India during 2001 to 2008 is shown in

Figure 1. Chronological distribution of outbreak of Nipah virus infection in South Asia, 2001-2008



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Table 1: Distribution of bat species previously shown to have Nipah virus (adopted from 2007 International Union for Conservation of Nature and Natural Resources Red List of Threatened Species. www.iucnredlist.org.)

Species	Geographic range
<i>Pteropus</i>	Australia; Cambodia; Indonesia; Malaysia* ; Maldives;
<i>hypomelanus</i>	Myanmar; Papua New Guinea; Philippines; Solomon Islands;
	Thailand ; Viet Nam
<i>Pteropus vampyrus</i>	Brunei Darussalam; Cambodia ; Indonesia; Malaysia ; Myanmar; Philippines; Thailand ; Tonga; Vanuatu
<i>Pteropus lylei</i>	Cambodia* ; Thailand# ; Viet Nam
<i>Pteropus giganteus</i>	Bangladesh ; China; India ; Maldives; Nepal; Pakistan; Sri Lanka
<i>Eonycteris spelaea</i>	China; India (Andaman Is., Andhra Pradesh, Assam, Karnataka, Manipur, Meghalaya, Nagaland, Nicobar Is., Sikkim, Tamil Nadu, Uttaranchal); Indonesia; Malaysia ; Myanmar; Philippines; Thailand
<i>Cynopterus</i>	Cambodia; China; India (Andhra Pradesh, Bihar, Goa, Karnataka, Maharashtra, Nagaland, Tamil Nadu); Indonesia (Sulawesi, Sumatra); Lao People's Democratic Republic; Malaysia ; Myanmar; Nepal; Philippines; Singapore; Sri Lanka; Thailand; Viet Nam
<i>Scotophilus kuhlii</i>	Bangladesh; India; Indonesia; Malaysia ; Pakistan; Philippines; Sri Lanka
<i>Hipposideros larvatus</i>	Bangladesh; Cambodia; China; India; Indonesia (Bali, Jawa, Kalimantan, Sumatra); Lao People's Democratic Republic; Malaysia (Peninsular Malaysia, Sabah, Sarawak); Myanmar; Thailand# ; Viet Nam

Bold. countries where Nipah virus infection in bats was demonstrated by antibody detection method.

*, countries where Nipah virus infection in bats was confirmed by isolation.

#, countries where Nipah virus infection in bats was confirmed by RNA detection.

Figure 1. Outbreaks of Nipah in south Asia have a strong seasonal pattern and a limited geographical range. The morbidity and mortality data of human NiV infection is presented in Table 2. Case fatality rate of NiV ranges from 40-70% although it has been as high as 100% in some outbreaks.

The presence of Nipah virus antibodies have indicated that dogs, cats, goats and horses were infected, but only if exposed to infected pigs in Malaysia¹³. Their role in transmitting infection to humans was not determined.

The mode of transmission

Infected bats shed virus in their excretion and secretion such as saliva, urine, semen and excreta but they are symptomless carriers. The NiV is highly contagious among pigs, spread by coughing. Direct contact with infected pigs was identified as the

predominant mode of transmission in humans when it was first recognized in a large outbreak in Malaysia in 1999¹⁴. Ninety percent of the infected people in the 1998-1999 outbreaks were pig farmers or had contact with pigs.

There is strong evidence that emergence of bat-related viral infection communicable to humans and animals has been attributed to the loss of natural habitats of bats. As the flying fox habitat is destroyed by human activity the bats get stressed and hungry, their immune system gets weaker, their virus load goes up and a lot of virus spills out in their urine and saliva¹⁵. Similar fluctuation of virus shedding may be associated with the stressful physiological conditions or seasons. Evidence of seasonal preference of transmission in *P. lylei* was recently demonstrated in a study in Thailand. The period April-June was the time (highest in May) when viral RNA could be mainly detected in urine which was associated with a fluctuation of population numbers that was observed only in May and correlated with young bats leaving to fly.

Table 2: Morbidity and mortality due to Nipah or Nipah-like virus, Asia-Pacific Region, 1998-2008

Year/Month	Location	No. cases	No. deaths	Case Fatality
Sep 1998 - Apr 99	Malaysia (Perak, Selangor and Negeri Sembilan states)	265	105	40%
Mar 1999	Singapore	11	1	9%
Feb 2001	Siliguri (India)	66	45	68%
Apr-May 2001	Meherpur, Bangladesh	13	9	69%
Jan 2003	Naogaon, Bangladesh	12	8	67%
Jan 2004	Goalando, Bangladesh	29	22	76%
Apr 2004	Faridpur, Bangladesh	36	27	75%
Jan-Mar 2005	Tangail, Bangladesh	12	11	92%
Jan-Feb 2007	Thakurgaon, Bangladesh	7	3	43%
Mar-Apr 2007	Kushtia, Bangladesh	8	5	63%
April 2007	Nadia, India	5	5	100%
Feb 2008	Manikgonj and Rajbari,	11	6	55%
Apr 2008	Shatkira and Jessore	2	1	50%
Total		477	248	52%

There were focal outbreaks of NiV in Bangladesh and India in 2001 during winter. Drinking of fresh date palm sap, possibly contaminated by fruit bats (*P. giganteus*) during the winter season, may have been responsible for indirect transmission of Nipah virus to humans¹⁶.

There is circumstantial evidence of human-to-human transmission in India in 2001. During the outbreak in Siliguri, 33 health workers and hospital visitors became ill after exposure to patients hospitalized with Nipah virus illness, suggesting nosocomial infection¹⁷.

During the Bangladesh outbreak the virus is suggested to have been transmitted either directly or indirectly from infected bats to humans. Strong evidence indicative of human-to-human transmission of NiV was found in Bangladesh in 2004¹⁸.

Clinical presentation

In animals, typical clinical symptoms are observed in pigs where respiratory symptoms dominate. Nipah virus disease in pigs is also known as porcine respiratory

and neurologic syndrome as well as barking pig syndrome based on clinical observation.

Symptoms of NiV infection in humans are similar to that of influenza such as fever and muscle pain. In some cases, inflammation of the brain occurs leading to disorientation or coma. Encephalitis may present as acute or late onset. The latter may be difficult to diagnose since exposure may have taken place several months earlier. Further, those who may have recovered from an acute episode may also have a relapse. Nevertheless, magnetic resonance of the brain is helpful in differentiating Nipah encephalitis from other encephalitis as well as in defining between acute and late onset or a relapsed form of the disease. The case fatality rate ranges from 9 to 75%.

Incubation period: 4 to 18 days.

Laboratory diagnosis

Procedures for the laboratory diagnosis of NiV include serology, histopathology, PCR and virus isolation. Serum Neutralization Test, ELISA, RT-PCR are used for laboratory confirmation.

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Most countries in the South-East Asia Region do not have adequate facilities for diagnosing the virus or on ways of controlling it. Bangladesh, India and Thailand have developed laboratory capacity for diagnostic and research purposes.

Nipah virus is classified internationally as a biosecurity level (BSL) 4 agent. BSL 2 facilities are sufficient if the virus can be first inactivated during specimen collection¹⁹. There are a few laboratories in which the virus can be studied safely without a risk of it “escaping” and infecting more people.

Prevention and control

There is no effective treatment for Nipah virus disease, but ribavirin may alleviate the symptoms of nausea, vomiting, and convulsions²⁰. Treatment is mostly focused on managing fever and the neurological symptoms. Severely ill individuals need to be hospitalized and may require the use of a ventilator.

Human-to-human transmission of NiV has been reported in recent outbreaks demonstrating a risk of transmission of the virus from infected patients to healthcare workers through contact with infected secretions, excretions, blood or tissues. Healthcare workers caring for patients with suspected or confirmed NiV should implement Standard Precautions when caring for patients and handling specimens from them. A WHO Aide-memoire on Standard Precautions in health care is available at: <http://www.who.int/csr/resources/publications/standardprecautions/en/index.html>

A vaccine is being developed. A recombinant sub-unit vaccine formulation protects against lethal Nipah virus challenge in cats²¹. ALVAC Canarypox vectored Nipah F and G vaccine appears to be a promising vaccine for swine and has potential as a vaccine for humans²².

The main strategy is to prevent NiV in humans. Establishing appropriate surveillance systems will be necessary so that NiV outbreaks can be detected quickly and appropriate control measures initiated.

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~ World Health Organisation
Regional Office of the South-East Asia

Climate Change has a Considerable Impact on the Emergence and Re-emergence of Animal Diseases

The impact of climate change on the emergence and re-emergence of animal diseases has been confirmed by a majority of OIE Member Countries and Territories in a worldwide study conducted by the OIE among all its national Delegates.

