Wow… how time flies! We now have all three projects up and running (two in Laos and one in Cambodia) after a number of years planning, refining project designs and partner engagement. This is keeping us all extremely busy, as planning and implementation always takes longer than what you might initially think. Thankfully we have great project partners in both countries helping drive activities forward in fast-changing environments.

In this newsletter we provide an update on activities for all three projects, present brief summaries from a number of students involved, and present info about new project partners and collaborators. Our new projects represent a huge challenge, as we are working in significantly more research sites (villages) across a wider geographic range in both Cambodia and Laos. This means we can reach more smallholder farmers, village veterinary personnel, district and provincial government staff and involve more students in research and extension activities.

We hope you enjoy the Newsletter!

Have you seen our website?

Check out www.mekonglivestock.wordpress.com for more information, contact details, photos, peer-reviewed publications and more!
‘Development of a biosecure market-driven beef production system in Lao PDR’ AH/2012/068

Our largest project is set to increase links between smallholder farmers and higher value markets through improving health and production…

Working in 32 villages in four provinces in Laos, this project represents a large-scale research project in all forms. Given our previous ‘Best practice health and husbandry of cattle and buffalo in Lao PDR’ project involved only six villages, this new project has the potential to reach and engage significantly more smallholder farmers and their communities.

To date, all project sites (districts and villages) have been identified, selected and confirmed. Project staff have now been selected and the first project staff meetings were held in August. This provided an important opportunity to reiterate the projects objectives and planned activities in the following 6–12 months.

The team consists of both new staff as well as some who were involved in the previous project, bringing both experience and fresh ideas. Dr Syseng Khounsy, Lao Project Leader, has recently been promoted to Deputy Director General of the Department of Livestock and Fisheries. This is a great achievement and thankfully he will remain project leader despite his new responsibilities.

In October, the baseline knowledge, attitude and practice (KAP) survey was conducted in all project sites. This survey will provide key smallholder farming and household measures and allow project impacts to be monitored throughout the 4.5 year project.

Australian student NCP scholarship success

The Team was very pleased to be advised that our New Colombo Plan student scholarships for 2016 were successful. A total of AUD $66,000 was awarded to fund 20 students to visit Cambodia and Laos. The scholarship is used to fund student mobility (travel from Australia), support in-country expenses and language training.

Since 2008, we have had more than 50 students travel up into the Mekong to conduct research activities and this student engagement has been very beneficial for both student experiences and project outcomes. In 2016 we will have a mix of final year Veterinary students and Animal Veterinary Bioscience honours students who will spend at least 1-month in country conducting individual research projects with our in-country partners. Edwina Leslie (final year Vet student) is helping coordinate the large group. The first group of 2016 students to travel to the Mekong includes Arianne Fabella and Sophie Woodhouse (Cambodia) and Imogen Game (Laos).
Farmer knowledge, attitude and practices (KAP) survey

In June and July, project staff from the Department of Animal Health and Production (DAHP) travelled to all 16 project locations to conduct a knowledge, attitudes and practices (KAP) survey of project farmers. The purpose of the KAP survey was to collect information from project farmers to i) establish disease status and current biosecurity practices; ii) establish current nutrition and reproduction practices and their effect on livestock production and household income, and; iii) establish market access and income from livestock. The data has now been successfully entered into an Excel spreadsheet ready for analysis by Leoung Van Irng - well done Irng!

Forage development

In late July and early August, project farmers in provinces gathered to attend training sessions on establishing forage plots and growing forages. The training was conducted by DAHP and provincial project staff and included the importance of forages, land preparation, cultivation techniques and harvesting. Three seed varieties have been introduced: Mulato 2, Ubon Stylo and Mombasa Guinea. The seeds were imported from Prof Michael Hare of Ubon Ratchathani University, Thailand, and required a special trip to the border where approximately one-third of a tonne of seed was collected!

