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**Project Inception Meeting**

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**Production in aquatic peri-urban systems in southeast Asia**

**Project inception meeting**

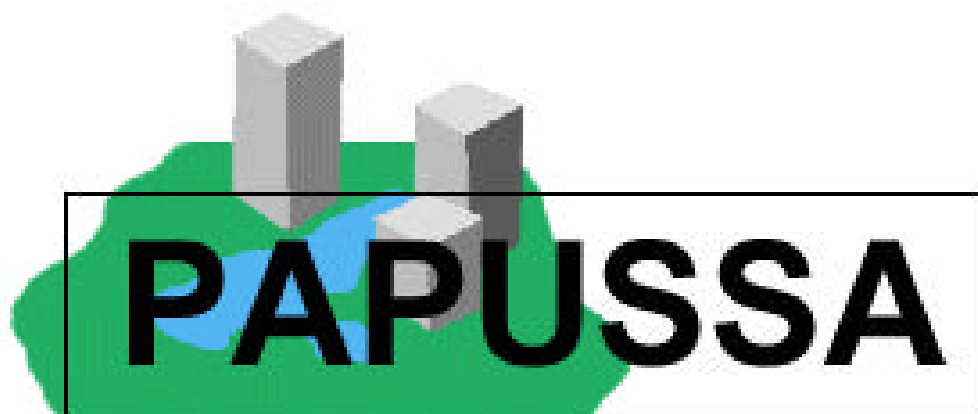
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**Production in Aquatic Peri-Urban Systems in Southeast Asia**

**Contract number : ICA4-CT-2002-10020**

**TITLE : PRODUCTION IN AQUATIC PERI-URBAN SYSTEMS IN SOUTHEAST ASIA**

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# Glossary

## Acronyms and terms

AIT	Asian Institute of Technology, Bangkok
CIRAD	Centre de coopération Internationale en Recherche Agronomique pour le Développement
DORAS	Development Oriented Research on Agrarian Systems
EC	European Commission
JICA	Japan International Cooperation Agency
KU	Kasetsart University, Bangkok
KVL	Kgl. Veterinær-og Landbohøjskole
NIHE	National Institute of Health and Epidemiology, Hanoi
PAPUSSA	Production in Aquatic Peri-Urban Systems in Southeast Asia
PAFPS	peri-urban aquatic food production systems
PCA	Participatory Community Assessment
PRA	Participatory Rural Appraisal
PS	production system
PU	peri-urban
PUI	peri-urban interface
RIA1	Research Institute for Aquaculture No. 1, Hanoi
RUA	Royal University of Agriculture, Phnom Penh
RUAF	Resource centre on Urban Agriculture and Forestry, The Netherlands
STREAM	Support to Regional Aquatic Resources Management
UAF	University of Agriculture and Forestry, Ho Chi Minh City
UD	University of Durham, UK
UOS	University of Stirling, UK
VAC	Vuong-Ao-Chuong

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## Executive Summary and Action Points

### *Key issues relating to PAFPS around the 4 cities*

1. There is a need to develop a working definition for the term 'peri-urban' to help focus the project and guide research tasks.
2. From the discussion on PAFPS around Ho Chi Minh City it was noted that project team members should be careful regarding the terminology they use. The project team will develop a glossary of terms to ensure clear and consistent use of words and phrases.
3. To pick up on dispersed and poorly documented PU production systems it was suggested that some investigation at markets might be prudent to inform the research process.
4. On the issue of overhung latrines it was suggested that limited access to other sanitation technology or economically viable alternatives might be prohibiting the complete removal of such systems in southern Vietnam. It was suggested that this issue might make an interesting case study.
5. The main site for the PAPUSSA project in Phnom Penh will probably be next to the RUA campus, where an extensive retention basin is used to grow an estimated 12 species of aquatic and terrestrial plants; there is no fish culture in this basin.
6. Aquaculture is commonly practised in borrow pits in the region, and due to widespread disputes over ownership these are often accessible to poorer communities, participants should be aware of the role excavation and landfill dynamics around cities play in governing the location and operation of PAFPS.
7. Changing perceptions of fish buyers in Cambodia mean they are no longer willing to buy fish grown in latrine ponds, whilst changing attitudes to sanitation, combined with government regulation mean latrine ponds in Cambodia have largely disappeared.
8. Considering PAFPS in Bangkok data collection on the current status of aquaculture was difficult, as the Government Statistical Department does not collect much information on aquatic food production.
9. To pick up on movements of people and technologies around cities like Bangkok and Ho Chi Minh City it may be useful to consider the peri-urban area as including 'extended metropolitan regions'.
10. During the introduction to PU aquaculture around Hanoi it was apparent that there were difficulties in preparing the review, as it remains unclear as to what PU means.
11. From the presentation it was apparent that aquaculture in Thanh Tri, Hanoi is under pressure and that new aquaculture operations are developing to the east of

the city; these new operations are based on inputs of commercial feed and indeed new species.

