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PCA Methods Workshop

Production in aquatic peri-urban systems in southeast Asia

PCA Methods Workshop

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Kasetsart University
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Thailand

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PAPUSSA

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
KU	Kasetsart University, Bangkok
klong	Thai name for canal
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
PS	production system
PU	peri-urban
PUI	peri-urban interface
RIA1	Research Institute for Aquaculture No. 1, Hanoi
RRA	rapid rural appraisal
RUA	Royal University of Agriculture, Phnom Penh
UAF	University of Agriculture and Forestry, Ho Chi Minh City
UD	University of Durham, UK
UOS	University of Stirling, UK

Contents

Executive Summary and Action Points

1. Project coordinator, Dr David Little, welcomed everyone and outlined the major objectives for the workshop. It was described how the Participatory Community Appraisal phase of the project would be undertaken with communities and not key informants, and explained that activities during the workshop would help introduce, select and develop appropriate tools for the PCA that would facilitate the exchange of knowledge required to inform subsequent project activities.

2. Partners from each of the four research locations summarised findings from interviews with key informants; the checklist developed at the project inception meeting had guided this investigation.

3. The research team from KU assessed PAFPS around Bangkok, Thailand, through collecting primary data at larger agricultural trading markets. Data were also collected from local government, provincial agriculture, fisheries and irrigation offices. Based on information obtained, three provinces were identified where PAFPS appear to be concentrated, namely, Pathumthanee, Nontaburee and Samut Prakarn.

4. For Hanoi, Vietnam, recently compiled data presented by RIA1 suggested that around 3,190 ha of PU land are managed for aquatic food production, and that this may amount to around 9,200 t y^{-1}. However, it was unclear whether these figures included aquatic plant production. Of the small fish produced in sewage-fed ponds around Hanoi 40-60% are sold in rural mountainous districts along the boarder with China.

5. Information given in the presentation from UAF, Ho Chi Minh, Vietnam, was based on interviews with around 20 farmers and local extension workers. Apparently the area of PU aquaculture is in decline and production systems are moving to other locations. Pollution has also contributed to a move away from sewage-based PAFPS.

6. The presentation on behalf of RUA, Phnom Penh, Cambodia, described how the main aquatic food produced in PU Phnom Penh is morning glory, and in general farmers prefer to use wastewater diluted with rainwater. Fish culture appears concentrated along National Highway No. 5, although around the city there is also pen-culture in some larger water bodies, and some fishponds managed by households.

7. To assist in selecting research methods to use when conducting the PCA activity a comprehensive review of approaches and participatory tools was given by Ms. Wanwisa Saelee, AIT, Thailand. Experiences of using individual tools were described and benefits and constraints associated with each discussed.

8. Further insight to the range of participatory approaches available for evaluation and possibly use in the PCA was given in a brief review of established RRA tools presented by Stuart Bunting, UOS, Scotland.

9. Based on experiences from a recent project Dr Siriluck Sirisup, AIT, Thailand, gave a presentation concerning research methods and approaches that had proved effective when investigating 'Government policy and farmers' decision making in Thailand'.

10. To help facilitate the selection of appropriate research tools to achieve the objectives of WP1 a checklist approach was proposed by Jonathan Rigg, UD, England. Based on an assessment of discreet objectives it should be possible to employ this framework to identify which stakeholder groups should be involved and consequently how the study should be conducted i.e. which approaches and tools of those presented to use.

11. To help in this process the objectives for WP1 were presented and key issues requiring further investigation highlighted.

12. Following the presentation of approaches to participants, group work was undertaken to further develop protocols for selected tools that were considered potentially most useful, these included, timeline, well being assessment, seasonal calendar, bioresource flow diagram, scoring and ranking matrix, mobility mapping and institutional assessment exercise.

13. During a fieldtrip to PU Bangkok it was anticipated that partners would have an opportunity to trial the PCA approaches, however, due to practical difficulties only limited explorations were possible. Notes developed by Albert Salamanca, UD, England, concerning this exercise are presented in Appendix 6.

14. Following a group discussion a checklist was developed for partners to follow during the initial phase of the market assessment, it outlines the key categories of people to interview and discussion topics requiring attention.