The conclusions of the study on “Impact of climate change and environmental changes on emerging and re-emerging animal disease and animal production”, presented by Australian expert Dr Peter Black, the Rapporteur for this Technical Item at the 77th General Session of OIE in May 2009, calls for a new approach to prevent these new dangers.

OIE Members have consequently given the Organisation a mandate to address this issue by using its scientific capabilities and networks, especially at global, regional and sub-regional levels. In particular, they advocate new action at the level of research, national capacity building for public and private sector animal health systems, and communication, with the

aim of preventing or reducing the effects of climate change on animal production and diseases, including those transmissible to humans.

The study in brief

126 of the OIE’s Member Countries and Territories took part in the study. Of these, 71% stated they were extremely concerned at the expected impact of climate change on emerging and re-emerging diseases. 58% identified at least one emerging or re-emerging disease on their territory that was believed to be associated with climate change.

The three animal diseases most frequently mentioned by the OIE Members that responded were: Bluetongue, Rift Valley fever and West Nile fever.

The majority of countries also consider that human influence on the environment has an impact on climate change and therefore on the emergence or re-emergence of animal diseases.



Commonwealth News

Commonwealth Writers' Prize 2009

The Commonwealth Writers' Prize 2009 was organised by the Commonwealth Foundation with the support of the Macquarie Group Foundation. Christos Tsiolkas of Australia won Best Book for **The Slap** and Mohammed Hanif of Pakistan won Best First Book for **A Case of Exploding Mangoes**.

Edgy and provocative novel wins top prize, while Pakistan has its first ever winner in the debut fiction category. The winning novels are ground-breaking, thought-provoking and risk-taking, say judges.

The overall winners of the 2009 Commonwealth Writers' Prize were announced on 16 May 2009 at the Auckland Writers and Readers Festival in New Zealand.

CHOGM 2009

The Commonwealth Heads of Government Meeting (CHOGM) is to be hosted in the city of Port of Spain in the Republic of Trinidad and Tobago on November 27-29, 2009. At their 2007 summit in Kampala, Uganda, Commonwealth Heads of Government reaffirmed their decision to meet in Trinidad and Tobago in 2009.

The CHOGM is the supreme body of the Commonwealth. It is convened every two years to review global, political and economic developments and to conduct a strategic overview of the Commonwealth's work in support of the interests of member countries.

The objective of this Summit is to engage leaders of the Commonwealth in discussing global and Commonwealth issues and to agree upon collective policies and initiatives.

All nations, regardless of size, have an equal say at this meeting. All CHOGM decisions and initiatives are reached only by consensus.

CHOGMs are distinct from other international meetings in that heads of government meet in an informal retreat setting.

New Chairman of Brooke

Major General Peter Davies CB, has been appointed as the new Chairman for the UK's leading overseas equine welfare charity, the Brooke. He will be joining in September and will take over from Mr David Jones who was appointed acting Chairman following the death of Mr Hilary Weir in November 2008. Mr Hilary had previously served as the Brooke's Chair since 2002.

Mr Peter Davies was selected for his extensive experience, both as Chairman and in his role on the Board of Directors for a number of high profile animal charities, including World Society for the Protection of Animals (WSPA), where he was Director General for seven years and the RSPCA, where he served as Director General for 11 years. He has also held many voluntary posts at other charities including Eurogroup for Animal Welfare, Animals in War Memorial Fund and Flora for Fauna.

This year is the Brooke's 75th anniversary marking its expansion from a small clinic in Cairo to an international lifesaver, working in poor communities across ten countries and employing over 850 people worldwide.

Working horses and donkeys toil in some of the world's toughest environments, and support, on average, a family of five people or more. The Brooke provides care and treatment along with education and training to promote good animal welfare and show communities how to care for the animals on which their lives depend. For further information visit: www.thebrooke.org.

Recognition for contribution to veterinary sciences

Scottish vet Archie Hunter was presented with the Alexandre Liautard Prize at the biennial awards ceremony of the Académie Vétérinaire de France, held in Paris on 4 December. The prize, a medal and a certificate, recognises foreign work contributing to veterinary sciences. It was awarded to Mr Hunter and his co-authors, Gerrit Uilenberg and Christian Meyer, for their book in two volumes 'La santé animale 1. Généralités, 2. Principales maladies', published by Quae, CTA and Karthala in 2006. The book was based on an original English text by Mr Hunter, also in two volumes, entitled 'Animal Health, 1. General Principles, 2. Specific Diseases', published in 1994 and 1996.

~ Vet Record, January 17, 2009



CVA Officers Meeting



At the Officers Meeting

L-R: Drs Robin Yarrow, Richard Suu-Ire, Bob McCracken, S. Abdul Rahman and Bill Pryor

The CVA Officers Meeting was held at Kuala Lumpur, Malaysia from 16-17 April 2009. Drs Richard Suu-Ire, President, Robin Yarrow, Past-President, Bill Pryor, Treasurer, Bob McCracken, Programme Director, and S. Abdul Rahman, Secretary, participated in the meeting.

This meeting was the first meeting of the officers after the Executive Committee Meeting which was held at Barbados, West Indies on 2 and 3 November 2007 and it covered a wide range of subjects and issues especially related to the CVA projects, the Study Fund and the forthcoming regional meetings of ECS Africa in Kampala, Uganda and UK Mediterranean Region in Malta.

The officers also discussed the planning of the next Pan Commonwealth Veterinary Conference to be held in Accra, Ghana from 20-25 March 2011 organised by the Ghana Veterinary Medical Association. Dr Richard Suu-Ire presented a detailed report on the planning of this conference.

The officers also discussed various means to augment the finances of the CVA which has also become a victim of the world economic crisis.

CVA Officials meet Deputy Director, Commonwealth Foundation



At the Commonwealth Foundation

L-R: Dr Karen Reed, Dr S. Abdul Rahman, Mr. Vijay Krishnarayan, Dr Bob McCracken and Ms Helena Cotton

Dr Bob McCracken, Programme Director, CVA, Dr Karen Reed, Regional Representative, CVA UK/Mediterranean Region, Dr. S. Abdul Rahman, Secretary, CVA and Ms Helena Cotton, BVA Media & International Affairs Officer met Mr. Vijay Krishnarayan, Deputy Director, Commonwealth Foundation on 23 April 2009 at Commonwealth Foundation, Marlborough House, London. Dr Mark Collins joined the meeting for a short period and spoke with the four attendees. Various issues pertaining to the CVA projects and CF Grants were discussed.

Phil Stewart appointed as Vetscript Editor

Mr Phil Stewart has been appointed as Editor of Vetscript from March 2009.

Mr Phil is also editor of the deer industry's official magazine, Deer Industry News. He has contributed numerous articles on the health issues, particularly Leptospirosis and Johne's disease. He also writes for an international animal health company, both in New Zealand and overseas, with a particular emphasis on pastoral livestock and poultry.



Mr Phil Stewart

~ Vetscript, February 2009

Secretary, CVA at BVA Headquarters

Dr S. Abdul Rahman, Secretary, CVA on a private visit to London had a meeting with Dr Bob McCracken, Programme Director, CVA, Dr Karen Reed, RR UK/Mediterranean Region and Ms Helena Cotton, BVA Media & International Affairs Officer at the BVA Headquarters, London on 23 April 2009.

Among other topics discussed was the cooperation between CVA and British Overseas Group on various projects which could be undertaken jointly within the Commonwealth member countries. Dr Rahman also participated in the meeting of the BVA Overseas Group held on 22 April 2009.



*At the meeting in BVA Headquarters
L-R: Drs Karen Reed, S. Abdul Rahman and Bob McCracken*

Seminar on Recent Advances in Animal Health and Production Faculty of Veterinary Medicine, Universiti Putra Malaysia

The Officers of the CVA Dr Richard Suu-Ire, President, Dr Robin Yarrow, Past-President, Dr Bill Pryor, Treasurer, Dr Bob McCracken, Programme Director and Dr S. Abdul Rahman, Secretary, participated in the 32nd Seminar on Recent Advances in Animal Health and Production organised by the Faculty of Veterinary Medicine, UPM, Malaysia on 17 April 2009.



*A section of audience at the seminar with
Dr Bashir, Dean of Faculty of Veterinary
Medicine, UPM in the foreground*

This seminar which is an annual event held in conjunction with the final year students comprehensive exams gives an opportunity to hear presentations from external examiners and also showcase some of the students' achievements in undertaking the final year projects.