### *Institutional links and dissemination*

12. It was agreed that the project should adopt a Participatory Community Appraisal (PCA) approach used in other EU projects to evaluate the importance of PAFPS in poor livelihoods.
13. The project needs to engage with a wide spectrum of stakeholders, including engineers. During the forthcoming institutional analysis partners will be required to identify suitable engineers and representatives from other relevant institutions.
14. Considering the interaction of the project with stakeholders, there should be activities early in the project to explore the perceptions of stakeholders.
15. If the project is to influence policy makers we need to consider early in the project who needs to be influenced and how best this might be achieved. However the best argument for policy change will be made based on strong research outputs.
16. RUAF is involved in various activities including the preparation of policy briefs on urban farming, facilitating e-conferences and publishing a magazine on urban agriculture. In light of these activities it was suggested that if funds allow the PAPUSSA project might like to assist in producing a magazine issue or policy brief of urban aquaculture, or contribute to facilitating an e-conference on this issue.
17. In light of the STREAM objective to disseminate information in local languages, it was suggested that STREAM could translate outputs from the PAPUSSA project into Vietnamese, Khmer and Thai.
18. In light of the regional focus of STREAM and global nature of the RUAF initiative it was suggested that there might be opportunities for these institutions to develop links.
19. It is possible that the PAPUSSA project could link with other projects working in north Vietnam such as that being implemented by IWMI, and in Vietnam existing links with the communes will be extremely useful in facilitating project work.
20. The project should aim to unpack risks associated with PAFPS, for example risks associated with pesticide application as compared to risks from growing food on wastewater. With this objective in mind there may be some opportunities to develop links with other projects, with a prime candidate being the EU funded MAMAS project, which is working in central Thailand.
21. Partners should try to initiate a dialogue with other researchers investigating issues relevant to the management of PAFPS; for example, the French researchers investigating issues of pollution and health related to PU aquaculture around Ho Chi Minh City.

22. Opportunities for additional studentships (MSc and PhD) linked to the PAPUSSA project should be explored.

### *Publication policy*

23. Co-authors are responsible for the content of publications and as such have a duty to actively participate in reviewing the content of papers.
24. Partners should approach others in the interdisciplinary team to work together on publications, and that although the deliverables for the project are clear, partners should feel free to travel and work independently.
25. Principle Investigators on the project should take responsibility for motivating and informing their research teams, and that a useful step would be to build links between institutions to maintain interest, and increase motivation and understanding of the project.
26. It was acknowledged that some partners are at a disadvantage when looking to publish in international journals due to language. It was noted that perhaps AIT could offer support if this was a need identified by partners.
27. Having discussed the intended purpose and likely content of a 'press release' it was agreed that UOS would draft a summary statement and circulate it to partners for review.

### *Housekeeping*

28. The official start date was the 1<sup>st</sup> January 2003 and that therefore the finish date would be the 31<sup>st</sup> December 2005.
29. Project partners should not contact the EC directly but should conduct any necessary correspondence via UOS.
30. Participants were requested to ensure all staff working on the project record their hours and international travel details, including who was involved, the cost and reason. UOS agreed to prepare *pro forma* spreadsheets for recording purposes.
31. Concerning *per diems* it was agreed that institutions should use their normal procedures, although, where further advice is required it should be possible to refer to EU guidelines.
32. At the end of each year partners would be responsible for preparing a cost statement and annual report; it was suggested that the annual report does not constitute a big burden.
33. Responsibility concerning the timely preparation of deliverables was then discussed and it was noted that in several cases responsibility lies with Asian partners.



34. Having received contact details from those present at the meeting, project partners are requested to keep their details updated, including new or more easily accessible telephone numbers and email addresses. In particular this will be important for maintaining communication through the project listserv.

*Future workplan*

35. Outcomes from WP1 should feed into WP2-4, and that the general overview of systems will help in selecting communities, which in turn will help in selecting households.
36. Having prepared an outline checklist for production systems it was agreed that participants would test questions based on this composite checklist through interviews with key informants during subsequent field.
37. It was agreed that next consortium meeting would be hosted by NIHE in Hanoi during October/November 2003, with the objective being to brainstorm findings from the first phase and plan for future activities.

## 1. PAPUSSA project inception meeting

Dr Le Thanh Hung, our host and team leader for the University of Agriculture and Forestry, Ho Chi Minh City welcomed the participants and opened the meeting. Prior to the start of formal proceedings participants were invited to introduce themselves and give a brief account of their experience and anticipated role in the project. Contact details for participants at the meeting are presented in Appendix 2.

### 1.1. Meeting agenda and project overview

The agenda, as agreed with participants prior to the meeting, was reviewed and additional comments sort; the agenda is presented in Appendix 1. During the course of the meeting it was decided to move the discussion on publication policy to follow the presentations by STREAM and RUAF on day two.

Dr Little began the project overview<sup>1</sup> by noting that there are three main themes included in the proposal, health, production and social and institutional considerations, and that one objective of the meeting was to define better who will do what. During the project both project management and communication between partners will govern the co-ordination of tasks. Prior to the meeting there has been some preliminary work on identifying PAFPS at the 4 project sites, mainly facilitated through a preliminary review, the outcomes of which will be presented later in the meeting. Furthermore, some partner such as Anders (KVL) and Professor Cam (NIHE) have had a longstanding collaboration on issues relating to PU production systems, however, it is not the aim of this project to replicate past work.

During the course of the meeting we will discuss how to go about the Situation Appraisal which constitutes the first Work Package. Furthermore, we will discuss what to do with the results once we have them; although strictly speaking this is not true, as inputs from information users should be used to guide the preparation of outputs. Therefore we should try to hear from stakeholders early on regarding their perceptions, and hopefully we can learn from RUAF and STREAM based on their experience. Considering WP1 we need to agree on what to do next; where do we go from here? Obviously everyone will have their own expectations regarding the project, but we should perhaps have a common message for those outside the project. We will also need to discuss how WP1 will be integrated with WP2-4 and WP8. We will also need to discuss the role of the PhD students in the project, their work must contribute to the project and should not be seen as an independent study. There may also be opportunities for other PhD students and scholarships and if managed properly these could be positive. Finally there will be a fieldtrip to PAFPS around Ho Chi Minh City and details will follow. Having agreed that all topics had been covered it was decided that the sooner the participants go to project planning the better, and that therefore participants should try to limit their introductions to PAFPS in the four project sites.