15. Based on observations and discussions with selected individuals at Talat Thai wholesale market, field notes were compiled that give an insight into activities and occupations supporting the marketing of aquatic foods produced in PU Bangkok.

16. Objectives for WP1, taken from the project proposal were reviewed and based on group discussion agreement was reached concerning the most appropriate approaches to employ in collecting the desired information. A checklist was developed for the initial phase of the Institutional Assessment and participants agreed to follow the Market Assessment checklist outlined; a forward workplan for the months up to and including the State of the Systems (SOS) Workshop in October was also agreed.

1. Introduction

Dr David Little, Institute of Aquaculture, UOS

This workshop constitutes a step on from where we were in February, we will firm up ideas on PAFPS to allow us to select sites and to get a better overview of the various systems. This morning and during part of the afternoon we will hear from everyone regarding their progress with key informant interviews. Then we will think about tools and approaches for the PCA, and what P, what C and what A mean. What are communities in PU areas, probably not the same as in rural areas, probably more fuzzy and not as discreet. People's idea of 'community' will be different; compared with a rural village, at the edge of Hanoi a community will be very different.

Also are communities the same in the 4 study sites? We will review potential tools for use in research in different communities. For the PCA we will be dealing with groups representing the whole community, not key informants. We also need to think when to do PCAs, when is the best time to visit PU communities, and when is convenient for them to meet us? This afternoon, Hall, Stuart and Siriluck will review tools and approaches that might be appropriate. Tomorrow, each group will decide on a set of tools and work through how to use them with communities we now know about.

Tomorrow afternoon a visit to a wholesale market will show how working back along the market network can help in investigating the location and nature of PAFPS; it will also help us understand where the Thai group have been working. On Wednesday, Thursday and Friday there will be the opportunity to try out tools with people in PU areas. This workshop is about sharing experiences and working out how to proceed in the 4 study sites. There is a cross-disciplinary team working on this project and participants should aim to understand each others jargon, otherwise we wont get very far working on the project. People should be comfortable with using terms such as seasonal calendars and matrix scoring exercise. Finally, if there are any problems with the accommodation at KU Home or other logistics please see our host Ruangvit.

Discussion

Although agreeing that it will be necessary to adapt research approaches and tools to the 4 study sites the need for a guiding framework was highlighted (Jonathan). It was noted that during group work planned for Friday, that participants would have the opportunity to agree on such a framework, including what tools to use in the various suites, although ideally this will be as similar as possible (David). Possibly an *aide memoir* could be produced to help guide the research teams (Jonathan). This should be fairly structured, like the key informant interview checklist, but data collected also needs to be comparable, making it much more valuable (David). It was noted here that a copy of the minutes from the first meeting would be useful to help identify outstanding issues such as the definition of PU (Peter). There was an apology that the minutes had not been circulated sooner and it was noted that participants were welcome to have a draft copy for this purpose; feedback was encouraged (David).

There was also a comment that at 5 days the current workshop was too long (Hung). It was noted that initially the idea had been for field workers to attend the meeting, however, as

this was not possible, team leaders will have to go out with researchers for 2-3 days to ensure things are carried out as agreed. This is not a meeting for PIs *per se*, instead it is more about practicing field techniques, for which purpose we need the space of 3-4 days, focusing each day on a different task. Furthermore, it was noted that the proposed agenda might have to change based on feedback from initial field visits (David). Returning to the issue of a methods framework, there was a question as to how to select tools, and what questions to use in guiding this process (Albert)? It was noted that the tools should address questions posed in WP1 (David).

The current phase of the project, WP1, constitutes a general situation appraisal, then project team members will have to take a decision on where to focus (David). To assist in this process it was suggested there was a need for a working definition for PU, otherwise it would be difficult to agree on what to focus (Peter). PU implies around, but aquaculture is happening inside and outside (David). There was a request for participants to comment with any suggestions on how to focus future project activities, people were asked to come forward, for example, to request more time be spent on how to input data. It was noted that there would be time on Friday morning to discuss approaches to storing and processing data, possibly using spreadsheets or databases (David). It was also suggested that if by the end of the meeting participants didn't have a good idea on how to proceed then the workshop would have failed. Everyone was asked to take responsibility for reminding the group of this objective. It was suggested that a record of the meeting should be maintained on white boards around the room to remind participants of progress (David). Finally, there was a question as to when exactly there would be a decision on where to focus the study, when would the conceptual notion of PU be put into practice (Albert). On this point it was suggested that there should be further discussion following the presentation of findings from key informant interviews (Peter).

