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SEAT Newsletter

March – June 2011

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Dear all, this is the second SEAT newsletter, a continued effort to communicate within the SEAT project and with other interested colleagues and stakeholders in aquaculture and trade related issues. We aim to continue these newsletters with issues distributed every 6 month. We look forward to sharing our 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.



MEETINGS

Four successful SEAT 'SoS' workshops in Bangladesh, PR China, Vietnam and Thailand

Following the completion of the integrated survey, 'State of the System' workshops were held in Bangladesh, China, Vietnam and Thailand during April and May. For the project these were an opportunity to verify and clarify findings from the survey, explore emergent knowledge gaps and to look at sustainability indicators more deeply than is possible through survey work. For stakeholders it was an opportunity to feed back on our work so far, to interact with and learn about other stakeholder groups involved with their products, and most interestingly for many of them, to learn about European markets and consumers.

The workshops are currently being written up into reports in both English and the relevant national languages and will soon be available on the SEAT website. Posters are also being produced containing the key messages and findings. These will be displayed where they are accessible to stakeholders throughout the relevant value chains.

Upcoming project steering group meeting (PSG) in Copenhagen, Denmark.

On 17 – 18 June 2011 the second SEAT PSG meeting will be held. This time it is hosted at the Faculty of LIFE, University of Copenhagen, one of the SEAT partners.



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VIEWS FROM THE FIELD

Life Cycle Assessment - WP3 Leiden University

Mr. Patrik Henriksson from Leiden University just finished a three month field visit to Vietnam and China to conduct field work in relation to WP 3. We asked him to tell us about his preliminary findings and experiences during this period.

Patrik Henriksson henriksson@cml.leidenuniv.nl

As the first SEAT scoping survey has been finalized in all four countries and incorporated into a **database covering 1,600 farms in Asia** make bold some of the key points?, the SEAT project has entered into its next stage. For **WP3 - Life cycle assessment** - this involves visiting other actors in the value chain, including processing plants, feed producers, hatcheries, etc.



Picture: View over one of the reservoirs where tilapia is farmed in Guangdong, PR China

The fieldwork is undertaken together with **WP5 - Social and economic dynamics** - where the Life Cycle Costing (LCC) component has been incorporated into the LCA work. Part of this effort is aimed at implementing LCC alongside LCA to identify where investments may have the most beneficial environmental benefits. This in-depth work has been initiated in China together with our partners at **Shanghai Ocean University** working on a subset of farms from the initial survey.

Around every tenth visited farms in the scoping survey were **CIQ registered (CIQ Registration Certificate for Animal Products for Export)** and therefore are permitted to export their produce. **Guangdong and Hainan province** are the major exporting regions and much of the seafood infrastructure is centered around the city **of Zhanjiang**. After visiting many key actors in the region it became clear that EU was not a favored market due to the strict import regulations. Ninety percent of the export instead went to the U.S. where, on the other hand, prices were undermined by anti-dumping taxes. Prices for CIQ registered farms, therefore, are comparable to those of non-registered farms, with prices in the larger Chinese cities sometimes exceeding those of international markets. The advantage for CIQ farmers is instead that of having one processing plant that facilitate the whole harvests. After purchasing the animals the processing plants will quick freeze them whole and process them after ability. Production is, however, currently limited by the lack of labour as many workers have moved back to their home-towns inland. While some production industries have followed these workers inland, aquaculture ventures do not have that option.



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Donghai Island, Guangdong province, is the center for much of the shrimp fry production, shipping as far away as Vietnam. The broodstock are either domestic, Thai, Malaysian or Specific Pathogen Free (SPF) from Hawaii, U.S.A. The sourcing varies upon hatchery and is determined by species and price. Price differs greatly, with domestic broodstock costing 25 Yuan per pair while imported SFP come at a cost of 700 Yuan per pair.



Picture: Patrik and his Chinese colleagues in the field

Despite this is the higher performance and survival of imported broodstock often worth the extra money as fry only account for around 5% of the total farming costs. Apart from better disease resistance, genetically improved fry today grow from 2 to 24 grams in as little as 47 days, something that took 96 days back in 2002.