Following the general introduction there was a period of discussion between participants. The first point raised was the need for a definition regarding peri-urban (Anders), it was suggested that this would be something to consider once partners had presented their introductions to PAFPS at the four project sites to avoid any problems in prematurely excluding systems (David). It was agreed however that a working definition is required. There was also a question concerning the overall objective for the project, is it information

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<sup>1</sup> The project overview presentation is given in Appendix 3

generation or to influence policy, if we feel these systems are important we need to let people know (Harvey). It was suggested that there was a need for a clear project logframe. On this point it was noted that the EC were perhaps more concerned that the project management documents should clearly show the partnership aspects (David). Other possible management strategies such as the 'fabled' rolling management plan were mentioned, however, it was agreed that yearly meetings of the consortium would contribute to effective project management. Returning to the issues of project objectives it was suggested that working toward strong research outputs and influencing policy were not necessarily mutually exclusive (Anders). This was perhaps the first sign of tension in the meeting at it was only 08:55. On a serious note it was a risk that the project was trying to spread its butter over too many field sites and that attention to quality was important (Anders), a sentiment echoed by all participants. From the discussion it is apparent that there are perhaps differing perceptions amongst participants, however, the proposal was well received and this was partly due to the inclusion of good scientists and the prospects of good messages for policy makers (David). Although agreeing that it was a good proposal there was an opinion that the project lacked the involvement of an engineer (Peter). This was acknowledged as a small constraint, and it was agreed that the project should try to work with engineers from local institutions as key stakeholders (David).

Commenting on overall project management it was noted that a key aspect to ensure effective implementation would be the co-ordination of interactions between Work Packages (Albert). Related to this point it was noted that NIHE and KVL are not specified as having an involvement in WP3 although data from monitoring work undertaken by these organisations in WP2 will be used (Anders). The prospect of project implementation against a backdrop of rapid change in some cities was also raised. An example was given of the master plan for Ho Chi Minh City which is being implemented, and plans for a JICA funded initiative to build a sewage treatment plant for the city (Peter).

Introducing the project it was noted that the official start date was the 1<sup>st</sup> January 2003 and that therefore the finish date would be the 31<sup>st</sup> December 2005. It was noted that there was no control over when the project started as this was largely governed by the completion of formalities by the EC. Responsibility concerning the timely preparation of deliverables was then discussed and it was noted that in several cases responsibility lies with Asian partners. It was suggested that the project would present a good opportunity for participants to look outside of their specialism, and contribute to developing a comprehensive idea of who PAFPS are important for. A further objective for the project is to describe tensions and conflicts surrounding such systems, as well as change and vulnerability. The project should also aim to unpack the risks associated with PAFPS, for example risks associated with pesticide application as compared to the risks from growing food on wastewater. With this objective in mind there may be some opportunities to develop links with other projects, with a prime candidate being the EU funded MAMAS project which is working in central Thailand. It may be that some simple steps have the potential to result in desirable outcomes (David). For example simple segregation of fish at market may help reduce cross-contamination (Anders). However, it was noted that the project is as much about the process as it is outputs (David). It was also recognised that interventions during the latter phase of the project may differ between sites. The long-term future of wastewater aquaculture may also be uncertain and it should be remembered that it is not necessarily a good thing.

Considering the interaction of the project with stakeholders it was questioned whether this had been adequately defined (Anders). It was suggested that there should be activities early in the project to explore the perceptions of stakeholders (Albert). And that these initial perceptions could be compared with the perceptions of stakeholders to proposed changes (Harvey).

The following discussion related to some practicalities regarding project implementation. An outline plan for the next joint meeting was suggested. It was noted that the project should focus on Ho Chi Minh City, not south Vietnam as described in the agenda. Costs associated with hosting workshops were considered eligible expenses. It was acknowledged that in some cases it would be necessary to pay for the participation of people in the study. Project partners were informed that they should not contact the EC directly but should conduct any necessary correspondence via UOS. It was suggested that costs for individual journeys should not be split between projects, but that costs for trips should be alternated between projects. Participants were also requested to ensure all staff working on the project record their hours and international travel details, including who was involved, the cost and reason<sup>2</sup>. It was agreed the UOS would circulate pro-forma Excel spreadsheets for recording hours and travel. The fact that the EC will not pay for permanent staff was highlighted. There is no depreciation calculation necessary for computers purchased by Asian partners. Finally it was noted that at the end of each year partners would be responsible for preparing a cost statement and annual report; it was suggested that the annual report does not constitute a big burden. [tea break]

## 1.2. Peri-urban aquatic food production around Ho Chi Minh City

The presentation relating to peri-urban aquatic food production in Ho Chi Minh City is given in Appendix 4. The presentation focused on freshwater systems and it was noted that there is a potential area of 32,000 ha for PU aquaculture, although currently there is only 1,000-1,200 ha under culture. Tilapia is the most popular species for culture; red tilapia and giant gourami have a high value. PU aquaculture around the city is a common practice to exploit sewage water sources<sup>3</sup>. However, eutrophication and pollution are problematic. Several farmers have been forced to move due to urban pressures; urbanisation in Ho Chi Minh City is very strong.

