



SEAT Newsletter

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Dear all, this is the first bimonthly newsletter to communicate within the SEAT project and to inform all partners of the progress of the project. We aim to continue these newsletters and look forward to sharing your experiences and contributions in future issues. Content will be primarily based on reports from PhDs about current work and with project overview from Stirling. Additional contributions from other partners are more than welcome.

We would also like to welcome Li Kang, the latest recruit to the project.



MEETINGS

Upcoming 'SoS' meetings

Dates have been set through March, April and May to hold 'State of System' workshops with a range of stakeholders in Bangladesh, China, Vietnam and Thailand. The purpose is to validate the outcomes of all SEAT work to date with a range of local stakeholders. This includes farmers and other actors along the value chain as well as national policy makers and experts. Results will contribute to the formulation of sustainability indicators and ultimately the Ethical Aquatic Food Index (EAFI), one of the SEAT project outcomes.

Khulna, Bangladesh — 17-20th March

Zhangjiang, China — 26-29th April

Mekong Delta, Vietnam — 18-21st May

Chachoengsao or Chantaburi, Thailand — 23-26th May

World Aquaculture Society conference, Kochi

Attended by PhDs Arlene Nietes, Lam Phan Thanh, Wenbo Zhang, Dr Md. Mahafuzal Haque (Rippon)



with Professor Wahab, Dr Satapornvanit, Dave and Francis. With trade, certification and sustainability issues being major topics at the conference it was a great opportunity to contribute SEAT's views and information to the debate.



VIEWS FROM THE FIELD

Life Cycle Assessment - WP3 Leiden University

Patrik Henriksson henriksson@cml.leidenuniv.nl – After spending a month in China for the field work, I have been finishing off my review article on LCA studies on aquaculture systems that will be submitted this month. I have also started collaboration with University of Ghent as they are performing an emergency analysis on Pangasius farming in Vietnam, working together with Marine Harvest.

During January and February I will spend most of my time preparing for the field work that has been planned for March and April. My plans are to visit Vietnam and China, ending up in Shanghai during the 9th Fisheries conference. I will also prepare background models for anyone who wants do simplified LCA analysis in their work.

Me, Swan and Froukje have also been working on developing details about collection of information off-farm. This includes agricultural practices, reduction fisheries, processing, etc. We therefore hope to start this with a thorough literature review in order to identify information gaps.

Social and Economic dynamics - WP5 WorldFish Centre



Ingrid Kelling i.kelling@cgiar.org – I just completed three months of fieldwork in Bangladesh, conducting a Value Chain Analysis of the shrimp and prawn chains, and assisting the Bangladesh survey team. In early 2011 I will conduct a Value Chain Analysis for the Shrimp and Tilapia chains in Thailand, followed in the summer of 2011 by an examination of the chains from the point of entry into the EU to the end-consumer.

An abstract by me, Froukje (WFC) and Jimmy (Stirling University) has been submitted to the IFAMA Conference in 2011 on 'Consumer interest in sustainable value chains of farmed fish: a comparative case study of shrimp chains from Bangladesh and Thailand'.

Food Safety and Public Health - WP6 University of Copenhagen

Jesper Hedegaard Clausen jehc@life.ku.dk - I attended the Life Cycle Assessment Workshop organized by Leiden University held in Pattaya in September 2010. The workshop was a great introduction into the world of LCA, and gave insight into both possibilities and limitations in using this important tool in aquaculture. After the workshop I attended a working weekend on preparing the

questions for the farmer survey. Also in September I attended the FAO Aquaculture Conference in Phuket. It was an informative workshop and I was able to meet a lot of my SEAT colleagues. In October 2010 I was able to attend a month long training course in Copenhagen on Veterinary Epidemiology and data analyses. Hard work and a steep learning curve at this training course. In November and December I have part-time taken part in preparations for the SEAT farmer survey here in Thailand. During this second week of December we have just finished the first few tilapia surveys and a number of key informant interviews.