The invited speakers included Prof Dr. Graham Wilcox, Murdoch University, Australia; Prof Peter Constable, Purdue University, USA and Prof Dr. David Echersall, University of Glasgow, UK. From among the CVA Officers, Dr Richard Suu-Ire presented a paper on 'Wildlife and emergent zoonoses'; Dr Robin Yarrow on 'The Pacific Islands and the need for volunteer veterinarians', and Dr Bob McCracken on 'Epizootic diseases and their threat in our global world/village'.

The seminar was inaugurated by Prof Aini Ideris, Deputy Vice Chancellor (Academic and International), Universiti Putra Malaysia, who incidentally is a former student of Dr W.J. Pryor at Massey University, Australia.

CVA Speakers at the Conference



Dr Richard Suu-Ire



Dr Robin Yarrow



Dr Bob McCracken

CVA Officers Meet Dean, Faculty of Veterinary Medicine, UPM, Malaysia

The CVA Officers during the course of their meeting met Dr Bashir Ahmad Fateh Mohamed, Dean of Faculty of Veterinary Medicine and various issues pertaining to collaboration between CVA and UPM were discussed.



CVA-UPM Meeting

L-R: Drs Bob McCracken, Bashir Ahmad Fateh Mohamed and Richard Suu-Ire

Dr Bashir sought the help of CVA in recruiting qualified teaching staff from Commonwealth member countries for teaching positions in UPM as there is an acute shortage of teaching faculty in Malaysia. The second veterinary school in Malaysia in the offing and the manpower requirement would become more critical. The CVA Officers assured their help and cooperation to Dr Bashir. In addition, support for CPD programmes for veterinarians in Malaysia was also promised by the CVA to Dr Bashir.

Coincidence

Don't know if this is just a sick coincidence but

- 2007 Chinese Year of the Chicken ~
Bird Flu Pandemic devastates parts of Asia
- 2008 Chinese Year of the Horse ~
Equine Influenza decimates Australian racing
- 2009 Chinese Year of the Pig ~
Swine Flu Pandemic kills hundreds of pigs around the globe
Has any one else noticed this ?
It gets worse
Next year
- 2010 Chinese Year of the Cock
What could possibly go wrong ?

President and Secretary CVA meet Officers of Singapore Veterinary Association

On their way to Kuala Lumpur, Malaysia to attend the CVA Officers Meeting Dr Richard Suu-Ire, President CVA and Dr S. Abdul Rahman, Secretary, CVA halted briefly in Singapore and met with the President of the Singapore Veterinary Association Dr Fook Kheong NG and the Vice President, Dr Shane Ryan. Dr Choo Hoo Giam, CVA Councillor Singapore was also present.



CVA-SVA Meeting

L-R: Dr Shane Ryan, Mr. Giam Chin Toon, Dr Richard Suu-Ire, Dr Choo Hoo Giam, Dr S. Abdul Rahman and Dr Fook Kheong NG

Mr. Giam Chin Toon, the Singapore Ambassador to Peru and Ghana joined meeting later.

Drs Richard and Rahman briefed the Singapore Veterinary Association office bearers on the various programmes and projects of CVA and future collaboration on CPD and other programmes between the two associations.

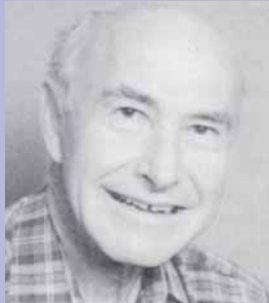
Dr Richard briefed Mr GC Toon on the forthcoming PCVC-5 and sought his help and patronage as Ambassador of Singapore to Ghana. Mr Toon assured his support for the conference.

Dr Richard Suu-Ire who is a wildlife expert also visited the Singapore Zoo and was taken around by Dr Sonja, the Zoo Veterinarian.

“Some people ask the secret of our long marriage. We take time to go to a restaurant two times a week. A little candlelight, dinner, soft music and dancing. She goes Tuesdays, I go Fridays.”

~ Anonymous

Book & Journal Programme



Dr. J.B. Derbyshire

The CVA Book Programme is coordinated from the Ontario Veterinary College at the University of Guelph by Dr. Brian Derbyshire, assisted by Mr. Jim Brett, the College Librarian

A depot is also maintained in Wodonga, Vic Australia by Dr. Jeff Cave, Regional Representative, Australia / Oceania

CONTACTS:

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E-mail: jderbysh@rogers.com

Dr. Jeff Cave, Reg. Rep. Australasia/Oceania, Department of Primary Industries, 1 McKoy Street Wodonga, Victoria 3689, Australia E-mail: jeff.cave@dpi.vic.gov.au



Dr. Jeff Cave

The CVA Book Programme is coordinated from the Ontario Veterinary College at the University of Guelph by Dr. Brian Derbyshire, assisted by Mr. Jim Brett, the College Librarian, and by Dr. Jeff Cave in Australia. Books are donated by veterinarians in Canada, Australia and New Zealand, all of whom are thanked for their generosity, without which the programme would not exist. They are available for distribution free of charge to graduate veterinarians, but not veterinary students, in CVA member countries in good standing. Priority is given to requests from institutional libraries, such as veterinary schools and veterinary associations, and requests from individuals are met as funds permit. Postgraduate students are encouraged to submit their requests through the librarian at their institution, to ensure that the books will be widely available. Because of budgetary constraints and steeply rising mailing costs, the number of books which can be shipped is normally restricted to up to 30 titles for institutions, and up to 5 titles for individual veterinarians in any one year. Individual veterinarians are encouraged to share their books with colleagues in their area if possible.

Requests for books should indicate the required subject areas and/or preferred titles where possible, and they should include the mailing address to which the books should be sent. The latter should be abbreviated as much as possible in order that it may be accommodated in the limited space provided on the customs declaration. It is suggested that those wishing to submit a request should first obtain a copy of the current inventories of books available by contacting, preferably by e-mail, either Dr. Derbyshire or Dr. Cave (see above for contact

information). Shipments are made by surface mail, and may take several months to reach their destination. The recipients are requested to acknowledge the safe arrival of the books.

During the period July 2008 - June 2009, 104 books were sent from Guelph to 5 Commonwealth countries as follows: India (23 books), Nigeria (64 books), Trinidad and Tobago (6 books), and Uganda (11 books). From Australia, 46 books were sent to 6 countries as follows: South Africa (17 books), East Timor (12 books), Malaysia (6 books), Trinidad & Tobago (5 books), Pakistan (4 books), and Nigeria (2 books).

The current inventory at Guelph comprises over 400 titles, and the Australian depot, including sub-depots in New Zealand, Western Australia and Tasmania holds close to 200 titles. Multiple copies of many titles are held. Most of the books were published during the last 20 years; older texts, for which more recent editions are available, are discarded each year. While most areas of veterinary medicine are covered, particularly by the Australian depot, the increasing emphasis on companion animal medicine and surgery in Canada has led to a preponderance of titles in these areas in the Guelph depot, and fewer titles in large animal medicine and surgery, and in public health. The stock of books at Guelph was recently replenished through the cooperation of the Ontario Veterinary Medical Association by their generous collection of donated books at their annual conference.

July 2009

J.B. DERBYSHIRE
Coordinator
CVA Book Programme



CVA Study Fund

The Fund

This fund has been established by the Commonwealth Veterinary Association (CVA) in conjunction with the Commonwealth Foundation to honour the contributions made by Mr. John Anderson and Dr. L.P.E. Choquette in establishing and promoting the activities of the Commonwealth Veterinary Association.

Financial support to match the funds contributed by the Commonwealth Veterinary Association and the several national and local veterinary associations throughout the Commonwealth may be provided by the Commonwealth Foundation.

1. Purpose

Its purpose is to provide financial assistance to:

1. Veterinarians who are members in good standing of their respective national associations to undertake short term study visits to schools, institutions or to undertake short term study courses in veterinary medicine, animal production or related areas in other Commonwealth countries.
2. Animal Health Assistants recommended by the appropriate CVA Council Member and Regional Representative, to undergo further short-term training at a school or institution in another Commonwealth country.

It is expected that such visits will promote professional and para-professional contacts and provide grantees with new knowledge and expertise in their respective fields of interest. Study proposals which will directly benefit the rural poor and disadvantaged will receive sympathetic consideration. All proposals will be expected to describe how they will benefit the home institution, veterinary organization and community. The visit is also expected to result in a broadening of cultural experience and horizons and to promote Commonwealth understanding.