On the issues of eutrophication and pollution, there was a call for a clear distinction to be made between industrial pollution and organic enrichment leading to eutrophication (Peter). It was also noted that a project involving French researchers had been investigating issues of pollution and health related to PU aquaculture around Ho Chi Minh City<sup>4</sup>. The authorities in Ho Chi Minh City are reportedly keen to move industry out of the city to a dedicated industrial zone. A question was posed as to how fish are cultured in PU Ho Chi Minh City, and whether it is in rice fields, ponds or canals, also to what extent are overhung latrines still used (David). Regarding this point it was suggested that overhung latrines have almost disappeared, but may still be found in more rural areas (Hung), it was also reported that consumers in Ho Chi Minh City are not concerned about the use of wastewater to culture fish as they don't notice any difference. Regarding the displacement

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<sup>2</sup> Where not agreed with the project leader, UOS should be informed of any proposed travel

<sup>3</sup> Mostly polluted surface water in HCM City although there are a few sites reusing engineered wastewater - We really need to standardise our terminology (Peter Edwards)

<sup>4</sup> Where possible, outcomes from this research should be sought to help inform future activities in the PAPUSSA project and to avoid replication of effort

of farmers due to urbanisation it was suggested that 'cycles of change' in the management of production systems in the face of urbanisation might be investigated (Jonathan). It was also noted that changes in the location of production systems occur due to urbanisation, for example, the movement of fish seed production in PU Ho Chi Minh (Peter). To pick up on dispersed and poorly documented PU production systems it was suggested that some investigation at markets might be prudent to inform the research process (Harvey). There was also a question over how to consider VAC systems in the PAPUSSA project (Anders). Considering livestock production in PU Ho Chi Minh City it was thought that it would be a more industrial type process (David).

Returning to the issue of overhung latrines it was suggested that limited access to other sanitation technology might be prohibiting the complete removal of such systems in southern Vietnam. It was suggested that this issue might make an interesting case study. The policy set out by the government has largely been driven by their perception of how tourists would react to overhung latrines. However, to fully appreciate the impact of such a decree, it would be necessary to understand the historical background and reality of the situation. To fully assess the situation the Vietnamese partners may have to stand back from the issue (David). It was also suggested that the decree might be only one factor contributing to a decline in the use of overhung latrines, urbanisation might be another (Harvey). It was agreed that it was largely a dual process influenced by policy and peoples increasing wealth and understanding of sanitation (Tuan). Enforcement of the decree was also thought to vary depending on the profile of overhung latrines in an area. It was suggested that the institutional analysis would hopefully pick up on issues related to this topic (David).

### 1.3. Peri-urban aquatic food production around Phnom Penh

The presentation relating to peri-urban aquatic food production in Phnom Penh is shown in Appendix 5. There is no fish culture around Phnom Penh. The main site for the PAPUSSA project will probably be next to the RUA campus, where an extensive retention basin is used to grow an estimated 12 species of aquatic and terrestrial plants; there is no fish culture in this basin. Areas in other drainage basins serving the city are also used to grow aquatic plants; a recent report by Muong (2000) describes a survey of the main systems, although the study omitted production in the Boeng Kok basin to the north of the city. Considering drainage in the city, a significant development in the case of Phnom Penh will be the proposed improvement to drainage infrastructure being undertaken as part of a JICA funded project. Drainage canals serving the city will be rehabilitated, a new pumping station constructed, and flood protection embankments developed; the project was due to commence in January.

Cultivation of aquatic plants such as water spinach in PU areas around the city constitutes one of the main activities supplying urban markets. However, on the issue of fish culture, it was noted that *Pangasius* sp. culture was being practised in ponds to the north of the city (Peter), although there was a question over whether this could be considered PU in nature (David). Aquaculture is also being practised in borrow pits, and due to widespread disputes over ownership these are often accessible to poorer communities. On this issue it was noted that not much is known about excavation and landfill dynamics around cities (Peter). Where the ownership of borrow pits is disputed it is perhaps likely that management will be similar to that of a Common Property Resource (Jonathan). Recently the rights to capture fisheries have been transferred to the community (Borin). It was also

noted that perhaps in Phnom Penh supplies of fish from capture fisheries are more important than aquaculture (Ha). A further reason given for the limited extent of aquaculture was the fact that, for example, laws or norms adopted by some families prohibit the consumption of *Pangasius* sp. (Borin). Furthermore, changing perceptions of fish buyers in Cambodia mean they are no longer willing to buy fish grown in latrine ponds, whilst changing attitudes to sanitation, combined with government regulation mean latrine ponds in Cambodia have largely disappeared. Based on the preceding discussion it was suggested that some preliminary investigation at markets might be required, as otherwise the study might risk missing some PU producers (Harvey).

#### 1.4. Peri-urban aquatic food production around Bangkok

The presentation relating to peri-urban aquatic food production in Bangkok is shown in Appendix 6. Data collection on the current status of aquaculture was difficult, as the Government Statistical Department does not collect much information on fish production. The team also reviewed some other publications but the information was not directly related to PU production. There was a symposium in Bangkok on aquaculture organised by CIRAD and a study conducted by DORAS that may be of use. Considering Bangkok it is likely that macro-processes will be very important. For example, when farmers sell up and move away from the city do they take their agricultural practices with them (Harvey). To pick up on such movements it may be useful to consider processes happening in 'extended metropolitan regions' (Jonathan). There may also be other linkages, for example, by-products from agro-industrial processing that could be used to define the extent of PU activities (Harvey). The conversion of rice fields around Bangkok to produce turf was mentioned as an example of new land-based production activities emerging in PU areas, recreational fishing was given as a further example.

#### 1.5. Peri-urban aquatic food production around Hanoi

The presentation relating to peri-urban aquatic food production in Hanoi is given in Appendix 7. During the introduction to PU aquaculture around Hanoi it was apparent that there were difficulties in preparing the review, as it remains unclear as to what PU means. To the south of Hanoi wastewater is used for aquaculture, however, to the east new areas of aquaculture are developing although this region is more rural; around 2,000 ha of new ponds have been dug in an area previously given over to lowland rice fields. Average production in PU aquaculture systems is around 2,500 kg ha<sup>-1</sup> y<sup>-1</sup>. Discussing general differences associated with rural versus peri-urban areas it was noted that higher population densities and larger numbers of small-scale industries in peri-urban areas contribute to increased pollution levels. The quality of products from PU aquaculture systems has also been questioned in the past. When asked what was meant by quality (Anders) it emerged that past research work by RIA1 had revealed water quality problems, including high levels of some heavy metals, these findings were reported in local newspapers (Tuan). However, there was apparently some uncertainty over the location of the sampling points used (Harvey), whilst it was noted that in most cases, excepting mercury, heavy metals don't accumulate in fish, but are regulated, of more concern would be industrial organic chemicals (Peter).