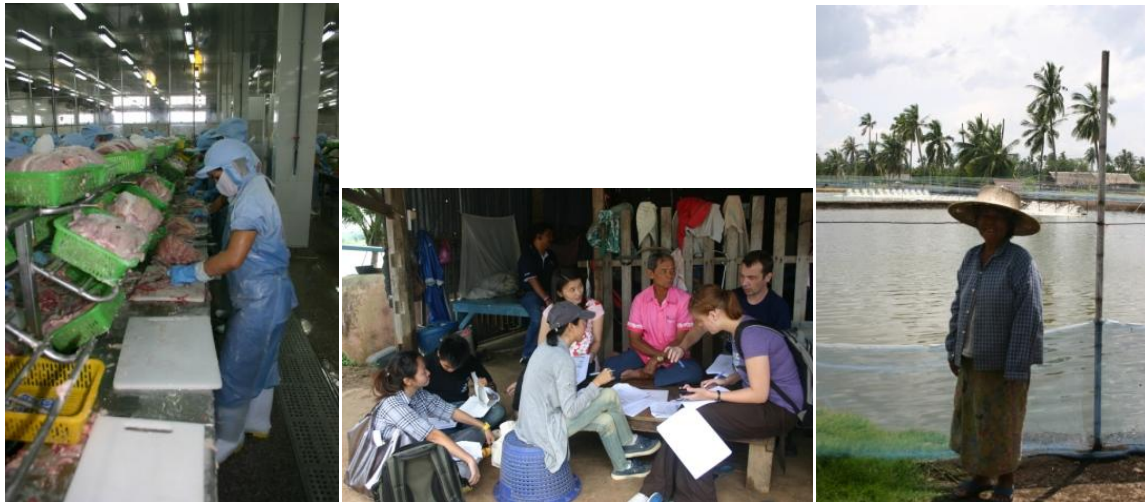
I have in November finished a book chapter, together with my supervisor Dr. K. Darwin Murrell for a food safety encyclopedia being prepared by Elsevier on Haplorchis, one of the fishborne zoonotic parasites. A paper I am working on with Dr. Anders Dalsgaard and my other supervisors together with our Vietnamese colleagues, on prevention and control of fishborne zoonotic parasites in carp nurseries will be submitted in March 2011 so I am busy getting the last data analysed and this paper written up.

Future plans are to help out the SEAT Kasetsart team as needed with the farmer survey in Thailand and parallel with this work together with work packages planning for more detailed collecting of information and data in March 2011.

Contamination Issues - WP7 Wageningen University

Andreu Rico andreu.rico@wur.nl - During August and September 2010 I have been based in KU (Thailand). Bart de Vreede (MSc student from Wageningen University) and I have started some semi-field experiments in order to assess the potential impacts of Oxytetracycline-HCl (an antibiotic that is widely used in Asian aquaculture) on tropical freshwater ecosystems. Most ecotoxicological research in the tropics has focused on experiments performed with pesticides, whereas little attention has been paid to assess the potential (toxic) effects of compounds such as antibiotics released from aquaculture farms. These experiments will provide valuable information for the Preliminary Risk Assessment, since it will answer questions such as what are the most sensitive aquatic communities to antibiotics, what secondary effects can be induced in freshwater ecosystems by antibiotic pollution, and what is the concentration that can be considered safe for aquatic ecosystems and therefore should be used as a threshold concentration in the ecological risk assessment. In addition, I attended the programmed SEAT meetings in Pattaya and afterwards I participated in the first phase of the piloting of the common questionnaire in Thai aquaculture farms. After that I came back to the Netherlands in order to attend a few courses for my PhD. Right now, Paul and I are finalizing a paper (Review of the use of chemicals and biological products in Asian aquaculture and their potential environmental risks) that we expect to submit soon. In the coming weeks I will be busy with completing databases and designing a modeling approach for the next deliverable: Preliminary Environmental Risk Assessment of aquaculture chemicals. I am planning to move to Asia for a long stay early in 2011 to refine the data collection started by the base-line survey and to design environmental monitoring campaigns.