2. Outcomes from key informant interviews

Prior to his presentation Dr Ruangvit Yoonpundh welcomed participants to Kasetsart University and informed us that in a slight change to the planned agenda there would be a welcome meal in the evening. The Agenda for the meeting and list of participants are given in Appendix 1 and 2, respectively.

2.1. Key informant perspectives of PAFPS around Bangkok, Thailand

The presentation from the KU team concerning knowledge of PAFPS derived from key informant interviews is presented in Appendix 3.1; the revised checklist developed to guide this work is given in Appendix 3.2. Following the meeting in Ho Chi Minh City, Vietnam, the research team from KU initiated a thorough assessment of PAFPS around Bangkok through collection of primary data at big agricultural trading markets. Data was also collected from local government offices, provincial agriculture and fisheries offices and irrigation offices. Based on information obtained, three provinces were identified where PAFPS appear to be concentrated.

- Pathumthanee, where integrated pig-fish and broiler chicken-hybrid catfish farms are located around *klongs* 7-12.

- Nontaburee, where morning glory is being cultivated on land previously used for rice farming, but where the topsoil has been sold, making it unsuitable for this purpose.

- Samut Prakarn, where water mimossa, morning glory and snakeskin gourami are widely grown, but where new factory and housing developments are having an adverse affect on water quality.

All data was collected from key informants and lead to the research team locating PAFPS in the provinces mentioned (Toe). There was a question concerning the types of rice farmers converting to morning glory production, specifically, whether or not they were small-scale farmers or only big producers (Peter)? There was concern that although small-scale producers may be important, they may not have been picked up through interviews at markets; it was suspected that there might be 1,000s of small-scale producers for whom morning glory production is not a full-time occupation (Peter). On a general point it was suggested that for many landowners rice production was not worthwhile, and many have rented out their land (Toe).

There was also a question as to whether the KU team had recorded any production of aquatic plants in canals (David)? When driving around the team reported that they had observed some small-scale production, but that this type of activity was probably not a main occupation (Toe). It was noted here that the project is not only concerned with full-time farmers, PU farming is widely regarded as something people do as part of a wider range of activities supporting their livelihood. Possibly 1,000s of people are cultivating aquatic food on a small-scale, however, at the moment it is not clear, especially as goods from multiple producers may be transported to market by a single supplier (David). If there are small-scale provincial markets perhaps these should also be sampled, also considering big buyers, how do they operate? From the preceding discussion it was hypothesised that there may be a division of systems between high capital versus occupational multiplicity (Jonathan).

A further dichotomy was suggested in that small-scale producers most likely depend on polluted canals whilst large-scale producers use industrial fertilisers (Peter). It was suggest that a huge area in Pathumthanee might be being used to grow mimossa and morning glory using polluted water. From 1979-80 work was undertaken to try and survey every fish farm in the province and during this time 1 farmer was observed growing morning glory, and the plants being cultivated appeared yellow, possibly due to limited nitrogen application (Peter). Do these farmers still exist?

From the 1800-1900s large landlords leased out most of the land around Bangkok to small-scale agricultural producers (Peter). Transitions in the types of agriculture practiced have been driven by land-use change, pollution and market demand. However, there was a question as to what extent land-use change in the region has been pre-planned (Jonathan)? In many cases it appears that the sale of soil by farmers has driven land-use change (Peter) indeed even tenant farmers are permitted to sell soil from land they rent (Siriluck).