The tilapia industry, on the other hand, is based around **Maoming, Guangdong province, and Hainan Island**. Production is almost always integrated with carp and can be divided into two categories: integrated and non-integrated farming. The integrated farming systems are usually small to medium sized and based around the city of **Maoming**. They utilize manure from on-farm pigs to enhance primary production in the ponds. While the money returns are said to be better and risks distributed, integrated farms are not eligible for CIQ certification and therefore very few large-scale integrated farms exist. Around one third of the 200 farms in the scoping survey applied integrated farming practices.

Hainan, a large island in Southern China, is the other major region for tilapia production. Aquaculture has been favored here due to poor agricultural conditions and warm weather, allowing for longer stocking periods. Several feed producers and processing plants are also located in and around the city of Haikou. The average farm size is smaller in this region and future production is challenged by land and water rights. Hainan Island has, over the last decade, developed into a popular tourist resort which is using up much of these resources.

Another farming system that is facing challenges is tilapia farming in reservoirs. These farms exist in both Guangdong and Hainan and conduct farming in water bodies often built as water reservoirs for rice farmers. Opportunistic aquaculturists later moved in and set up fish-farms in these waters. As more people are competing for the water, however, the water level now often falls below the level where production can be sustained.

Future work of WP3 will now focus on evaluating the data collected during channel this information into a full LCA of pangasius farming in Vietnam and tilapia farming in China that hopefully will be submitted at the end of this year. For more information on the work of WP3 please see our accepted article - Life cycle assessment of aquaculture systems - a review of methodologies – that most likely will be published in the Journal of LCA in a near future.



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Bangladesh Agricultural University

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In March 14 to 26 of this year (2011) I was in Thailand for intensive learning of LCA software analysis. My friend Patrik was there to make me expert in LCA field. During this time I also visited some farms in different provinces of Thailand to observe the efficacy of LCA-LCC questionnaire. After return in Bangladesh I assisted Froujke and Arne for the questionnaire survey in this part. I have been selected for the ISTA travel award to attend the conference of 9th AFAF in China, but due to a serious road mishap at 13 April, I missed the program. After one and half month of bed rest, recently I am starting my work on LCA.

Shanghai Ocean University

Wenbo Zhang wz1@stir.ac.uk or wb-zhang@shou.edu.cn

My research for Ph.D. thesis is a component of the Sustaining Ethical Aquaculture Trade (SEAT) Project supported by the EU Commission, and by contributions from the University of Stirling and the Shanghai Ocean University.

From January 2010 to September 2010, I was working on the fieldwork for the system scoping of SEAT project, and started writing the first paper after fieldwork finished. The title of paper is "Development Trends and Sustainability Constraints for Four Export-Orientated Farmed Seafood Commodities in China", mainly described the states and trends of the value chain, as well as the stakeholders perception of sustainability constrains about shrimp and tilapia aquaculture industry in China. Now the draft of first paper almost finished, but still need to condense further for publishing in a peer reviewed journal.

From September 2010 to February 2011, the main work for me was conducting and coordinating integrated shrimp and tilapia farmer survey in Guangdong provinces and Hainan provinces. The integrated survey is a baseline survey for SEAT project to conduct further research, and all work packages of SEAT project were involved in the survey. 207 Tilapia farms and 200 Shrimp farms were interviewed and surveyed, mainly in Maoming district of Guangdong Province and Wenchang country in Hainan province for tilapia and Zhanjiang district of Guangdong province for shrimp. Some part of results will be part of my thesis, such as sustainability indicators. All data input already finished, but need further check before start analysis. Moreover, the part of the survey results about sustainability indicators will write to second paper.

As potential major part of my thesis, Life cycle analysis (LCA) is another important part of work for me. In September 2010, I joined Life cycle analysis (LCA, work package 3 of SEAT project) training program in Thailand, and got primary understanding of theory and practice of LCA. In Mar 2011, the fieldwork of LCA together with Life Cycle Costing (LCC) was conduct in Guangdong province and Hainan Province. More than 30 surveys were finished, including surveys with feed mills, processing plants, farms, hatcheries, etc. More surveys will be conduct in the future to fill all data gaps.