Enhancing food values - WP9 University of Stirling



Richard Newton richard.newton@stir.ac.uk - For the past 3 months I have been staying in Thailand. First of all, to attend the LCA workshop and initial survey questionnaire meetings in Pattaya. After this I have continued to assist the Thai team, some of which have little aquaculture experience, to improve the survey and increase understanding about what the questionnaire is trying to achieve and the SEAT project as a whole. I have been out on piloting exercises on several occasions to shrimp and tilapia growing areas and attended the follow up discussions to identify where there is misunderstanding or where answers to some questions are difficult to obtain.

In addition to the field survey work I have been following up my own interests here about what I will be doing for my PhD. on by-product and farm mortality utilisation. This has included tentative efforts to get an investigation into chitosan and glucosamine plants here. These two products are manufactured from the shrimp shell (and head) waste after leaving the processing plant. Glucosamine is widely marketed as a health supplement for alleviating arthritis, whereas chitosan has many medicinal and industrial applications depending on the quality. I have made contacts with someone here who has extensive research into chitosan and also met someone from Vietnam, at a by-product seminar, who is keen to improve the chitosan industry in Vietnam. I am looking towards doing an LCA study upon chitosan manufacture during my PhD.

I have also been busy writing 2 review papers. The first is a general paper on the use of post-processing by-products from Atlantic salmon, striped catfish and penaeid shrimp in Europe, Vietnam and Thailand respectively. The second is a review of LCA approaches to aquatic production, with specific focus upon the use of fishery and aquaculture by-products, as feed ingredients within aquaculture or the assumptions made about their use after processing, respectively. I will continue to improve this paper over the next few weeks and collaborate with partners in its development.

Over the next few weeks I will continue to help with the survey and data entry in Thailand until I return to the UK, just before Christmas. Following this I have plans for my 3rd paper which will investigate how standards and possibly legislation treats the use of aquaculture by-product in Europe and in Asia. I also have plans to start investigations for an LCA project on the extraction of salmon oil and protein concentrates, for use in nutraceuticals and animal feeds in the UK in the winter/spring of next year.

Bangladesh Agricultural University

Ahmad- Al- Nahid (Swan) swan_bau@yahoo.com - Now I am working at Khuna which is in the South-Western region of Bangladesh. Here I am for leading and supervising our Bangladeshi team for survey the questionnaire. After finishing this survey work I shall concentrate on my research on LCA (WP3) of *Macrobrachium rosenbergii*. Initially I shall collect data from different feed ingredients (Rice bran, Wheat bran, flour, Snail, fish meal) sources (Paddy, wheat, snail capture, Local capture fisheries), and then I shall prepare an initial modeling by using collected data and CMLCA software with the help of my friend Patrik Henriksson. After this we together will write a joint paper on this.



NEW RECRUIT

Shanghai Ocean University

Li Kang - I am the freshman to the SEAT family, it was around 22th Oct I totally joined this project. I will join as a PhD working mostly with WP6.

I had the chance to work on preparing the questions for the farmer survey with other teamers in Zhanjiang late October, and finished few informant interviews about tilapia and shrimp those days. In November our team has finished most part of the surveys in Guangdong province, and at the beginning of December we transferred to Hainan province for the other surveys about tilapia. Hard work with unpredicted challenges, but the achievements also came up. The nearly two-month long SEAT survey provides me a chance to get comprehensive understanding about it, and stimulates my interest on the fishborne zoonotic parasites which I will focus on next period.



I am summarizing the information we got during the survey and analyzing the data we collected in order to find some useful things for the future plans.

In January 2011 I will attend a two week long training course in Vietnam on isolation and identification of metacercaria. I will meet with my supervisors, Prof. Anders Dalsgaard and Dr. Darwin Murrell.



OTHER SEAT NEWS

Integrated Farmer Survey Progress

Francis Murray f.j.murray@stir.ac.uk – After months of effort by the teams the field work is nearly complete. Teams are now beginning to focus on data entry and quality checking. Final copies of the database should be ready by the end of February. Around 400 farmers have been interviewed in each country based on a multi-stage sampling procedure. The surveys cover a range of species, farming scales (based on physical farm characteristics, labour relations and market orientation), and farming systems. This work should provide a firm basis for selection of sub sets of farms for more detailed follow on work. Sincere thanks to all the field teams, co-ordinators and PhDs for their dedicated effort often under very trying field conditions.