There was also a question regarding aquaculture in intra-urban lakes (Anders). It was reported that the main role of these water bodies was for recreation, but that some fish were required to maintain water quality, and some are caught for consumption (Tuan).

From the presentation it was apparent that aquaculture in Thanh Tri is under pressure and that new aquaculture operations are developing to the east of the city; these new operations are based on inputs of commercial feed and indeed new species including *Colossoma brachyponum* and *Macrobrachium rosenbergii* (Dave). This situation appeared to suggest that the Government's attempts to stop development in Thanh Tri district to permit floodwater discharge (Peter) were proving ineffective. It was suggested that as the land belonged to individual farmers they had sold it off to developers (Tuan). The demise of the commune systems and failure of the government to distribute wastewater to aquaculture producers in Thanh Tri was cited as a further constraint forcing producers to intensify production and to culture higher value species (Peter). There are reportedly new reservoirs being constructed in Thanh Tri and it was questioned whether any fish were being stocked (Anders), it was not thought that any fish were being stocked, but aquatic plants may be cultivated in the region (Tuan). In summary it was noted that there was production of fish and plants around all the cities (Dave), although little is known from the information available regarding the nature and extent of fish culture around Phnom Penh. It was also noted that around 50% of fish culture in Thanh Tri was practiced in rotation with rice; this was reportedly different from southern Vietnam where rice-fish rotation is not practiced (Hung).

#### 1.6. Health and hygiene studies of PAFPS in Hanoi and other urban centres of northern Vietnam

The presentation focused on activities in the DANIDA funded ENRECA project; the main purpose of the project is to assess the sanitary aspects of drinking water and sewage reuse in Vietnam. The wastewater treatment capacity of ponds and health risks to workers are also being assessed. The main site from project work has been Nam Din and 4 other provinces with lakes where fish are cultured. It is possible that the PAPUSSA project could link with other projects working in north Vietnam such as that being implemented by IWMI. Discussing activities within the PAPUSSA project it was suggested that the health study could cover sites in north and south Vietnam with detailed sampling and analysis (Anders). There was a question as to whether aquatic vegetables were covered in the ENRECA study (Ha), and it was also queried how activities in the ENRECA project differed from those outlined in WP2 (Harvey). It was explained that there will be a much broader sampling framework in the PAPUSSA project (Anders). Existing links with the communes in project sites will be extremely useful in facilitating project work.

#### 1.7. Approaches to interdisciplinary situation appraisals

The selection of production systems and representative communities was identified as the first activity necessary for the timely completion of WP1. To achieve this it was envisaged that AIT would support training in PRA tools and approaches. However, it was noted that rural appraisal activities may not necessarily be applicable, for example, wealth characterisation in PU communities may be different from that in rural areas (Harvey). It was also considered important to include knowledgeable groups such as 'master fishers' who in the past had been missed through conducting narrowly defined poverty focused research. The inclusion of key informants was regarded as an important step, the benefits of which were apparent from ongoing studies on trash fish use in coastal aquaculture in Vietnam (Peter). The potential value of interdisciplinary stakeholder workshops in helping identify key informants, stakeholders and groups of the poor dependent on PU farming

was also noted, and such a forum might also be useful in identifying the most appropriate communication media and pathways for project outputs (Stuart).

It was suggested that the project should adopt a Participatory Community Appraisal (PCA) approach used in other EU projects to evaluate the importance of PAFPS in poor livelihoods. Key steps in working with communities during the project were also outlined; first it is important to explain the purpose of the project, second not to push an agenda on participants, third to identify their constraints and fourth to pilot interventions. With the overall objective of the project in mind it was suggested that it might be useful to turn the process around and to look at the intended project outputs to help guide the development of the research plan (Jonathan). However, irrespective of the intended outcomes it was noted that there was a need to identify communities for inclusion in the study (Anders). One possible approach suggested was to use a checklist to elicit information on key aspects (Jonathan). And it was agreed that there is also a need to know more about the PS, as well as the communities, early in the project (Anders). It was noted how this approach is similar to that of RRA where a 'quick and dirty' assessment is followed by a more detailed investigation dealing with system types (Harvey).

There was a final discussion on why peri-urban and not urban was being used to define systems and communities to include in the study (Lucy). It was suggested that PU was more appropriate for aquatic farming systems as it was not intended to limit the study to investigating food production in urban lakes, and from preliminary work it appeared that most urban aquaculture in the cities being considered was in fact peri-urban in nature (Dave).

#### 1.8. Workshop session to produce a matrix of PU production systems

Groups were formed to focus on production systems around each of the four cities. They were requested to identify different systems currently in use for producing aquatic foods in PU systems and to report back on their findings. The proposed approach, group composition and production systems identified for each of the four cities are presented in Appendix 8.



## 2.1. Meeting review

At the start of day two there was a brief discussion of some outstanding matters requiring clarification. Concerning *per diems* it was suggested that institutions should use their normal procedures, although, where further advice is required it should be possible to refer to EU guidelines, and these are definitely available for Vietnam (Anders). In some cases partners mentioned that the usual rate depends upon the nature of the project (Tuan) and that often a dual system operates for government funded work and international cooperation activities (Cam). In most cases a *per diem* rate had been included in the budget (Dave) and although the European Union offers clear guidelines these had not been seen by most partners. There was also some concern that staff appointed for the whole of the three-year project might be considered permanent (Hung), however, it was noted that although the EU will not pay for permanent staff, a three year contract would not be considered permanent (Dave). Finally, as the EU will not require receipts against overhead payments, it was suggested that partners have some flexibility as to the allocation of overhead costs.