Recently, State of System (SOS) workshop were held in Zhanjiang and I was involved in organization and reporting research results back to stakeholders, the SOS workshop was successful and we got



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plenty of feedback and discussion about research results. Photos showing flipcharts and other parts of the meeting.

Li Kang lk3127@yahoo.com.cn

My research and my PhD will relate to the theme of **Food Safety and Public Health** which is under SEAT **WP6**, and my thesis will specific focus on the prevalence and risk factors of **fishborne zoonotic parasites** in cultured tilapia in **Guangdong Province**, .

From October 2010 to December 2010, I have the chance to join the SEAT integrated survey in Guangdong provinces and Hainan provinces. The integrated survey is a baseline survey for SEAT project to conduct further research, and all work packages of SEAT project were involved in the survey. In order to complete the large SEAT survey, we went to **Guangdong and Hainan provinces** again to visit some large farms in February, and we have finished and checked our database with others when we back to Shanghai.

As potential major part of my thesis, identification and analysing the food-borne parasites is an important part of work for me. In January 2011, I joined training course in Vietnam, and got primary understanding of FZT.

In April 2011, **Dr. Darwin Murrell** of Copenhagen University and I visited a number of tilapia farms in Guangdong provinces, during the visit we identified many risk-factors for FZT and discussed my research plan in the future. We also visited the Extension Center's lab in **Maoming** and exchanged information with WP8 and WP3 members during the visit.

In the mid of April 2011, I have attended the 9th Fisheries conference in Shanghai and joined the SEAT meeting during the conference. It was great to meet so many SEAT colleagues and to hear about the different work packages' status. Darwin Murrell, Jesper Clausen and I also visited the National Institute of Parasitic Disease (NIPD) which belongs to Chinese Center for Disease Control and Prevention (CDC). We had a good meeting and established contacts with this parasitic authoritative organization that will be very valuable for my research.

After the conference, we have held **the State of the System (SOS) workshop in Maoming** in the end of April 2011, this workshop included a broad range of local stakeholders on progress of the SEAT project. During this SOS workshop, Liping and I have reached a tentative agreement with the Extension Center in Maoming for the future cooperation.

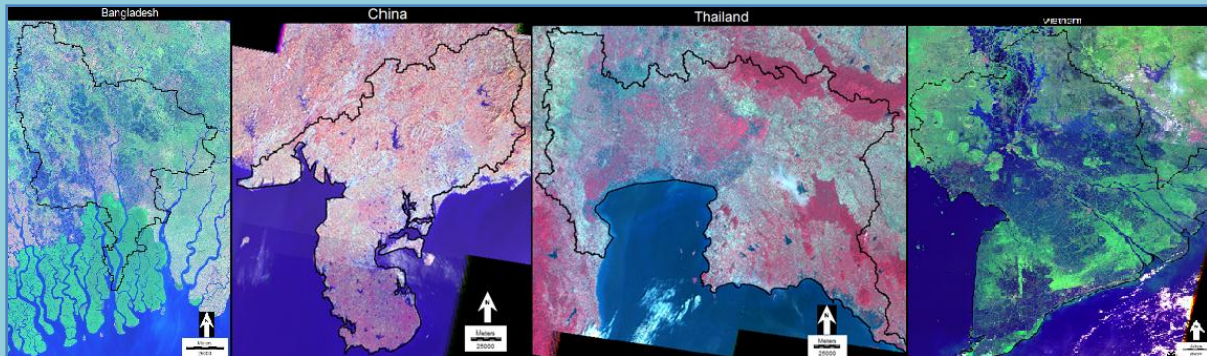


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Environmental modelling WP4 Stirling University logo

Lynne Falconer - lynnefalconer@stir.ac.uk or lf23@stir.ac.uk



In October and November I visited Bangladesh, China, Thailand and Vietnam as part of a WP 4 scoping trip to gain information on the areas, species and systems that are part of the SEAT project in each country. I also helped to pilot the farmer survey in each country and had the great opportunity to meet some of the people involved in the SEAT project from both Asia and Europe.

The information obtained from the scoping trip, along with information from the farmer surveys, allowed me to determine study areas. Following on from this I have started to construct databases for each country using information gathered from many resources (satellite imagery, maps, spreadsheets etc) and **GIS software** for analysis (**IDRISI Taiga and Manifold 8**). This data will be used to develop the spatial environmental models for WP 4.