On the issue of scale, it was suggested that larger producers may not be as significant as many small-scale or part-time producers (David). A recent study conducted by AIT seems to have focused on large-scale producers; are we to study large feedlot fish production that used to be based on agro-processing by-products; larger farms such as this could occur

anywhere, therefore are they PU (Peter)? This point in the discussion was seen as an opportunity to define PU versus rural systems (Jonathan). Are we to consider PU based on the administrative area or location and nature of production systems? If we are looking at PU issues we should not just think about location but also consider linkages (Albert). How much emphasis should we give to linkages, industrial and market? Linkages like this will also change over time. As waste loadings increase, so will pollution, perhaps we need to visit those newly established systems to understand the process (David). Comparisons should also be made concerning the situation in different cities.

Peri-urbanisation is most dramatic in E Asia (Albert)[1]. We need to consider PU drivers versus PAFPS drivers (David). A point was also raised as to whether the project is interested in investigating circumstances where PAFPS have been displaced (Jonathan)? For example, do displaced people take their farming systems with them (David)? Also can we predict the future (Peter)? PAFPS appear sustainable but are moving (Jonathan). It was also suggest that the systems are changing, shifting from by-product and waste-fed to concentrated feeds (Peter). From the discussion it seems that when we talk about PU we might mean both inside and outside the administrative area (Hung). Monitoring change in the production systems also seems important, for example, changes in livestock production has influenced PAFPS management; as duck production has intensified, and the availability of night soil declined, so some systems have switched to using duck manure (Tuan).

Based on the group discussion it was suggested the project might choose to consider three life histories: land-use change, family histories and production systems, and that this approach might lend itself to case studies (Jonathan). It was suggested that a case study approach would be possible (Peter). Covering all three angles might lead to information which social scientists would term 'thick descriptive' (Jonathan). Considering the proposed approach there was a question as to when this should occur, and more detail was requested to inform the research process (David).

2.2. Key informant perspectives of PAFPS around Hanoi, Vietnam

The presentation by Dr Panm Anh Tuan given on behalf of the RIA1 team concerning new knowledge of PAFPS derived from key informant interviews is given in Appendix 3.3; the revised checklist developed to guide this work is given in Appendix 3.4. Recently compiled data suggests that around 3,190 ha of PU land are managed for aquatic food production, and that this may amount to around 9,200 t y^{-1}. On this point there was a question as to whether this figure included aquatic plants? Data presented were reportedly from the Department of Agriculture and Rural Development and included projected production figures. This was considered an important point, as FAO who collect and compile this data do not record the production of aquatic vegetables in their statistics (Peter). Of the small fish produced in sewage-fed ponds around Hanoi 40-60% are sold in rural mountainous districts along the boarder with China. Considering fish seed production around Hanoi, this sector was perceived to have declined; this was illustrated by the conversion of a hatchery site developed with UNDP funds to a theme park.

[1] Reference was made to work by Douglas Webster (ex. AIT)

Discussing the broader policy framework in Hanoi City, it was noted that the authorities had recently shifted priority from using urban lakes from aquaculture to supporting tourism and recreation and flood management. However, aquaculture is still regarded as important for food production and its contribution to water quality management. Recreational fishing in PU water bodies had also been observed in Ho Chi Minh City (Jonathan) and Bangkok, although fishing ponds in Lat Prao have now been developed for housing (Peter).

Considering the marketing of fish, and the fact that 40-60% of fish go to mountainous regions, it was wondered if people in Hanoi wanted bigger fish or whether they were reluctant to buy fish they know are grown using sewage (Jonathan)? A similar pattern was observed in Kolkata where small fish produced in PU ponds were frequently sold in other areas, whilst large fish were imported to satisfy demand in urban markets (Peter). A similar situation was reported for north Vietnam where better quality fish transported from districts along the Chinese boarder are sold in Hanoi markets (Tuan). On this point there was a question concerning the proportion of fish produced in different districts in north Vietnam going to urban markets (Nguyen)? In reply it was noted that such data is not available, nor is the exact proportion of fish grown in non-sewage-fed ponds known (Tuan). The question of whether ponds were waste fed or receiving inorganic fertiliser was considered important as it was suggested that ponds not receiving city waste should perhaps be considered rural in character (Peter)? Differentiation on the basis of products cultured or feed inputs was questions as activities such as it might for example lead to the exclusion of pellet-fed systems (David). It was also suggested that perhaps PU aquaculture might include activities occurring outside the municipal boundary, as long as they were contiguous with the city (Peter). Considering the general aims of the project it was suggested that perhaps the stated objectives could be used to help focus the study, looking at the peculiarities and specific characteristics of individual production systems it might be possible to come to a pragmatic decision on what to include (Jonathan). It was agreed that by considering the contextual setting and through ‘problematising’ the issue it should be possible to select representative communities for further investigation. Characteristics of PU areas outlined by Webster were also regarded as potentially useful in guiding future work (Albert). The 4 main determinants were:

- mixed land-use,

- a location just beyond the contiguous built-up area,

- employment in manufacturing accounting for >20% of workers and increasing,

- employment in agriculture accounting for <20% of workers and decreasing.

Following the outlining of these criteria, it was questioned whether this approach might exclude intra-urban aquaculture (Peter).

Considering the people involved in PU aquaculture it was noted that in the 1960s when extensive flooding occurred in Thanh Tri, Hanoi significant numbers of poor people engaged in aquaculture were affected, although now perhaps they are better of (Peter)? There was also a question as to why, in the case of Hanoi, there appeared to be so many Cambodian and Burmese people involved in PU aquaculture (Jonathan)? This was largely

attributed to the use of family labour (Tuan). The role of employees in sustaining local, national and international linkages was also questioned (David). Further clarification was also requested regarding the definition of 'poor' (Toe) and whether or not the average age of farmers was increasing (Jonathan). Other issues raised, included whether average farm size was changing, or farms were becoming more intensive or undergoing extensification (Peter and David)?

2.3. Key informant perspectives of PAFPS around Ho Chi Minh City, Vietnam

The presentation by Dr Le Thanh Hung given on behalf of the UAF team concerning new knowledge of PAFPS derived from key informant interviews is given in Appendix 3.5; the revised checklist developed to guide this work is given in Appendix 3.6. Information given in the presentation was based on interviews with around 20 farmers and local extension workers. Apparently the area of PU aquaculture is in decline and production systems are moving to other locations. Pollution has also contributed to a move away from sewage-based PAFPS. Regarding non-sewage aquaculture systems it was noted that farmers either use waste from integrated animal production, inorganic fertilisers or concentrated feed. Livestock integrated with aquatic production systems are largely fed on concentrated feed, unlike in the past when more agro-processing by-products were exploited.

Following this discussion there was concern expressed that adhering to artificial boundaries i.e. administrative areas, may prevent the project team investigating issues such as the fate of farmers moving away from a city (Harvey). It was reiterated that the project should not use a standard definition for PU but instead look at the reality in each site (David). To illustrate this point, it was noted that administrative boundaries around cities might actually encompass rural districts (Hung); this is an example of over-bounding. Conversely, under-bounding results in the exclusion of land or communities lying inside contiguous built-up areas. Irrespective of the approach taken it was repeated that the research team should bear in mind the project objectives (Jonathan). Looking at temporal change may well take us outside of narrowly defined PU areas; we should be flexible and pragmatic in our approach.

Returning to the issue of wastewater reuse, it was questioned whether it was possible to distinguish between sewage-fed and non-sewage aquaculture as most surface water flowing through PU Ho Chi Minh City receives wastewater inflows, even in Tu Duk (Peter). In reply, it was noted that farmers in Tu Duk are unlikely to pump contaminated surface water to their ponds, and therefore it is not used for aquaculture (Hung). When asked why farmers are not pumping this water to their ponds, despite of its high nutrient content (Peter), it was noted that there is both low-lying and elevated land in Tu Duk (Harvey) and it is not cost effective for farmers to pump water to their ponds, many of which are sited on elevated land to avoid problems with flooding. Costs associated with differing production systems were not included in the summary of key informant interviews. There was a query as to whether or not PAFPS reusing sewage water to reduce costs are of more relevance to poor people (Harvey)? Following the 'privitisation' of the drainage system it was suggested that there was an additional cost to farmers of accessing wastewater, which may have resulted in them converting to alternative sources for nutrient inputs (Peter).