## 2.2. Introduction to RUAF

The introductory presentation to RUAF is given in Appendix 9. In light of a favourable mid-term review it appears that the RUAF initiative will receive funding for a second phase. RUAF is involved in various activities including the preparation of policy briefs on urban farming, facilitating e-conferences and publishing a magazine on urban agriculture. In light of these activities it was suggested that if funds allow the PAPUSSA project might like to assist in producing a magazine issue or policy brief of urban aquaculture, or contribute to facilitating an e-conference on this issue. Regarding the timing of such an initiative it was suggested that in 2 years time the project should be in apposition to disseminate results (Peter) There was also a question as to whether RUAF could draw on its partners for assistance in preparing protocols (Anders); it was suggested that the recent e-conference on research methods for urban agriculture might be a useful resource for use by partners. Regarding the collation of materials relating to urban aquaculture it was noted that certain resources such as the collection of papers held by ENSEC had been lost from the public domain and that work should be undertaken to review the grey literature on urban aquaculture (Peter). In light of the recent mid-term review to which RUAF was subject, there was a question as to how RUAF had gone about demonstrating an impact on policy (Dave). Although this had been one aspect of the review it was not known what indicators had been used (Lucy).

## 2.3. Introduction to STREAM

During the presentation (given in Appendix 10) the four main components of the STREAM initiative were outlined, these were capacity building, learning initiatives, communication and policy development. Following the presentation there was an enquiry regarding the extent to which the STREAM initiative has focused on poor people (Jonathan). In reply it was noted that priority is given to the poor (Ha). Regarding the media monitoring activity by STREAM it was suggested that while the activity covered a wide range of issues and was a good source of information, they were not necessarily activities involving poor people (Harvey). In general feedback on the media monitoring activity has been good (Ha). There was also a suggestion that the benefits of some

activities to poor people, such as intensive aquaculture, as compared with small-scale systems, had not been adequately assessed (Peter).

In light of the STREAM objective to disseminate information in local languages, there was an enquiry as to whether STREAM could translate outputs from the PAPUSSA project into Vietnamese, Khmer and Thai? It was thought this would be possible (Ha). There was also a suggestion that the project website should be translated into Vietnamese, Khmer and Thai. Where translation is undertaken it was noted that there should be some form of quality control as translators are not necessarily technical experts. Considering the issue of how STREAM demonstrates an impact on policy, it was asked what evidence STREAM used to demonstrate this (Dave)? The attendance of a vice Minister at a workshop and a good interaction, including his listening to poor people was cited, as was the participation of commune representatives (Ha).

In light of the regional focus of STREAM and global nature of the RUAF initiative it was suggested that there might be opportunities for the two institutions to develop links. In response to a question about feedback on websites received by RUAF (Dave) it was noted that there was generally a low response rate, and that e-conferences and discussion forums were more likely to produce useful dialogue (Lucy). To assist in coordinating project activities RUAF offered to establish and host a list-server for project team members, which was widely regarded as a very useful development. Regarding the impact of the PAPUSSA project it was suggested that Ministers and representatives from advisory committees should be invited to future meetings.

#### 2.4. Publication policy

It was noted that co-authors are responsible for the content of publications and as such have a duty to actively participate in reviewing the content of papers. Senior staff members such as Directors should not automatically be included as co-authors (Anders). It was suggested that the names of all those involved with the research process should be included on working papers, and that these should then be cited in future publications (Dave). Co-authors should contribute to the scientific content of publications (Peter). It was also suggested that a short acknowledgement statement should be prepared regarding the research team, project and reference to the website for inclusion in project outputs.

It was suggested that partners should approach others in the interdisciplinary team to work together on publications, and that although the deliverables for the project are clear, partners should feel free to travel and work independently (Dave). It was suggested that partners could post their intended publications on the website and that other team members could express an interest in collaborating (Jonathan). It was also suggested that a more detailed protocol for publications might be useful and that some internationally accepted guidelines might be useful; Anders agreed to look something out.

It was mentioned that Principle Investigators on the project should take responsibility for motivating and informing their research teams, and that a useful step would be to build links between institutions to maintain interest, and increase motivation and understanding of the project (Dave). In light of past experience on Stirling managed projects there was a request for better communication (Peter). It was also noted that UD has the greatest commitment to producing reports (Albert), although all those involved in specific work packages should make a contribution to written outputs. There was a question as to

whether partners shared common IPR, and whether it was possible to publish information from working papers in journals (Anders). It was suggested that working papers are only an intermediary stage in preparing work for publication (Dave).

It was acknowledged that some partners are at a disadvantage when looking to publish in international journals due to language (Anders), and that perhaps AIT could offer support if this was a need identified by partners (Dave). There was also a suggestion that partners could publish outputs in their own language (Anders) and it was agreed that this might have a greater impact on policy in particular countries (Tuan and Ruangvit). However it was noted that the working language of the project was English (Peter).

## 2.5. Workshop session to design & modify WP1

It was noted that outcomes from WP1 should feed into WP2-4, and that the general overview of systems will help in selecting communities, which in turn will help in selecting households (Jonathan). At this stage the identification of systems was required, whilst the selection of specific PAFPS for further study was open to debate and would depend on their importance (Dave). To assist in this process it was suggested that the workshop session later in the day should focus on developing a checklist for PAFPS to assess their importance. Another pressing task for partners was the selection and employment of staff to work on the project.