Lynn Munro lim2@stir.ac.uk

In September 2010 I participated in the Survey workshop in **Pattaya, Thailand**. Through October and part of November I assisted one of the SEAT coordinators in piloting the Farmer Survey in each of the partner countries (Vietnam, Bangladesh, China and Thailand). Since then I have been working on some basic models.

In April I participated in a group talk to a Member of the European Parliament regarding water quality in pangasius farming in Vietnam. I will be travelling to Bergen, Norway to participate in a training course for the dynamic modelling programme, "**Powersim**". Following this I will also be participating in the Sampling Workshop to be held in July in Thailand.

At present I am sorting the databases for data useful to WP4 and updating them as new databases are uploaded.



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Social and Economic dynamics - WP5 WorldFish Centre

Ingrid Kelling i.kelling@cgiar.org

I have just completed three months of fieldwork in Thailand, conducting a **value chain analysis** of the shrimp and tilapia chains from the point of production to export. The next few weeks will be spent writing the field report and synthesizing outputs from the fieldwork in Bangladesh and Thailand. An abstract by Froukje, Jimmy and I titled, **Consumer interest in sustainable value chains of farmed fish: a comparative case study of shrimp chains from Bangladesh and Thailand¹** has been accepted at the **IFAMA Conference in June 2011**, and this paper is currently being drafted.



Picture: Ingrid with farmers in Thailand

The summer will be spent writing PhD chapters and preparing for the European fieldwork, which will follow the chains from import in the EU to final consumers in the major markets. This will take place between September and November, 2011.

Food Safety and Public Health - WP6 University of Copenhagen logo

Jesper Hedegaard Clausen jehc@life.ku.dk

The large SEAT interview survey has been completed and from a food safety point of view, it looks good! Good in terms of the producers of aquaculture products in the four Asian SEAT countries are well aware of food safety issues in the production of the products. I think the European consumer should be informed about the effort the Asian farmers put into producing food that is safe and healthy for them. That is all part of SEAT.



Picture: The SEAT team in action in Thailand

My research is progressing well. Based on the SEAT survey **WP6** have chosen two case studies to work on in Thailand. We will work together with the Thai SEAT team and two Msc students doing research on **fishborne zoonotic parasites (FZT)** in tilapia and on **probiotics for tilapia production**. I look forward to this corporation and I am sure we will soon have many interesting results to share.

In PR China we will together with Shanghai Ocean University work together with Mr. Li Kang, the new PhD student.

I attended two meetings together with SEAT over the last few months. I attended **the 9th AFFA in Shanghai Ocean University** in April 2011 together with SEAT and ASEM colleagues. This was a good



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opportunity to share information and learn new things about aquaculture and food safety in the sector. I was also at **Can Tho University** to attend the **SOS, Vietnam workshop** together with colleagues from **Stirling and Bergen University**. It was a good experience with many stakeholders present in the same room, so plenty of discussions and good exchange of information.

[Contamination Issues - WP7 Wageningen University logo](#)

Andreu Rico andreu.rico@wur.nl

During the last few months I have been developing a new modeling tool for **assessing environmental risks of veterinary medicines applied in Asian aquaculture ponds**, which has been called **ERA-AQUA Decision Support System**. This model is able to combine information on physico-chemical characteristics of veterinary drugs, environmental data and aquaculture management practices, in order to assess risks for the cultured species, consumers and aquatic ecosystems receiving effluents from aquaculture ponds. This model will be used for performing a **preliminary risk assessment of aquaculture chemicals** based on the data gathered during the SEAT baseline survey and to identify compounds and ecosystem components that require further in-depth studies. The model was recently presented in a platform presentation during the 9th Asian Fisheries and Aquaculture Forum, Shanghai, China. In addition, we have started a study in the **Tha Chin River (Suphanburi, Thailand)** in which we will be looking at chemical use in tilapia cages and impacts on tropical freshwater ecosystems. This study is being carried out with the collaboration of **Jidapa Khatikarn (Kasetsart University)** and **Frederieke Knopperts (Free University of Amsterdam / Wageningen University)** and will be considered as a start for developing further monitoring studies in different SEAT countries and aquaculture production systems. During the next three months I will be based in Bangkok and will be involved in the organization of the **Monitoring Workshop**, which will be held in KU Home, Kasetsart University Campus, during 4-6th of July. During the monitoring workshop experts from Stirling University (WP4), University of Copenhagen (WP6), Wageningen University (WP7), Kasetsart University, Can Tho University, Bangladesh Agricultural University and Shanghai Ocean University will meet in order to discuss the project progress and design a protocol for the up-coming chemical and biological monitoring activities, which will be aimed at i) assessing effects of contamination at the farm level for different endpoints (i.e., aquatic ecosystems, targeted produce, consumers), ii) testing the environmental models developed within the SEAT project, and iii) identifying action research needs based on the outcome of the monitoring program (e.g. identification of ecotoxicological research needs and risk mitigation measures).