2. Guidelines

1. Grants will be limited to persons with field experience and not holding senior positions.
2. The awards are not normally available for University academic or research staff.
3. Preference will be given to related regions with 'south-south' movements being encouraged. In exceptional cases, visits to institutions outside the regions qualifying under south-south arrangement will be considered as long as the cost of the visit does not exceed the allocated fund award (Aus \$ 3000). In exceptional circumstances and where approved by the President grantees may receive training in a non-Commonwealth country within that Region.
4. The study period should be preferably between 2-3 weeks.
5. Awards will normally be distributed equally amongst Regions, however, on occasion, the President may authorize additional awards to a particular Region in any one year.
6. The study visits will be financed at a maximum of Aus \$ 3000 including a prepaid air ticket for the least expensive and most direct route.

7. Grants are provided only for periods of concentrated study or training on a particular topic or activity and cannot be made for attendance at conferences, meetings etc., nor to underwrite a tour of visits to a number of institutions.
8. A report must be submitted to the Secretary CVA within three months of the completion of the study visit. At the completion of the study visit, the participant must receive a letter of release, which should clearly indicate duration of stay, and satisfactory completion of course. The letter should also confirm that at the time of departure, the participants have not left any debts unsettled. This requirement must be conveyed by the Regional Representative or Programme Director to the host institution before arrival of participant.
9. It will be necessary for the host institution to agree to assist in arranging suitable accommodation etc. affordable by the applicant.
10. Grantees will be expected to give one or two lectures at the host institution or veterinary association on aspects of animal health and production activities in their home country. These lectures should emphasize how their studies in the host country will benefit the rural poor and disadvantaged as well as their impact upon the environment.
11. These lectures and the discussions of topics, both professional and social, with the staff of the host institution or veterinary association will serve to further the aims and objectives of the Commonwealth Veterinary Association.

3. Applications

- i) There is a set Study Application Form/Application. Forms are available from the CVA Secretary, or through the CVA Website.
- ii) Applications should be submitted to the appropriate Regional Representative for processing, at least 6 months prior to the proposal visit.
- iii) The applicants should provide the following:
 - a) A complete curriculum vitae to the Regional Representative
 - b) Two passport size photographs
 - c) A letter of acceptance from the person who will supervise the study program in the host country
 - d) Evidence that the study has the support of his/her home institution or national association

4. Administration

- i) The Study Application Form with supporting documents must be sent to the appropriate Regional Representative
- ii) The Regional Representative will review the application and make a recommendation to the Secretary, CVA.
- iii) The Secretary, CVA will make a recommendation to the CVA President, who will make the final decision.
- iv) The Secretary, CVA will then inform the Regional Representative who will inform the candidate.

Last date of submission of request to Council Members/Reg. Rep. is 30th Oct. 2009. RRs to submit their recommendations before 30th Nov. 2009 to the Secretary, CVA.

Asia

Annual Scientific Conference of Chittagong Veterinary and Animal Sciences University, Bangladesh

The 7th Annual Scientific Conference of Chittagong Veterinary and Animal Sciences University (CVASU) jointly organized by CVASU and One World One Health - Bangladesh Initiative was held from 17-19 March 2009 at Chittagong, Bangladesh. The theme was "Food Security and Food Safety: Towards a One World One Health Approach". The three-day conference had 8 technical sessions.



Dr. Muhammad Abdur Razzaque presenting the inaugural address

Dr. Muhammad Abdur Razzaque, MP, Hon Minister for Food and Disaster Management, the Government of Bangladesh inaugurated the



Dr. Nitish C Debnath addressing the Conference

conference. The session was chaired by Vice Chancellor of CVASU Dr. Nitish C Debnath. Professor MA Sattar Mandal, Vice Chancellor, Bangladesh Agricultural University, Mymensingh, Mr. Ad Spijkers, FAO Representative in Bangladesh, Dr Katharina Stärk, Professor of Public Health, Royal Veterinary College, London, Mr. Karsten Nellemann Kryger, University of Copenhagen and Mr. Alex Cook, Veterinary Laboratory Agency, UK presented papers. Nearly 375 participants from Bangladesh and abroad with multi-disciplinary background attended the conference.



A section of the audience at the inaugural session



Mr. Ad Spijkers, FAO Representative in Bangladesh

The scientific sessions addressed three broad questions related to the theme of the conference:

1. Can biodiverse sustainable organic farming feed a world population which is growing at an unprecedented rate?
2. Can we achieve food security without sacrificing the food safety?
3. Does globalization of food supply mean that all countries share responsibility for food safety throughout the entire food supply chain from producers to consumers?

A total of 39 presentations were made during the three days conference including plenary presentations and presentations on research results of individual scientists. Speakers of the conference came from diverse background including physicians, veterinarians, animal scientists, agriculturists, environmentalists, biological researchers, food scientists, social scientists and development practitioners.

Recommendations were made at the concluding session Chaired by Dr Nitish Debnath. This session was also addressed by Prof Nazrul Islam, Chairman, University Grants Commission of Bangladesh, as Chief Guest and Professor Shah Monir Hossain, Director General of health Services, Professor Md. Mahmudur Rahman, Joint Coordinator, One World One Health-Bangladesh Initiative and Professor Shafiq Haider Chowdhury, Coordinator, One Health Bangladesh Chittagong Support Group. The conference concluded with a vote of thanks to DANIDA, DFID, British Council and CVASU for their financial support to organize the conference.



Professor Shah Monir Hossain, Director General of Health Services addressing the Closing Session



Professor Nazrul Islam, Chairman, University Grants Commission of Bangladesh addresses the gathering

“I had some words with my wife, and she had some paragraphs with me”
~ Sigmund Freud

Workshop on the Development of South Asia Specific Integrated Veterinary Undergraduate Curriculum in Bangladesh

The second phase of the DelPHE project at Chittagong Veterinary and Animal Sciences University (CVASU) began with a three day workshop held between 12 and 14 February 2009. This initiative-funded jointly by DFID and the British Council-focuses on curriculum development in veterinary undergraduate education in South Asia, was attended by 60 delegates. While the majority were CVASU staff, notable contributions were made by senior colleagues from other institutions in Bangladesh - Sylhet Agricultural University, Bangladesh Agricultural University, Mymensingh, Rajshahi University, Potuakhali Sciences and Technology University and by the Deans of partner institutions

such as Madras Veterinary College, India and Arid Agricultural University, Rawalpindi, Pakistan.

This workshop promoted development through formal presentations by both speakers from overseas and participating universities; through a series of structured discussions and feedback sessions. One innovative feature involved the use of electronic voting used throughout the workshop. This provided organizers with invaluable contextual information, and the capacity to track and respond to participant opinion and perceptions, as the workshop proceeded. The workshop was facilitated by a team drawn from RVC (London), and from the University of Liverpool.

Continuing Professional Development (CPD) Programmes for Field Veterinarians Working in the Provinces of Sri Lanka

The Government of Sri Lanka has given high priority to the development of the dairy sector in the country. The Executive Committee of the SLVA for 2008/09 has initiated a series of CPD programmes for field veterinarians, especially those working in the rural areas of various Provinces.

The programmes deal with methods for improving the reproduction, breeding, nutrition and disease control in dairy cattle and buffaloes. They include presentations, group discussions and practical training on small and large dairy farms, which are being conducted on a monthly basis.



Workshop for Veterinarians and Dairy Farmers in the North Western Province of Sri Lanka



CPD Training for Veterinarians in the North Central Province of Sri Lanka



Workshop for Veterinarians in the Southern Province of Sri Lanka



CPD Training for Veterinarians in the Southern Province of Sri Lanka

MSc Wild Animal Health MSc Wild Animal Biology

***Royal Veterinary College, University of London
Institute of Zoology, Zoological Society of London***

One year full time study starting each Autumn, leading to an MSc qualification from the University of London. Courses are delivered in partnership with the Zoological Society of London.

MSc Wild Animal Health applicants require a first degree from a recognised veterinary school and learn alongside experts in the field, to acquire knowledge and skills in wild animal management and the epidemiology, treatment and control of disease.

MSc Wild Animal Biology applicants require a first degree in Biology or Zoology. Participants acquire an understanding of wild animal health and welfare through practical exposure, and receive training in relevant research methodologies.

As our courses are popular, we recommend early application.

Visit our website or call to find out more.

Web: www.rvc.ac.uk/postgrad
Tel: +44 (0) 20 7468 5134

Australasia Oceania

Bushfires devastate Victoria, Australia

Unprecedented bushfires were witnessed in Victoria, Australia in February 2009 causing tragic loss of human life and property, the disaster also took a heavy toll on animal life: livestock, pets and wildlife. The Australian Veterinary Association (AVA) led by former AVA President, Norm Blackman established a team to help coordinate the response.