Having selected PAFPS it will be necessary to engage with communities employing appropriate approaches, to help facilitate this it was thought that partners, including RUAF may have useful experience to share regarding methods for working with communities in urban and peri-urban settings. To better investigate this and to decide on a suitable format for the Participatory Community Appraisals (PCAs) it was agreed that there should be a workshop concerning research methods in Bangkok from 31<sup>st</sup> March to 4<sup>th</sup> April 2003.

There was also a question as to where health issues were first considered in the project (Anders) and it was agreed that knowledge needed to inform the health related work package should be made explicit and assessed during WP1 (Dave). The same was true for issues relating to productivity and livelihoods and social and institutional arrangements. It was also acknowledged that sites selected for further investigation in WP2-4 might differ, depending on their relative importance (Dave). Therefore the most important factors for use in influencing the selection of sites for further investigation should be included in the checklist. And although the checklist will primarily be aimed at eliciting information during interviews with key informants it was suggested that secondary data would have a role to play, as would less conventional means of data collection such as phone calls (Dave). Other inputs required for the health investigation in WP2 include information on the laboratory facilities available in Cambodia and Thailand. And if Thanh Tri, Hanoi were to be included in the study it would be possible to begin developing research protocols (Anders). It was agreed that Thanh Tri would be included (Dave). Anders and Cam will visit Cambodia and Thailand around August to assess the situation.

It was agreed that next consortium meeting would be hosted by NIHE in Hanoi during October/November 2003, with the objective being to brainstorm findings from the first phase and plan for future activities.

## 2.6. Press release

### **Press release/introduction to the project**

- **Why? What is important about.**
- **Why we need to know more**
- **How we will go about doing this**
- **We are trying to better understand the system**
- **The system under pressure**
- **How people get benefits**
- **Understand your knowledge**
- **What's in it for me? How can this project benefit me?**
  - We won't close you down!**
  - We will feed-back any information we get to you/your community**
- **Where?**
- **Aquatic food production systems in and around towns**
- **Name/address of our in situ, in collaboration with others in Asia/Europe funded by EC**

Overhead used to facilitate discussion

There was some discussion regarding the purpose and intended content of a 'press release' although it was suggested that a brief summary of the project and its objectives would be useful for explaining to participants and stakeholders. It was also expected that a jointly prepared project summary could help in avoiding false expectations or concerns that the project was aimed at tax collection or closing down operations. It was also suggested that if the multinational nature of the project were outlined in the summary that this might help convey the importance of the project (Harvey). It was agreed that UOS would draft a summary statement and circulate it to partners for review.

## 2.7. PhD projects

### **Higher degrees**

- **Advantages to PhD/MSc involvement**
- **Cambodia (RUA)-French connections**
- **MSc project work (UAF)**
- **Overseas MSc student placements?**
- **Durham-GIS?**
- **Urine-loading Danish lady?**
- **Sandwich student**
- **Keep everyone informed through list server about possible placements**

Overhead used to facilitate discussion

It was agreed that the opportunity to register staff for a PhD was very useful, both for staff development and ensuring greater commitment to the project. Where fees at overseas institutions were prohibitive national registration might be worth considering. For some partners they were aware of possible opportunities, for example, in the case of RUA it may

be possible to access French funding for PhD studentships. Opportunities to register staff for MSc degrees should also be considered. Albert Salamanca, PhD student, University of Durham gave a presentation outlining the intended focus of his research work. The presentation is given in Appendix 11.

## 2.8. Workshop session: PAFPS checklist

Initially a brainstorming session was used to elicit key indicators regarding the importance of PAFPS, outcomes of this activity are given in Appendix 12. Then, in the same groups that had identified PAFPS around the various cities, participants were requested to review the draft checklist based on their detailed knowledge of the various settings in which PAFPS operate. The revised checklists were then collected and tabulated together (Appendix 13). It was proposed that participants would test questions based on this composite checklist through interviews with key informants during subsequent field visits<sup>5</sup>. When assessing which PAFPS and communities to focus on in the first research phase, consideration should also be given to the fact that additional sites will be needed to test and monitor future interventions. There are also external factors such as the presence of other research teams, like the one from IWMI active in Nam Din, Hanoi, which is working on modelling aspects of wastewater irrigation (Anders).

## 2.9 Schedule for future meetings

To round off the session an outline schedule was developed for future project meetings.

### **Meetings**

- **March-April-Kasetsart Workshop?**
- **End of WP1, outcomes leading to final design of WP2,3,4,8-**
- **Fieldwork wp1-March-August**
- **Develop Health and hygiene protocols, order materials, visit Thailand/Cambodia**
- **Summarise findings Sept-Oct**
- **NIHE to host Oct/Nov 2003?**
- **Local workshops Nov/Dec-feedback to stakeholders**

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<sup>5</sup> The outcome of testing and refining the composite checklist with key informants in Hanoi is given in Appendix 14

## Appendix 1. Inception meeting agenda

Wednesday 19<sup>th</sup> Arrive HCM City

Evening Informal gathering and possibly meal for those interested  
(contact Stuart Bunting at Victory Hotel)

Day 1 Thursday 20<sup>th</sup>

07:30 Depart Victory Hotel for meeting  
08:30-09:00 Workshop program review and project summary  
09:00-10:30 Project co-ordination and finances; timing of meetings  
10:30-11:00 Break  
11:00-11:30 Peri-urban aquatic food production in southern Vietnam (UAF)  
11:30-12:00 Peri-urban aquatic food production around Phnom Penh (RUA)  
12:00-12:30 Peri-urban aquatic food production around Bangkok and environs (KU)  
12:30-13:30 Lunch  
13:30-14:00 Peri-urban aquatic food production around Hanoi (RIA 1)  
14:00-14:30 Health and hygiene studies of peri-urban aquatic food production systems in Hanoi and other urban centres of Northern Vietnam (NIHE/KVL)  
14:30-15:30 Approaches to interdisciplinary situation appraisals -lessons learnt  
Jonathan Rigg  
Harvey Demaine/David Little  
Stuart Bunting  
15:30-16:00 Break  
16:00-17:00 Workshop session to produce a matrix of systems to identify common issues/differences