Photo: DAHP Deputy Director and Project leader and coordinator Dr Suon Sothoeun (third from left) discusses with farmers the benefits of forage growing in Siem Reap province.

Village-based biosecurity for livestock disease risk management in Cambodia

AH/2011/014

Smallholder produced livestock remain a key source of food in Cambodia, and improving livestock health and production can strengthen food security and more…
**Animal Veterinary Bioscience honours students visit Cambodia**

Three AnVetBioSc honours students recently spent a month in Cambodia. Here’s what they were up to:

**Luisa Olmo** is investigating cattle reproduction through consolidating baseline information on the current status and practices. This will be achieved through analysis of farmer KAP surveys conducted by DAHP staff. This is important to investigate appropriate interventions that can be implemented in villages to improve the number of calves born. Increasing the number of calves born will lead to an increased cattle population in Cambodia. This will allow farmers to increase their income by selling animals to meet the growing demand for red meat in South-East Asia.

**Kate Owers** is conducting research that aims to investigate foot-and-mouth disease (FMD) reporting within Cambodia and avenues for improvement to benefit smallholder village biosecurity. FMD is a significant transboundary animal disease affecting rural smallholder production by reducing animal production and quality, affecting the livelihood of farmers and reducing trade opportunities. By investigating FMD reporting to central DAHP, this project seeks to understand more about the impact of FMD on smallholder farmers, villages and Cambodia. Assessing the knowledge, attitude and practice of farmers and village animal health workers (VAHWs) will allow evaluation of the actions of farmers and VAHWs when reporting FMD to authorities. From this information Kate will make recommendations to improve the flow of information from farmer to central DAHP to help inform FMD control and eradication efforts.

**Angela Zhang** is investigating the status of Porcine Reproductive and Respiratory Syndrome (PRRS) in smallholder pig farms and village-based biosecurity practices. Since the first reported outbreak in Cambodia in 2010, PRRS has gained increasing attention as an important focus for community-level livestock disease control programs. However, its socioeconomic impacts have yet to be fully investigated. Angela’s project aims to establish baseline knowledge of the current beliefs and actions of smallholders towards PRRS as an important step in understanding how the disease develops in rural communities and the impact of the disease at the household level. Angela then aims to use this information to suggest recommendations for smallholders to control and prevent the disease.

**New publication accepted**

**John Stratton** conducted a large-scale survey of VAHWs in 19 Cambodian provinces in 2008. This work represents one of the largest surveys of VAHWs ever conducted in Cambodia, and the resulting publication ‘Are Village Animal Health Workers able to assist in strengthening transboundary animal disease control in Cambodia?’ is currently in press following acceptance by Transboundary and Emerging Diseases. We congratulate John on his achievement!

**PhD student returns home after six months in Phnom Penh**

**Katherine Ashley** is investigating the socioeconomic status of smallholder farmers in Cambodia that grow rice and raise livestock at a subsistence level. The aim of the research is to improve understanding of the financial status of rural households, focusing on household income and expenditure, to identify changes that farmers can make to increase their household income and improve their standard of living. One study aims to investigate the financial benefit of developing a forage plot and feeding forages to cattle compared to traditional practices of feeding rice straw and native grasses. This will provide evidence for farmers to make changes to their systems to provide better feed for their cattle, increase cattle weights and improve household income. Further research investigating the socioeconomic benefit of improved village level biosecurity will also provide evidence for farmers to vaccinate their animals leading to improve animal health and improved income. Kath has recently returned to Australia after a productive 6 months based in Phnom Penh where she assisted the in-country project team during survey data collection, supervised students and submitted her first publication for review.