Considering nutrient input sources, it was noted that there was no mention of overhung latrines in the presentation. It was noted that in principle overhung latrines don't exist (Hung). This appeared at odds with the situation observed during the filed visit following the Project Inception Meeting and it was suggested that perhaps if a pseudonym i.e. 'feeding platform' was employed it might make discussing the issue easier (David). It was agreed that this issue should be addressed, or the credibility of the project may be bought into question: 'we must face this problem otherwise people will laugh at our research' (David). Government intervention affecting aquatic production systems in Vietnam was further illustrated when culturing golden snails was banned, as although fed of duckweed the risk of the snails eating rice crops was considered too great (Peter). On the issue of policy it was noted that the urban development master plan for Ho Chi Minh City constitutes a valuable point of reference for the PAPUSSA project (Peter), as do master plans for each of the three other city regions; for example, in District 8, Ho Chi Minh City there is a plan to develop an activated sludge plant (Peter). Considering urban infrastructure development it was noted that the Department of Transport represents an important institution (Tuan). It was agreed that in all study sites it is important to understand the position of all senior people responsible for managing PU areas.

2.4. Key informant perspectives of PAFPS around Phnom Penh, Cambodia

The presentation by Mr Chhouk Borin given on behalf of the RUA team concerning new knowledge of PAFPS derived from key informant interviews is given in Appendix 3.7; the revised checklist developed to guide this work is given in Appendix 3.8. The main aquatic food produced in PU Phnom Penh is morning glory, and in general farmers prefer to use wastewater diluted with rainwater. Fish culture appears concentrated along National Highway No. 5, although around the city there is also pen-culture in some larger water bodies, and some fishponds managed by households. Muong and Ang[2] reported that total aquatic plant production from Boeng Trabek, Boeng Tumpun and Boeng Choeung Ek amounted to ~7.6 t d^{-1}.

Data for the current study were collected during interviews with 5 key informants associated with a large water body controlled by a large landowner in Boeng Choeung Ek and a restaurant owner in Boeng Kok, culturing *Pangasius* sp. in a pen. Following the presentation it was noted that there was not much information on activities in Prek Phnov (David); ribbon development is occurring rapidly in this area and may have significant consequences for PAFPS. There was also a question as to whether there were any reports of skin problems in Boeng Kok (Nguyen)? There were reportedly some skin problems, for example, as a result of small children collecting aquatic animals from the mud (Chhouk).

Considering future developments it was suggested that Boeng Tumpun would soon cease to exist due to planned construction work. There was a question regarding perceptions of what will happen to the east of the river (Harvey), however, as little information exists on this area it was difficult to say. In the past there was aquaculture in a large water body to the north owned by a businessman but no recent accounts were available. One possible source of information was a report prepared by Nandeesha (Peter). On the question of what proportion of fish and plants sold in urban markets come from PAFPS (Jonathan) there appears to be insufficient data to give a comprehensive answer, although Muong and

[2] Muong and Ang (2002) Wastewater reuse in agriculture: cost-effectiveness analysis of alternative measures. Phnom Penh, Cambodia: Ministry of Environment.

Ang (2002) suggested that over 30% of vegetables sold in Phnom Penh come from PU wetland areas. Considering the origins of fish in urban markets, in Cambodia catches form the wild still apparently dominate (Hung).

3. Methods, tool and approaches for conducting a PCA

To assist in selecting research methods to use when conducting the PCA activity a comprehensive review of approaches and participatory tools was undertaken by Wanwisa Saelee (Appendix 4.1). Experiences of using individual tools were described and benefits and constraints associated with each discussed. Of particular interest are potential constraints to using PRA approaches such as wealth ranking in urban settings, and possible problems with more general assumptions of mutual knowledge, homogeneity in livelihood patterns and what constitutes a community.

3.1. Toward developing a toolkit for Work Package 1

To provide a further insight to the range of participatory approaches available for evaluation and possibly use in the PCA a brief review of established RRA tools was presented (Appendix 4.2). Approaches covered included community mapping and distance charts, transects, seasonal calendars and daily activity charts, ranking and scoring, stakeholder analysis and the identification of appropriate communication media.