According to Dr Blackman, "the Victorian Department of Primary Industries has accounted for around 10,000 livestock that have perished in the fires or been euthanased or salvaged and slaughtered for meat".

"Several hundred horses perished in the fires or have been euthanased due to their injuries and hundreds of others have received veterinary attention after surviving the fires. There is very little information on numbers of pets affected but with more than 7,000 people displaced because their homes were destroyed or no longer habitable, it is believed several thousand pets have required veterinary attention. Many of these pets are requiring ongoing treatment due to severe burns".



Injured koala bear being treated at Morwell Animal Clinic, Victoria, Australia

The injuries ranged from burns to paws and faces as well as smoke inhalation. Some vets report having to provide sedatives to those dogs which have been collected by their owners and have returned to their homes in the bushfire areas.

"Pets such as cats often sensed the danger and escaped from the path of the fire well before it reached the homes they lived at. Many have suffered severe burns to their paws and lower legs when returning to their owners' homes as they have walked through areas where hot coals remained under the ash".

Wildlife losses are estimated at well over a million animals when the smaller species and reptiles are included.

"Animals that were able to go to ground such as wombats appeared to have been more likely to survive the fire.

Retired Veterinarian establishes new Scholarship for rural students

Top veterinary students from rural areas are to benefit from a \$20,000 scholarship scheme. One undergraduate will be chosen from the first year of the Veterinary Science degree, and they will annually receive a total of \$5,000 for the duration of the four-year program.

The scholarship has been set up by retired veterinarian Dr Bill Riches and his wife Jenny, of Malvern.

Dr Riches, who began as a vet in Wangaratta and then went on to run his own farm and equine hospital in Berwick, says he wants to help vet students from rural areas



Bill and Jenny Riches with Prof Ken Hinchcliff

meet the high costs of studying in the city. He is also keen to address the shortage of vets in rural areas; usually a student who comes from a rural area returns there to work after qualifying.

To apply, students must be Australian citizens with good academic records and have a home address in a remote or regional part of Australia for at least thereof the past five years. They must also have demonstrated interest in rural practice and an intention to return to regional or rural practice after graduation.

~ Aus Vet J. Vol.87, No.1, Jan/Feb 2009

Canada Caribbean

New President of CVMA

Dr. Julie de Moissac, DVM, has been appointed the 61st National President of The Canadian Veterinary Medical Association (CVMA). Dr. de Moissac succeeds Dr. Diane Frank, whose term as president officially came to an end during the Canadian Veterinary Medical Association's Annual General Meeting in Montreal, Quebec on June 3, 2009. "Becoming President of the Canadian Veterinary Medical Association is a truly humbling, yet exciting prospect," says Dr. de Moissac. "The opportunity to work with and meet veterinarians from across this country is a once in a lifetime privilege." Dr. de Moissac has been a member of the Association for over 23 years. She has been involved as a volunteer for several years, first as a Council member and member of the Animal Welfare Committee, then as a member of Executive. After graduating from the Western College of Veterinary Medicine in 1986, Dr Julie de Moissac established a mixed animal practice near Outlook, Sask. She became a Saskatchewan Veterinary Medical Association (SVMA) Councillor in 1995 and SVMA president in 1998. A three-year term on the Board of Directors of Prairie Diagnostic Services followed.



Dr. Julie de Moissac

New Executive Committee for Singapore Veterinary Association

The following have been elected as members of the Executive Committee of Singapore Veterinary Association for the year 2009.

- | | |
|-----------------------------|-------------------|
| President | Dr Ng Fook Kheong |
| Vice President | Dr Shane Ryan |
| Hon. Secretary | Dr Lim Shu Ning |
| Hon. Treasurer | Dr Kelvin Lim |
| Hon. Editor | Dr Angeline Wong |
| Small Animal Liaison Chair | Dr Simon Quek |
| Committee Member | Dr Kenneth Tong |
| | Dr Jean Sim |
| Committee Member (co-opted) | Dr Yap Him Hoo |
| CVA Councillor | Dr Giam Choo Hoo |

ECS Africa

Maasai raise Awareness of Livestock Disease

Maasai farmers from Tanzania visited Scotland in March to spend a week raising awareness of the challenges that preventable livestock diseases pose to their community. They also visited farmers to exchange knowledge with their Scottish counterparts on cattle farming and disease prevention, and to observe modern farming practices.

The visit was arranged by GALVMed (Global Alliance for Livestock Veterinary Medicines), a Scotland-based charity that is aiming to develop vaccines, treatments and diagnostic products for use by livestock keepers throughout Africa and South Asia.

On March 10, 2009, the Maasai met HRH the Princess Royal patron of the Moredun Foundation, during her visit to the Foundation's headquarters near Edinburgh. Moredun has close links with GALVMed, and representatives of the charity were able to discuss its work with the Princess Royal at the event, which showcased Moredun's work on livestock vaccine development.

During their visit, the Maasai also toured the Royal (Dick) School of Veterinary Studies farm in Midlothian, and visited other livestock farms. They had the chance to see a rotary milking parlour that can milk up to 50 cows simultaneously, and to watch modern field ploughing.

~ Vet Record, Mar 21, 2009

New Executive Committee for Swaziland Veterinary Association

The Swaziland Veterinary Association held its 34th Annual General Meeting on 28th November 2008 at which the following new members of the Executive Committee were elected for a two year term of 2009 and 2010.

- | | |
|-----------|-----------------------|
| President | Dr Nhlanhla J Shongwe |
| Secretary | Dr Mcebo Dlamini |
| Treasurer | Dr Zandile Mlangeni |
| Member | Dr. Bheki Simelane |
| Member | Dr Noel Chikuni |

The position of CVA Councillor is vacant and Dr Nick Gumede, former CVA Councillor is the acting Councillor.

Kenya Women Veterinary Association

The CVA Project on training of Maasai women farmers in Kenya is now in its third year. The recent training programme for the farmers was on the use of dewormers in livestock. Helminth parasitic infections continue to be a big problem in livestock in Kenya and hence, this aspect of the training. On one of the training days, the Director of Veterinary Services of Kenya also visited the camp.



In attendance during one of the training sessions is the Director of Veterinary Services Kenya addressing the women. Seated next to him are the women vets and local leaders. Food aid was delivered at the meeting.



Maasai girls showing up pamphlets on Donkey care received during one of the training sessions.

"There is a way of transferring funds that is even faster than electronic banking. It's called marriage."

~ Sam Kinison



Pastoral women attending a training sessions on use of dewormers



A woman vet (in white labcoat) demonstrating how to deworm animals



One of the training sessions.



Four Years of Sustained Engagement and Consolidation: A Review of Activities of the Nigerian Veterinary Medical Association (2005 -2009)

Introduction

The Nigerian Veterinary Medical Association is a registered corporate body, which represent the interest of the Veterinary professionals in Nigeria. It has been in operation for 47 years with branches in 36 states of the federation and the Federal Capital Territory. The Association is administered by the National Executive Council, currently led by the President, Professor Garba Hamidu Sharubutu, a Professor of Veterinary Medicine at the Faculty of Veterinary Medicine, Usmanu Danfodiyo University, Sokoto, Nigeria and former Dean of the Faculty between the years 2002 to 2006.

The current Executive Council was elected at the 42nd Annual Congress of the Association held on 19th October 2005 at University of Maiduguri. Initially, the administration was met with several challenges, which included;

- a. The death of its President Dr Yusuf Haroun towards the end of his tenure
- b. Apathy of members.
- c. Declining Government involvement in Veterinary activities and weak legislations and.
- d. Growing but weakly regulated Private Veterinary practice.

It is however gratifying to note that despite these daunting challenges, the Executive with the support of the committed and dedicated members were able to evolve a new vision for the transformation of the association as contained in the action plan adopted by the congress. With religious implementation of the action plan, the Association has been re-launched into a more dynamic, member's driven and virile body where the interest of the profession is paramount on the agenda. Some of the milestone achievements and activities of the Association in the last 4 years are outlined below.

1. Secretariat and Administration

The temporary National secretariat of the Association located at the Veterinary Council of Nigeria building was refurbished. In order to promote efficiency and service delivery, office equipments such as cabinets, computers (Desk and Lap top computers) and accessories, power point projector and its accessories, and a new vehicle was procured for the secretariat. For the first time in the over 40 years of its existence, an administrative secretary was appointed to man the secretariat for the day to day administration of the Association and the building of phase I of the National secretariat has commenced at a site acquired by the Association at the nation's capital Abuja.