*Photo: DAHP project team member Bun Chan (second from right) and Katherine Ashley interviewing a project farmer in Takeo province*
Enhancing transboundary livestock disease risk management in Lao PDR AH/2012/067

Project AH/2012/067 is operating in nine villages in northern Laos and aims to develop a whole-of-village biosecurity program for pigs, poultry, goats, cattle and buffalo. There is also a strong focus on improving disease reporting in preparation for potential FMD-free zoning, and development of a communication strategy for a widespread public awareness biosecurity campaign. Project activities to date have focused on the selection and recruitment of villages and project staff, and initiating student led research projects.

Medicated block trials in northern Laos

One such project, is that of Tereza Nemanic, who is conducting a pilot study of the therapeutic effect of fenbendazole medicated urea molasses blocks against Toxocara vitulorum in northern Lao PDR smallholder large ruminant systems. Tereza recently spent one month in Luang Prabang where she worked with Department of Livestock and Fisheries (DLF) staff under the supervision of Dr Syseng Khounsy and Sonevilay Nampanya to carry our sample faecal collection in project villages and conduct faecal egg counts at the DLF laboratory. This work is part of a wider investigation into novel methods for anthelmintic control in village large ruminants and a second pilot study in due to be carried out in Cambodia early next year.

National University of Laos (NUOL)

The project team continues to build linkages with the National University of Laos (NUOL) Faculty of Agriculture (FoA) located at Nabong campus through project activities, student placements and curriculum development.

NUOL curriculum development

This year, Associate Professor Russell Bush is working with NUOL to further develop their veterinary science curriculum, which is developing from a 5-year BVSc to a 6-year DVM.

Photo: Professors Peter Windsor and Russell Bush present donated veterinary science textbooks to Vice-Dean at NUOL Nabong Mr Somphan Pasouvang and the head of veterinary teaching Dr Vannaphone Phouttana in November 2015. Many thanks to James Rawson for these gifts!
FMD vaccine gun trial

Recently, the Australian Government Department of Agriculture and Water Resources (DAWR) provided a grant to evaluate the use of a vaccination guns for use with the oil-adjuvated FMD vaccine used in Laos. The trials are important to give the DAWR confidence in a ‘field-tested’ product but could also influence the method of implementation of large scale FMD vaccine campaigns in the Mekong.

The pilot study was conducted in October under the supervision of Dr Syseng Khounsy, Deputy Director General, DLF, Dr Vannaphone Pouthana, NUOL, and project team member Sonevilay Nampayna and fieldwork carried out by DLF staff, NUOL staff including Sisavath Phommasichan, Lecturer, FoA, and two final year USyd Veterinary students, Ran Duan and Shan Rixon, with positive preliminary results. Further trials of the vaccine guns are planned for early 2016.

Investigating goat production and gastrointestinal parasites in Laos

Another study conducted under the supervision Dr Syseng Khounsy, Dr Vannaphone Pouthana and Sonevilay Nampayna was that of BVSc student Kate Johnson. Kate spent time in Laos conducting a review of goat production in Laos and investigating gastrointestinal parasites present in local goat populations. This included fieldwork for goat sample faecal collection led by Mr Kao Keonam, Lecturer, FoA, NUOL and DLF staff. This work is ongoing and is likely to provide important information supporting the growth of the Lao goat industry which is rapidly developing.

Investigating beef processing facilities and operations in northern Laos

Joanne Thomas, MVPHMgt student, will be submitting her research project thesis in early December following travel to Laos in August. Joanne worked closely with Phaivanh Chankhmtong and the project team, visiting nine slaughter facilities and surveyed more than 60 people. The research outcomes will be used to help identify training needs and support development of the beef market value chain.

NUOL Australia Visit

From Monday 19 October until Saturday 31 October the Mekong Livestock Research team hosted a ADB sponsored visit from our NUOL colleagues, Dr Vannaphone Pouthana and Dethaloung Mounsen to learn about sanitary and phytosanitary (SPS) animal health and biosecurity procedures and training here in Australia. The two-week visit included a trip to Canberra to meet with our project sponsor ACIAR, DAWR, Food Standards Australia New Zealand, Animal Health Australia, Local Land Services Braidwood and RSPCA ACT. These meetings provided a great opportunity for our Lao colleagues to learn about Australia’s approaches to animal health and biosecurity and how these approaches are coordinated. At the farm-level visits to a sheep farm and Goulburn Saleyards offered interesting insights into how extensive properties are managed and how animals are sold in Australia.