3.2. A brief review of methods used in other studies

Based on experiences from a recent project Dr Siriluck Sirisup gave a presentation concerning research methods and approaches that had proved effective when investigating ‘Government policy and farmers’ decision making in Thailand’ (Appendix 4.3). Key components of the study involved a preparation stage, structured formal survey, data processing and analysis, focus group surveys and stakeholder workshops.

3.3. Project objectives - a checklist

To help facilitate the selection of appropriate research tools to achieve the objectives of WP1 a checklist approach was proposed by Jonathan Rigg (Figure 3.1). Based on an assessment of discreet objectives it should be possible to employ this framework to identify which stakeholder groups should be involved and consequently how the study should be conducted i.e. which approaches and tools of those presented to use.

Figure 3.1. Checklist for project objectives, participants and approaches

What?	Who?	How?
Project objectives →	Producers Workers Local owners Local officials National officials Experts Consumers Buyers (supermarket, restaurants) Traders/ middleman Market sellers Gender Generation Class Ethnicity	→ **Appendix 4.1-4.3**

Notes: tools are a means to an end, not end in itself, keep objectives in mind.
write-up and present adequately/ appropriately.

3.4. Project objectives

To help guide partners the objectives for WP1 were presented and key issues requiring further investigation highlighted (Appendix 4.4). In addition to describing the spatial distribution of PAFPS around each of the cities it was noted that an assessment of the institutional framework governing PU activities and marketing arrangements for products from PAFPS are also important aims for the first phase of research. The other essential component is a preliminary investigation of social arrangements and a Participatory Community Assessment (PCA) approach has been proposed. It was agreed that during the second day of the workshop partners would work on developing appropriate tools and approaches with which to undertake the PCA activity.

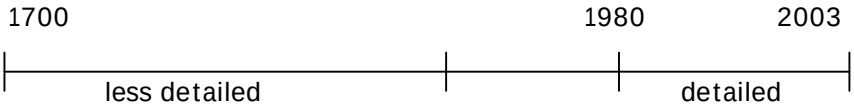
4. Workshop session on preparing appropriate participatory tools

Following the presentation of approaches to participants (Section 3.1-3.3) group work was undertaken to further develop protocols for selected tools that were considered potentially most useful. To help guide the selection of tools, a further review of objectives for WP1 and issues to address was presented to workshop participants (Appendix 5). Based on this summary approaches were developed for a timeline, well being exercise, seasonal calendar and bioresource flow diagram, scoring and ranking matrix, mobility mapping and institutional assessment. Protocols developed for the various tools are presented below.

4.1. Timeline (Hanoi Group)

Sources of information:

- chairman/woman of community
- woman's union
- farmers' union
- elderly man/woman
- group discussion NB: Be aware of diversity and differences of histories



Checklist:

natural disasters	epidemics
war	international/legal changes
administrative changes	new technologies
new road	electricity
piped water	regular public transport
first motorbike	TV

Pre-arrangement with chairman:

08:00-09:00	depends on chairman's availability	
09:00-10:00	team discussion	
10:00-11:00	discussion with elderly community members	
11:30-12:30	lunch and group discussion	
12:30-13:30	team discussion	
13:30-15:30	ANO x 2	It depends!

notes:

4.2. Well being exercise (Hanoi Group)

Indicators of well-being	**Categories**
Wealth - Income	High level
House type	Middle
TV (consume goods)	Low
Transport - means of	[ultra-low]

Depends on village context, but in general:

Meet with key informant	Chairman / woman	08.00-10:30
Commune map differentiation between villages		08.00-09.30

Identify rich / poor households - explore reasons for differences

Select villagers

[Sources of income] [Team discussion] 9.30- 10.30

notes:

4.3. Seasonal calendar & Bioresource flow diagram (Ho Chi Minh City Group)

Overview:

- Calendar per system / bio resource flow
- Each session might last 1 hr each /system
- Groupings of 3-5 /group

Process:

- Identify informant / group member based on FGD, interested (3-5/system)
- Expectation check
- Clarification of expectations
- Dispensing instructions
  - fill up a seasonal of matrix by group
  - selection of facilitator
  - bioresource flow
  - ask farmers in a group to illustrate

