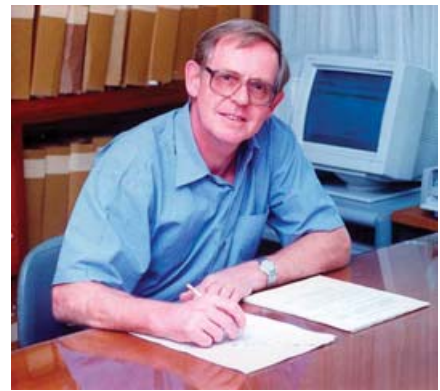


Peter Edwards writes on

# Rural Aquaculture

## Peri-urban food production in Southeast Asia



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The reason for another column devoted to peri-urban aquaculture so soon after the one on Kolkata in the special India issue (Volume 8, number 2) is I recently attended an inception meeting for PAPUSSA, acronym for the project Production in Aquatic Peri-urban Systems in Southeast Asia. However, it is justified also by the growing interest in the subject. I am co-editing the first volume to be devoted to the subject, entitled "Urban Aquaculture", which is to be published by CABI Publishing towards the end of the year.

According to Deelstra and Girardet in a book entitled *Growing Cities, Growing Food* edited by Nico Bakkar et al., "the cities of the 21<sup>st</sup> century are where human destiny will be played out, and where the future of the biosphere will be determined". This statement is based on the fact that we are becoming an "urban species": more people are expected to inhabit cities than rural areas in about 10 years time. This is leading to major changes between humanity and ecosystems upon which we depend. It is unlikely

that planet earth will be able to support an urbanized humanity that uses increasing amounts of resources from ever distant areas and disposes of wastes, mostly without treatment in the environment. Clearly the challenge is for cities to become sustainable - socially as well as environmentally.

The main objective of PAPUSSA is better understanding of the role of peri-urban food production systems (PAFPS) in Southeast Asia. The project will:

- Develop a detailed holistic analysis of the situation at four sites in Southeast Asia; namely the Red River Delta, Vietnam and the environs of Ho Chi Minh City, Vietnam, Phnom Penh, Cambodia and Bangkok, Thailand;
- Conduct pilot studies to test appropriate interventions;
- Monitor impacts on systems, producers, consumers and institutions; and
- Develop dissemination and communication strategies with and for stakeholders.

Activities will relate to production and livelihood systems, public health, and institutional issues and policy:

- Multidisciplinary situation appraisal of PAFPS;
- Assessment of the risks of existing PAFPS and opportunities for enhanced management;
- Analysis of social characteristics of PAFPS, identification of environmental tensions; definition of marketing and consumption patterns;
- Characterization of occupational and consumer health hazards;
- Design of improved systems, monitoring of health, livelihoods and social and institutional dynamics;
- Interaction with stakeholders to ensure active participation.

The project is coordinated by the University of Stirling, UK and involves the Research Institute for Aquaculture No.1 and the University of Agriculture and Forestry in Vietnam, the Royal University of Agriculture in Phnom Penh, and Kasertart University in Bangkok. The National Institute of Hygiene and Epidemiology, Vietnam, in association with the Royal Veterinary and Agricultural University, Denmark are leading the project with respect to public health. The University of Durham, UK will focus on social/spatial issues surrounding development of PAFPS. Outcomes from this integrated approach will feed into a balanced





dialogue with stakeholders as dissemination and feedback activities.

AIT is providing technical support to the project. The following outcomes are expected:

- Knowledge of current roles and risks associated with different types of PAFPS developed and disseminated through contacts with local stakeholders and globally through the project website. This will be coordinated through both international and regional fora for dissemination i.e., the Resource Center on Urban Agriculture and Forestry (RUAF) and Support to Regional Aquatic Resources Management (STREAM), respectively;
- Improved PAFPS strategies developed and tested with stakeholders, such as urban planners and policy makers, public

health strategists, municipal sanitation and flood relief specialists in each country;

- Raised awareness of the status and potential of PAFPS among a diverse range of stakeholders indicated through changes in public dialogue and behavior.

Various issues were discussed at the inception meeting. Considerable time was devoted to trying to define peri-urban aquaculture and to discussing the types of PAFPS. It was agreed that it is necessary to determine how important PAFPS are to people's livelihoods in the rapidly changing peri-urban zone from a consideration of producers through marketing channels to consumers i.e., from "production to plate". How diverse are the livelihoods of people involved and in particular how poor are they? What will be the future trajectories of change and how



will people's livelihoods be affected by urban development? What are the pertinent institutional and legal frameworks influencing peri-urban aquaculture?

Definition of peri-urban aquaculture eluded the participants. However, it was agreed that it should not be defined by city boundaries. Ho Chi Minh City, for example, has large areas of rural as well as coastal areas, the latter with mollusk, prawn and shrimp culture with limited connection to urban areas; and an extended metropolitan area that spreads into adjacent provinces such as Dong Nai and Long An. A useful discussion of the difficulty of defining urban ("in/within" the city) and peri-urban ("around" the city) agriculture is in the above mentioned book: *Growing Cities, Growing food*.

One definition presented in the book appeals because it is both concise and holistic: "Urban agriculture (aquaculture) is integrated into the local urban economic and ecological systems". Determining what is meant by "integration" would presumably distinguish urban (peri-urban) agriculture, *sensu lato* to include aquaculture, from its counterpart in rural areas (note I avoided use of the term rural aquaculture as it is defined narrowly with regard to only poverty alleviation and food security). Much peri-urban aquaculture is distinguished, at least by scale, from aquaculture in rural areas by (re)use of city wastes, including wastewater as illustrated by the photographic examples from the four areas being studied.

Most urban agriculture in developing countries is reported to be carried out by poor farmers who grow food largely for home consumption, on small plots they do not own, with little to no official sanction or support i.e., poverty and food insecurity are major driving factors. Our limited knowledge of peri-urban aquaculture indicates that poverty may be a significant factor but there are large scale systems that produce seed (fingerlings) as well as food primarily for sale on local markets. Clearly it is necessary to define peri-urban (urban) aquaculture so that it can be differentiated from aquaculture in coastal and rural areas. Only then will the concept be of use from