In addition, a Committee was constituted by the National President to review congress hosting and election guidelines of the Association with a view to bring it in tune with the current realities. The committee had since submitted its report, which was subsequently adopted at the 45th Congress held in Owerri, Imo State, Nigeria in 2008.

2. Publicity and Publications

The publicity machinery of the Association was re-positioned and modernized during the period under review with the commissioning of NVMA interactive forum, the yahoo mail group and a website (www.nvmang.org). The National President, the Secretary General and the Publicity Secretary have appeared more than 200 times on TV and have given presentation in promotion and defense of Veterinary Profession.

The Association continues to publish its professional journal, Nigerian Veterinary Journal. To further improve the dissemination of professional information, the number of volumes of the journal produced by the association per year was increased from 2 to 4. A compendium of Veterinary professionals in the country titled "WHO is WHO in the Veterinary Profession in Nigeria" was published in the year 2007 as a tribute to members who had made tremendous contribution to the growth of the profession in the country.

3. Veterinary Legislations

In collaboration with the Veterinary Council of Nigeria which is the Professional Regulatory Body and the apex department in charge of Veterinary activities Federal Department of Livestock and Pest Control Services, the Association has made several appearances at the National Assembly to present the position of the profession on bills to review existing laws that may impact on the activities of the profession. New laws are also sponsored by the Association to enhance professionalism. The Association had participated and vigorously pursued the review /or enactment of the following legislations;

- i. Veterinary Surgeons Act 37, 1969
- ii. Animal Diseases (control) Act 10, 1988
- iii National Agency for Food, Drug Administration and Control Act
- iv. National Agricultural Quarantine Service Bill
- v. Animal Technologist and Husbandry Practitioners Regulatory Board Bill
- vi. Veterinary Teaching Hospitals Bill

To further strengthen the activities of the Profession, the Association is in court with Pharmacist Council of Nigeria seeking interpretation of Pharmacy Act on the limit of the Council in regulating sales and administration of Veterinary drug in Nigeria.

4. Welfare of Veterinarians

The welfare of members of the association was the top most agenda at the Executive meeting during the last 4 years. The NVMA leadership made representation to Government on issues of welfare of its members in the public sector. The issue of the review of Call duty and its implementation was pursued especially in tertiary institutions. Indeed, quite a lot was achieved in this direction as Veterinarians are amongst the highest paid employees in the public service.

The Executive also pursued the issue of general unemployment of Veterinarians in all tiers of Government. Currently various state Governments and the Federal government establishments such as the Federal Department of Livestock, The Prison Service and Police have started recruiting veterinarians. The Association has also presented a memo to the police and Defense authorities on the establishment of Veterinary Cadre in their services.

With the support of Veterinary council of Nigeria, efforts are on to sanitize and consolidate the private practice sector and introduce standard welfare package for the private sector. In addition, council has introduced annual professional practice license and registration of Veterinary practice premises with a view to eliminate the incidence of quackery and professional misconduct.

5. External Relations

Since the inauguration of the present executives, tacit efforts were made to improve and consolidate on the relationship between the association and governmental and non governmental organizations within and outside the country, which have links with the profession. The association has thus participated in all World Veterinary Association and Commonwealth Veterinary Association's activities held during the last 4 years.

6. Finance and Revenue Generation

Due to lack of funds for the activities of the association, active engagement with corporate Veterinary organizations in the country was fully exploited with mutually beneficial relationship. This has greatly helped the Association in financing some of its activities. However to reduce such dependence, the association has resuscitated its commercial outfit (NVMA Ventures) and has given management the desired independence to operate and take investment decisions on behalf of the association.

Problems

1. The Association is constrained by lack of funds and government patronage.
2. The Federal Government has not been forthcoming in allowing the Association full participation in its policies. This has often led to strain relationship which most often threatens the smooth functioning of the Association. However, the Federal Department of Livestock and particularly the Veterinary Council has shown great commitment in uplifting and promoting the activities of the Association.

Conclusion

In keeping with the democratic norms of the Association, preparations are at an advanced stage for the 46th Annual Congress scheduled to be held in the ancient city of Awka, the capital of Anambra state, Nigeria from Monday 19th to Friday 23rd October, 2009. This

CVA REGIONAL NEWS

Congress would give members the opportunity to review developments in the profession since the last Owerri Congress and chart a new course for the profession in Nigeria.

At this Congress, the Prof Sharubutu's led administration will complete its second term in office and the congress will be electing new officers to lead the association for the next two years.

You are invited to join the Veterinarians in Nigeria at Awka, Anambra State, South-East, Nigeria for their 46th Annual Congress.

~ B.M. Agaie
CVA Councillor, Nigeria

New Councillor for Ghana

Dr. Kinglsey Mickey Aryee has been appointed as the new Councillor of Ghana. He replaces Dr Perdita Lopes.



Dr. Kinglsey Mickey Aryee

Dr Aryee graduated with a DVM MVSc from Kharkov Zoo Veterinary Institute, Kharkov, Ukraine in 1986 and did his MSc in Health Services Planning and Management from Kwame Nkrumah University of Science and Technology in 1999.

He has worked as District Resource Control Officer from 1992-1994, District Veterinary Officer, Ministry of Food and Agriculture from 1998-2001 and as District Director of Agriculture from 2000-2007. He is currently holding the post of District Veterinary Officer.

Former CVA Councillor Ghana killed in a car accident

Dr. Joseph Gaari-Kweku, former CVA Councillor passed away on 14th December, 2008 in a tragic motor accident in Kpong Tamale a village near Tamale, Ghana.

He was Secretary of the GVMA and subsequently a Councillor for the CVA in Ghana from 1996-1998.

He is survived by his wife and three children.

UK Mediterranean

New RVC Centre to encourage Collaborative Research

A new centre dedicated to the study of disease affecting human and animal health has been officially opened at the Royal Veterinary College's Hawkshead Campus, UK.

The Centre for Emerging, Endemic and Exotic Disease (CEEED) is a state-of-the-art building combining high-security laboratories and office space to encourage researchers to collaborate in tackling diseases such as tuberculosis, avian influenza and MRSA.

Research conducted in the building will contribute to the prevention, management and eradication of infectious diseases that affect animal and human health, and also endemic diseases of economic and animal welfare relevance. The centre will house scientists with a range of interests, from epidemiology, immunology and microbiology to welfare and economics. It will also provide training facilities for the RVC's undergraduate and postgraduate students.

~ Vet Record, March 7, 2009

Victorian Fires claim one of Australia's leading Animal Welfare scientists

Associate Professor John Barnett and his wife Jenny Barnett died during the Victorian bush fires in February.



Professor John Barnett

John's main area of expertise was stress physiology and its application to the study of domestic animal welfare. He had worked extensively with the livestock industries in developing welfare components of livestock industry QA programs and in assisting to achieve improvements in awareness and practices to safeguard animal welfare standards. His outstanding scientific efforts have been highly acclaimed nationally and internationally by both science and the livestock industries and animal welfare science will greatly miss his important contributions.

Journal of Commonwealth Veterinary Association

Instructions to Authors

The JCVA publishes original articles, case reports, short contributions and review articles. Please contact the Editor if you plan to write a review.

Send your manuscripts to:

Dr. S. Abdul Rahman
Editor, JCVA
#123, 7th "B" Main Road
4th Block (W), Jayanagar
Bangalore 560011, INDIA

Covering Letter

Manuscripts must be accompanied by a letter to the Editor, signed by all coauthors.

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Animal Welfare

The handling and use of animals in experiments must conform to the International Code of Practice for the care and use of animals for scientific purposes.

Manuscript

Submit the manuscript in duplicate. Type it on one side of A4 paper, with 10 cpi font, leaving a left-hand margin of 3 cm and numbering every fifth line. Use double spacing throughout, including title page, abstract, text, acknowledgments, references, tables and legends for illustrations. Do not underline anything. Number all pages.

Alternatively a version can be provided on a computer diskette, preferably in PC format. Acceptable word processing programs are WordPerfect and MS Word. If you use a Macintosh send your manuscript as an email attachment or on a PC formatted disc. An email attachment can also be sent to shireen@blr.vsnl.net.in

Title

The title should be concise, specific and informative but should not make an assertive claim about the conclusions of the study.

Authors' Names And Addresses

Give initials and surnames in capitals without stops. Separate the authors' names with a comma, except the names of the penultimate and ultimate author, which are separated with 'and' in lower case letters. If a single postal address is applicable, type it in full below the authors' names. If there is more than one address, provide all as footnotes. An Email address may be included. The first named author is assumed to be the author for all correspondence, including requests for reprints. Kindly include your qualifications mentioning the degrees obtained.