[Action Research - WP9 University of Stirling](#)

It is a key objective for the SEAT project that, through engagement with MSMEs, our research results in an increase in overall value and sustainability of food production systems. In work package 9 SEAT will use its research findings alongside the experiences of MSMEs to plan and implement a phase of action research aimed at development of simple measures for reducing environmental, social or health impacts such as improving product efficiency, reducing packaging and the application of diagnostic tools for contaminants.

Our work is focused on MSMEs both in Europe and Asia. With their respective comparative advantages, the European participants will mainly be technical service providers in fields such as traceability, environmental services and communications and market information technology



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systems. Asian participants will largely be small and medium producers, processors of fish and co-products as well as service providers and regulators both upstream and downstream of production. The scope of MSMEs we can engage with is not limited.

Our main research findings will indicate clear directions where action research can be of most value, although we can pursue opportunities in any direction. Currently experimental grow bags filled with pangasius waste are growing vegetables in Bangladesh, we are establishing links between European businesses and aquaculture trade press in Asia, and we are working towards producing informative videos and literature aimed at communicating the reality of Asian aquaculture to the European consumer.

Please find a file box and matrix on the extranet where all are encouraged to put ideas for possible action research.



NEW RECRUITS

Karen Sau Jespersen ksa@diis.dk



I joined **the Danish Institute for International Studies (DIIS)** as a PhD Candidate in February 2011 where I will provide input into **SEAT WP5** on social and economic dynamics of value chains for selected aquatic products **in Vietnam and China**. I am affiliated to the DIIS research unit 'Global Economy, Regulation and Development' and the Graduate School of International Development Studies at the Institute of Society and Globalisation, Roskilde University (RUC). During the past two months I have settled into the project and provided input into SEAT deliverable (D8.4) on aquaculture certification schemes. In the coming months I will spend time preparing for fieldwork scheduled for July 2011 to January 2012 (3 months each in Vietnam and China). I hold a MSc in Socio-Economic Geography from University of Copenhagen and have previous experience with green procurement policy from the public sector and environmental management & occupational health and safety from the private sector.

Tran Minh Phu tmphu@ctu.edu.vn



Tran Minh Phu has BSc in Aquaculture from Can Tho University and MSc in Sustainable Coastal Development, Aquaculture from the Norwegian University of Science and Technology. He has experience on Pangasius catfish farming both in nutrition and chemical contaminations.

From 2004, Phu worked in Can Tho University as a researcher with several projects funded by the Australian Center for International Agriculture Research, ACIAR Belgium, Vietnamese Government and SFP. Mr. Phu will from July 2011 start his Phd under SEAT with the University of Copenhagen, Denmark.



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OTHER SEAT NEWS

Influencing policy through MEP, Struan Stevenson

Following his strong criticism of pangasius in the European Parliament SEAT invited **Senior Vice President of the European Parliament's Fisheries Committee Struan Stevenson** to Stirling for a briefing on the reality of pangasius production and trade, and our experiences in Vietnam. Staff and PhDs from the SEAT project, with other colleagues from the Institute, gave presentations to Struan ([full details](#) on SEAT website) covering every aspect of the pangasius value chain. Struan went on to visit the Mekong Delta for himself following which he made extremely positive statements about pangasius production and trade, and credited SEAT and VASEP with setting him straight.