Day 2 Friday 21<sup>st</sup>

07:30 Depart Victory Hotel for meeting  
08:30-08:45 Review of today's programme, summary of yesterdays work  
08:45-09:00 Introduction to RUAF  
09:00-09:15 Introduction to STREAM  
09:15-09:30 Data exchange and publication policy  
09:30-10:30 Workshop session: design/modify WP1-approach and timing  
10:30-11:00 Break  
11:00-12:00 Report back on group sessions  
12:00-13:00 Press release-first statements explaining the project to stakeholders and partners  
13:00-14:30 Lunch  
14:30-15:30 Proposed WP1 activities-timing-relationships to WP2, 3, 4 and 8  
15:30-16:00 PhD projects  
16:00 Close meeting  
Evening Farewell meal

Day 3 Saturday 22<sup>nd</sup>

07:30 Depart for field trip to local PAFPS  
16:00 Return from field trip (a shorter trip may be arranged if people are leaving earlier)

Notes:

At the end of day two (16:00+) there will be an opportunity for partners to discuss any outstanding issues individually or to agree outline schedule for sub-contracting inputs from AIT etc.

## Appendix 2. Participant contact details

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## Appendix 2. Participant contact details

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## Appendix 13. Checklist for Key Informant interviews

Phnom Penh	Bangkok	Hanoi	Ho Chi Minh City	Tested Question
System characteristics	What is the system?	What is the system ie sewage-fed, non-sewage fed (new units, alternative units) Level of intensity		
Age of production system 'How many years ago were the ponds constructed in this area (19...-19....)'	-	-	How long has the system in its current form been operated ?	
How long have you been involved in this system?				
Average size of culture systems - m <sup>2</sup> of aquatic veg; m <sup>2</sup> of pond area				
Where does the water come from??	Location-water source?	Location-water source?		
Where do the nutrients come from	Dependence on waste Type? Collection/transportation Prior treatment Application	Sewage or non-sewage fed	Dependence on waste? None, low, medium, high Type of waste	
Have you noticed any problems with fish kills or human health	Contamination Public health: contact with water, handling produce and consumption			

## Appendix 13. Checklist for Key Informant interviews

How many households involved in production				
			How extensive is the system in terms of area?	
			Dispersed or concentrated units? Number of sites?	
			Level of production-total production/ha	
			Value of production	
Is it a full or part-time occupation?			Specialised occupation or part-time	
Are both men and women involved. Old or young?	Who is involved? Labour wage, family member, sex and ethnicity	Labour wage , family, sex		
'In what other ways do these culture systems contribute to peoples livelihoods?'	Relative importance to livelihoods	Significance to household income Importance of fish as food	Significance to household income?	

## Appendix 13. Checklist for Key Informant interviews

Does any particular group benefit?	Sex, ethnicity	Producer ethnicity	Is there an ethnic component to the system?	
Who owns or controls access the system	tenure	Access/ownership	Ownership? Communal land? Public land? Authority to use?	
What are the main uses of the water?				
What are the main products?				
Are they consumed, or sold? If sold locally or where? % sold/consumed	Household consumption/market	Importance of market location	Marketing Sold or consumed; Export; local market City market (wholesale_ Middleman/trader	
Are there any problems marketing this product. If so why?		Social acceptance and use of products		
Trend in production and major factors affecting production	Level of production? Any change to production or system?		Is the production system growing/declining or remaining the same?	
Do you know of any plans to develop the area that may affect its use	Future (next 10 years) expected changes and sustainability	Future potential trends and sustainability		

## Appendix 14. Refined checklist following testing with key informants in Hanoi

- For discussion with Key Informants regarding one type of production system
- Ideally we would like to know about the nature of the production system at the city or province level
- Where city or province level knowledge is not available it may be necessary to visit key informants in a number of Districts, although due to time restrictions it may be prudent to select the most important Districts for particular production systems based on secondary data
- Production systems to cover in Hanoi include:
  - fish seed
  - pond-based fish on-growing
  - swamp/lake fish on-growing
  - swamp/lake fish on-growing with wastewater
  - rice-fish culture
  - shrimp culture
  - cage-based culture

Discussion topic	Discussion outcome
General systems characteristics - local name; total area; defining characteristics	
How long has current system been operated?	
What was there previously? What did the farmers do previously?	
What is the average area of one culture system unit? (possibly given as a range)	
Are production system units concentrated or dispersed? In how many sites around city?	
Where does the water for the system come from?	
What are the nutrient sources? Solid/liquid waste inputs? Feed? Other?	
What are the main products? (fish/plants/molluscs/amphibians etc.)	
What is the level of production per unit area? (possible given as a range)	
What is the value of production? Price?	
What is the trend in production? Productivity? Total area? Species? Value?	

## Appendix 14. Refined checklist following testing with key informants in Hanoi

What proportions of produce are consumed, sold or other? Farmers? Labourers?	
What are the marketing arrangements?	
Are there any problems (technical or social) with marketing?	
How many households are involved with the production system? Farmers? Labourers?	
Is this full or part-time involvement? Farmers? Labourers? Others?	
What about the gender, age & ethnicity of those involved? Farmers? Labourers?	
What benefits are there from the production system? Farmers? Labourer? Community?	
Does any particular group, based on age, gender, ethnicity or other benefit?	
Who controls access to the production system? Owner? Leaseholder? Community?	
What range of uses is water from the systems used for? Agri? Aqua? HH? Municipal?	
Are there any animal, environmental or human health problems associated with use?	
What are the expected changes facing the production system?	