Layout

Articles should have a structured abstract of no more than 250 words. The subdivision is up to the author, but should encompass the Objective, Design, Procedure, Results and Conclusion. Write subheadings in lower case bold letters, followed by the text on the same line. List nonstandard abbreviations and their explanations after the abstract. Use only the abbreviated form in the text. Avoid use of abbreviations in the abstract. The main headings, following an untitled introduction, are Materials and Methods, Results, Discussion, Acknowledgments and References. The introduction should state the purpose of the study. The contents of Materials and Methods should enable others to reproduce the work. Present the findings in Results concisely and logically. Evaluate and interpret the findings in the Discussion, but do not present new data. If possible, write the main conclusions at the end of the Discussion. Headings may vary from standard if the variation makes the article more informative.

Tables

Type each table double-spaced on a separate page. Number tables in Arabic in the order they are referred to in the text. Each table should have a concise title that describes its content adequately. Information in the table must not be repeated in detail in the text.

Do not use vertical lines. Use horizontal lines to separate the table from the title, and footnotes and column headings from data.

Figures

Both black and white and colour photographs are encouraged to a maximum of five only. Figures can be submitted in digital form as separate files. They should be saved as TIFF, JPEG or EPS files with a resolution of 300 dpi. EPS files must be saved with the preview option. Illustrations provided as MS Word files will not be accepted. Write legends for figures and explanations of symbols on a separate page. Legends should contain enough information to make the figure comprehensible without reference to the text.

References

Cite only those publications that are essential for the understanding of the study. Number text references consecutively, in the order in which they are mentioned, by superscript Arabic numerals. Write and number the reference list in the sequence of the references in the text. References to journals, books, conference proceedings, organisational papers, anonymous editorials, foreign language articles and internet web sites, respectively, are written as follows:

1. Gibson KT, Hodge H, Whittam T. Inflammatory mediators in equine synovial fluid. *Aust Vet J* 1996; 73: 148-151.
2. Peterson ME, Randolph JF, Mooney CT. Endocrine diseases. In: Sherding RG, Editor. *The Cat: Diseases and Management*. 2nd edn. Churchill Livingstone, New York, 1994: 1403-1506.
3. Rhodes AP. Infectious bovine keratoconjunctivitis vaccination. In: *Proceedings of the 23rd Seminar, Sheep and Beef Cattle Society*, New Zealand Veterinary Association, June 1993.
4. Australian Veterinary Association. Tethering of sows and sow stalls. In: Greenwood PE, editor. *Members' Directory and Policy Compendium*. 1997: B5.
5. Where do we stand on manpower? [editorial] *Vet Rec* 1995; 137: 1.
6. Homberger FR. Mäusehepatitis-Virus. *Schweiz Arch Tierheilkd* 1996;138:183-188.
7. Council of Docked Breeds. The case for docking. <http://www.cdb.org>. 1992. Retrieved 15 October 2001.

List all authors if there are five or fewer. When there are more than five authors, list only the first three and add 'et al'. Write titles of books, journals and other publications in italics. Capitalise only the first letter of the book titles. Do not underline or use bold letters. The abbreviation of journals follows that of Serial sources for the BIOSIS previews database. Cite references to unpublished work only in the text, with a notation of (personal communication) or (unpublished). Please send a copy of any cited work that is included in the reference list as 'in press'. It is the authors' responsibility to check the accuracy of reference citations.

Acknowledgments

Only acknowledge significant intellectual, technical and financial contributions. A short work warrants short acknowledgments.

Articles of General Interest

Articles of general interest, experiences in treating of clinical cases, country reports, success stories in animal production, using innovative approaches and where possible enhancing the contribution of women and also using sustainable methods are also encouraged.

Review Articles

Reviews on a specific topic usually are written by invitation. Other authors wishing to submit a review should first enquire of the editor whether the topic is of interest to the Journal. A synopsis of the proposed article often will be requested before the writing of the full version is commenced. Reviews should provide a critical assessment of published works that have contributed to the development or understanding of the chosen topic. The soundness of experimental evidence and the validity of conclusions and recommendations in cited articles should be assessed. Conflicting observations and interpretations should be examined and evaluated.

~ Editor, JCVA

CALENDAR OF EVENTS

2009

21st VAM Annual General Meeting and Congress, Port Dickson, Malaysia. **August 7-9.**

6th Asian Buffalo Congress, Lahore, Pakistan. **October 27-30.**

CVA Regional Meeting of ECS African Region, Kampala, Uganda. **November 8-13.**

2010

CVA Regional Meeting of UK Mediterranean Region, Malta. (Date to be announced).

2011

5th Pan Commonwealth Veterinary Conference, Accra, Ghana. **March 20-25.**

30th World Veterinary Congress, Cape Town, South Africa. **October 10-14.**

2012

CVA Regional Meeting of Asian Region, Colombo, Sri Lanka. (Date to be announced).

CVA Regional Meeting of Australasia/Oceania Region, Fiji. (Date to be announced).

2013

CVA Regional Meeting of West African Region, Lagos, Nigeria. (Date to be announced).

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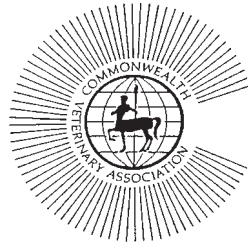
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**13th East, Central and Southern African Regional Meeting and
International Scientific Conference**

8-13 November 2009. Kampala, Uganda

**First Announcement &
Call for Abstracts**

Theme:

**Convergence Of Veterinary Science, Public Health And Trade For
Sustainable Livelihoods In Sub-Saharan Africa**

Organised by:

Uganda Veterinary Association

Faculty of Veterinary Medicine, Makerere University

Commonwealth Veterinary Association



**Commonwealth
Foundation**

Invitation

It gives us great pleasure to invite you to the The 13th East, Central and Southern African Regional Meeting and International Scientific Conference of the Commonwealth Veterinary Association organised by the Uganda Veterinary Association and Faculty of Veterinary Medicine, Makerere University which will be held at Kampala, Uganda, from 8 to 13 November 2009.

The theme of the Conference will be "**Convergence Of Veterinary Science, Public Health And Trade For Sustainable Livelihoods In Sub-Saharan Africa**".

The Conference will provide an excellent opportunity for local and international veterinarians, scientists, livestock entrepreneurs, the farming community and other stakeholders engaged in the animal industry to present scientific papers and posters. It is also an excellent platform for discussion and exchanging views relating to the field of veterinary sciences. The venue of the Conference will be the Imperial Royale Hotel, Kampala.

Dr. G.F Bath
RR, ECS Africa

Dr. Sam Okech
President, UVA

Dr. Frank Nobert Mwiine
CVA Councillor, Uganda

Kampala, Uganda

Before the arrival of the British, Mutesa I the Kabaka (king) of Buganda had chosen the area that was to become Kampala as one of his favourite hunting grounds. The area was made up of numerous rolling hills and lush wetlands. It was an ideal breeding ground for various game, particularly a species of antelope, the Impala (*Aepyceros melampus*). The city grew as the capital of the Buganda kingdom, from which several buildings survive, including the Kasubi Tombs (built in 1881), the Buganda Parliament, the Buganda Court of Justice and the Naggalabi Buddo Coronation Site. The main campus of Makerere University, one of East and Central Africa's premier institutes of higher learning, can be found in the Makerere Hill area of the City.

Call for Papers

The Scientific Programme Committee welcomes the submission of extended abstracts for oral or poster presentation using the format described below.

Instruction for Authors

- Please prepare a Microsoft Word document using Times New Roman font 12, single spacing
- Title: Bold, font size 12
- Author: Bold, font size 12: underline the presenter's name
- Address: in italics, font size 10, no abbreviation, if more than one author indicate address of each author numerically in superscript, provide email address of corresponding author
- Extended abstract must be a minimum of 2 but not more than 3 pages or 1000 words includes the tables, charts, photos and references.
- Poster presentation must be in A1 size poster (594 x 841 mm or 23.4 x 33.1 in)

For the publication in the proceedings of the Conference, the final paper via email attachment should reach the Chairman of Scientific Programme Committee by 31 August 2009.