The second week of the trip saw our Lao colleagues travel to Sydney to visit the University of Sydney campuses after an overnight stay at the University farm ‘Arthursleigh’. On main campus visits included the Small Animal Teaching Hospital and the Sydney Southeast Asia Centre (SSEAC) followed by the RAID Networking Event held in Newtown. In Camden, activities included a tour of the University Teaching Hospital and Camden farms and a visit to the Elizabeth Macarthur Agricultural Institute (EMAI) and Wollondilly Abattoir to observe the slaughtering process. The project team would like to thank Dr Vannaphone Pouthana and Dethaloung Mounsen for their visit, our sponsor ACIAR for assisting with trip coordination and everyone who met with our Lao colleagues. We look forward you seeing you again!

Photo: Dr Vannaphone Pouthana and Dethaloung Mounsen at Arthursleigh farm
Conferences/Meetings
2015 has been a busy year with the project team attending a number of conferences around the world:
- OIE SEACFMD Sub-Commission Manila, Philippines
- PanPac, Brisbane, Australia
- Global Foot-and-Mouth Disease Research Alliance, Hanoi, Vietnam
- ISVEE, Merida, Mexico

New arrival!
Sonevilay and May have had a new baby boy! The Nampanya family is growing with baby Bek born in September. He and all the family are doing very well.

The year ahead…
2016 is going to be very busy year for the project team with a number of project activities, collaborative opportunities and student placements planned across all three projects. The project team would like to thank all our partners and collaborators in what has been a successful and exciting year and we look forward to continuing our research in the Mekong to improve livestock health and production.

Attendance at the OIE SEACFMD Sub-Commission in Manila, Philippines
Prof Peter Windsor and Dr Jim Young attended the 21st Meeting of the OIE Sub-Commission for FMD in South-East Asia and China in Manila, Philippines on 10–13 March 2015. This allowed us to get up to speed on regional FMD activities and share our new research plans, which are closely aligned to SEACFMD goals.

Presenting MLR research activities at PanPac in Brisbane, Australia
Prof Peter Windsor, A/Prof Russell Bush and Jim Young all attended and presented at the PanPac Veterinary Conference in Brisbane in May. This conference is a joint meeting of the Australian and New Zealand Veterinary Associations and is held every five years. The Team enjoyed the conference and found it a valuable platform to share the work veterinarians are undertaking in disease control in South-East Asia.

Attendance at the Global Foot-and-Mouth Disease Research Alliance (GFRA), 20–22 October 2015, Hanoi, Vietnam
Prof. Peter Windsor attended ISVEE where he presented two oral papers and one poster on behalf of the team.

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Jim Young attended this meeting and presented summary information on the Laos beef value chain and how understanding the value chain is critical for FMD control. Dr Syseng Khounsy was also in attendance.

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New partnership with Zee Tags for cattle and buffalo identification in Cambodia

Zee Tags International Sales Manager Cameron Ewart recently confirmed their support to supply 8,000 ear tags for cattle and buffalo in our Cambodian Project. This generous support will help ensure appropriate identification (ID) and recording of animals through the longitudinal health and production survey. Ear tagging of large ruminants is not widely practiced in Cambodia, and improved ID and recording is crucial for improving health, productivity, marketing and trade. More details on Zee Tags can be found on the next page.

We are very grateful for this support!

Thank you!

The three projects reported here are funded by the Australian Centre for International Agricultural Research. This support is gratefully acknowledged.

Are you an early or mid-career researcher in international development? If yes, check out www.raidaustralia.net and join others!
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