Please send extended abstracts by email attachment to:

Dr. Sam Okech: sgokech@yahoo.com

Dr. Frank Nobert Mwiine: mwiine@vetmed.mak.ac.ug

Dr. G.F Bath: gfbath@op.up.ac.za

Scientific Sessions

The Scientific Sessions will cover a wide range of topics including;

- ✦ Biotechnology
- ✦ Animal Welfare
- ✦ Organic Farming
- ✦ Clinical Practices
- ✦ Animal Traceability
- ✦ Veterinary Pathology
- ✦ Veterinary Epidemiology
- ✦ Ethno-veterinary Medicine
- ✦ Food Industry of Animal Origin
- ✦ Trans-boundary Animal Diseases
- ✦ Infectious, Emerging and Zoonotic Diseases
- ✦ Livestock Production, Nutrition and Economics
- ✦ Veterinary Public Health, Biosecurity and Food Safety
- ✦ Exotic Animals, Wildlife and Zoo Medicine and Management



Uganda Ruwenzori Mountain Lady

Scientific Programme

The tentative programme is as follows:

Saturday 7 November 2009	➤ Executive Committee of Meeting of Commonwealth Veterinary Association
Sunday 8 November 2009	
Monday 9 November 2009	➤ Registration ➤ Workshop on Continuing Professional Development
Tuesday 10 November 2009	➤ Inauguration of the Conference and Keynote Address by HE The President of the Republic of Uganda, Gen. Y.K. Museveni ➤ Workshop on Continuing Professional Development (Contd.) ➤ Welcome Reception
Wednesday 11 November 2009	➤ Scientific Sessions – in Three parallel Sessions
Thursday 12 November 2009	➤ Scientific Sessions (Contd.) – in Three parallel Sessions ➤ Plenary Sessions, Closing Ceremony and Conference Dinner
Friday 13 November 2009	➤ Uganda Veterinary Association Annual General Meeting ➤ Field Visits
Saturday 14 November 2009	➤ Departure of Delegates

Other Activities:

There will be ample opportunities for trade exhibitions, business meetings, research collaboration meetings, site seeing and tours (sceneries, wildlife, cultural sites, etc). Enquiries from interested parties are welcome.

Accommodation

Conference Hotel

Imperial Royale Hotel US\$ 120 (single deluxe room, inclusive of taxes)
Plot No. 7 Kintu Road
P.O. Box 4326, Kampala, Uganda
<http://www.hotelsinuganda.com/Imperialroyale-hotel.html>

Other Hotels include:

Sheraton Hotel	US\$ 175	Metropole Hotel	US\$ 100
Fang Fang	US\$ 70	Hotel Ruch	US\$65

REGISTRATION US\$ 100

Cheques to be drawn in favour of "Uganda Veterinary Association"

Registration of Interest

Name: Prof./Dr./Mr./Ms. _____

Address: _____

Telephone No. _____ Fax No. _____ E-mail. _____

Registration of Interest: _____

Accompanying Person: (Mr./Mrs./Ms.) _____

I enclose a Cheque No. _____ dated _____ for US\$ _____ towards the
Registration / Accommodation.

Name: _____

Signature: _____

For further details contact:
(Also for Registration and Hotel Reservation in due course)

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- Email: ugaconference@vetmed.mak.ac.ug
- Website: <http://www.vetmed.mak.ac.ug>



5th Pan Commonwealth Veterinary Conference

**20 - 25 March 2011
Accra, Ghana, West Africa**

Theme:

**The Role Of Veterinarians And Livestock Farmers In
Food Security And Poverty Alleviation**

*Organised
by*

**GHANA VETERINARY MEDICAL ASSOCIATION
&
COMMONWEALTH VETERINARY ASSOCIATION**



**Commonwealth
Foundation**

5TH PAN COMMONWEALTH VETERINARY CONFERENCE

JCVA

Invitation

It gives us great pleasure to invite you to the 5th Pan Commonwealth Veterinary Conference on "The Role of Veterinarians and Livestock Farmers in Food Security and Poverty Alleviation" which will be held in Accra, Ghana, West Africa from March 20th to 25th 2011. The highly successful 4th Pan Commonwealth Veterinary Conference held in Barbados, West Indies in November 2007 had as its theme, "Animal Health and Welfare: Constant Challenges for Veterinarians". This Conference has as its theme the use of animals to improve quality of life in the less privileged areas of the Commonwealth especially in Africa and the later implementation in other countries.

The theme also focuses on improving the quality of life, paying particular attention to the role of women. The theme of this conference therefore encompasses food safety and security and the role of both livestock farmers and veterinarians in ensuring this as well as alleviating poverty.

On behalf of the Organising Committee we would like to invite you to participate in an exciting programme.

Richard Suu-Ire
President, CVA

Kwasi Bowi Darkwa
President, GVMA

Olatunji Nasir
RR, West Africa

Kingsley Mickey Aryee
CVA Councillor, Ghana



Ghana

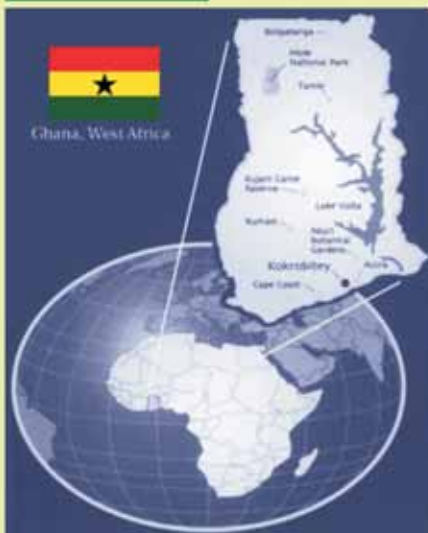
Formerly the Gold Coast, is located on the West Coast of Africa, surrounded on the north by Burkina Faso, West by La Côte D'Ivoire, East by Togo and South by the Gulf of Guinea (Atlantic Ocean). The Greenwich Meridian passes through Ghana, so it is said that Ghana is geographically closer to the "centre" of the world than any other country.

Accra has been Ghana's capital since 1877, and contains fine public buildings reflecting its transition from the 19th century suburb of Victoria Borg to the modern metropolis its today. Spreading along the Atlantic coast, the city is well endowed with luxury as well as great value hotels and excellent restaurants. Among the highlights of Accra is the National Museum, the National Theatre, the Center for National Culture, Independence Square, the Kwame Mausoleum, the Fishing Port at James Town and Makola Market.

The venue of the Conference, Accra International Conference Centre is the foremost conference centre in the country, and has played host to many international gatherings.

The climate is tropical and during March the temperature ranges from 21 - 32°C (70 - 90°F) and when it rains the weather is very cool.

Accra is well connected by Air and a valid passport is required for some countries. A valid international certificate of Yellow Fever vaccination is required for some visitors.



5TH PAN COMMONWEALTH VETERINARY CONFERENCE

Scientific Programme

The main streams of the Scientific Programme include

- * **Advances in Veterinary Science**
 - o Advances in Companion Animal Medicine
 - o Topical Disease Update in Companion Animals
 - o Emerging and Re-emerging Diseases
 - o Zoonotic Diseases including Swine Fever, Rabies and Avian Influenza
 - o Regional Zoonotic Diseases - WHO Perspective

- * **Alleviation of Poverty**
 - o Role of Women in Livestock Production in Africa
 - o Programmes and Projects to Alleviate Poverty
 - o Sustainable livelihood through livestock production
 - o The Training of Pastoral Women in Kenya
 - o Smallholder Grazing Systems

- * **Animal Welfare**
 - o Recent Trends in Animal Welfare
 - o Concepts in Animal Welfare
 - o Alternative to Animal Experimentation

- * **Food Safety**
 - o Food Safety - An African Approach
 - o Food Production/Security
 - o The Future of the Food Safety in the African Region - A Perspective
 - o Food Safety Issues and Challenges
 - o Risk Assessment in Food Safety
 - o Aquaculture - Regional Overview

Note: The second announcement will feature the names of the Speakers and a detailed Scientific Programme

5TH PAN COMMONWEALTH VETERINARY CONFERENCE

Accommodation

Labadi Beach Hotel, 5-Star	.....	US\$ 230*
Golden Tulip Hotel, 4-Star	.....	US\$ 230*
La Palm Royal Beach Hotel, 4-Star	.....	US\$ 230*
Novotel, 4-Star	.....	US\$ 174*
Alisa Hotel, 3-Star	.....	US\$ 125*
Crown Apartmento Hotel, 3-Star	.....	US\$ 160*



* Rate per night, taxes extra

REGISTRATION US\$ 200

Cheques to be drawn in favour of "5th Pan Commonwealth Veterinary Conference"

Registration of Interest

Name: Prof./Dr./Mr./Ms. _____

Address: _____

Telephone No. _____ Fax No. _____ E-mail. _____

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Accompanying Person: (Mr./Mrs./Ms.) _____

I enclose a Cheque No. _____ dated _____ for US\$ _____ towards the
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