- The bio resource flow per system
- What are the inputs?
- What are the outputs?
- Group work
- Reporting
- Synthesis
- Validation
- Guide Question Seasonality Calendar
- Ask month by month in a year activities do they do in relation to a particular system?
- What is being grow/ farmed each month by system?

notes:

4.4. Scoring and Ranking matrix (Phnom Penh Group)

Introducing the activity:

- Preliminary community visits
- Contact community leaders (site specific) to arrange meeting and collect community data
- Identify community members to invite
- Identify when and where to meet
- Introduce yourself/project/activities

Scoring/ranking matrix activity:

- Prepare matrix prior to visit - [no names or activities]
- Brainstorm activities - for all participants
- Highlight activity is for individuals or households
- Put individual/family name in matrix
- Give all participants same number - beans, stones, part of morning glory stem
- Clearly state purpose of activity - importance - benefit, income, time, other/combination
- Ask participants to distribute counters [and note discussion]
- Record final matrix - photograph - or small matrix for recording
- Discuss differences/similarities/patterns/distribution of counters by individuals
- Leave copy of matrix with community and thank participants

notes:

4.5. Mobility mapping (Phnom Penh Group)

Introducing the activity:

- Preliminary community visits
- Contact community leaders (site specific) to arrange meeting and collect community data
- Identify community members to invite
- Identify when and where to meet
- Introduce yourself/project/activities

Map activities - direction and distance in relation to community/home/farm?
use key for different participants

Also map:

input sources - seed/nutrients/labour/water

markets

transport links - bus stop - landing place

migration - seasonal activity

notes:

4.6. Institutional assessment (Bangkok Group)

Outside communities	Approach/ functions	time/ required
Department of Fisheries {Provincial level}	Informal discussion with key officials	1 day
Provincial agriculture office	"	"
Royal Irrigation office	"	"

All this agency gave general information on statistic a map, of aquaculture aquatic vegetables. Irrigation network, their policies & development, historical development.

Note: very broad, not important for the communities, livelihood but give target areas.

Town & Country Planning: informal discussion with key officials. This officer may provide land-use planning maps, [Communities may not use this key]

Inside Communities	Approach	time
Tambol/ Administration	informal/ interview	½ h
Organisation	informal/ interview	½ h
Co-operatives	informal/ interview	½ h
Water user groups		
Labour exchange union		
Community leaders		

All can give picture of dynamic change in products, systems & community organisation.

notes:

4.7. Testing participatory approaches with farmers

During the filed trip to PU Bangkok it was anticipated that partners would have an opportunity to trial the PCA approaches developed with community representatives and farmers. However, due to practical difficulties in arranging convenient meetings at short notice, only limited explorations regarding the appropriateness of the proposed approaches were possible. This experience highlights the need to identify which times are convenient for farmers and community members to participate in project activities and also that arrangements for meetings and focus groups, which may involve several people, should be made in advance to ensure people keep some time free. Notes developed by Albert Salamanca based on discussions with farmers during a field visit in PU Bangkok are presented in Appendix 6.

5. Market checklist

Following a group discussion the checklist below was developed for partners to follow during the initial phase of the market assessment, it outlines the key categories of people to interview and discussion topics requiring attention.

People to interview:	**Checklist of topics to discuss:**
Pick-up middlemen coming in	Quantity - bought/sold/transported/traded
Market authorities	Source: where from
Wholesales	rural or peri-urban
Wholesaler/ retailers	distance/ travel cost
Retail only	when collected
Pick-up middleman going out	Pre-harvest and post-harvest production
Consumers	Types of buyer rich/ poor
	Transactions e.g. contracts
	Administration fee
	Legislation/ licence
	Number/ proportion of traders dealing in aquatic foods
	Seasonal changes: quality and price
	Constitutes, timeline, trend and choices

5.1. Notes from Talard Thai wholesale and retail market

Based on observations and discussions with selected individuals the field notes below give an insight into activities and occupations supporting the marketing of aquatic foods produced in PU Bangkok.

Fish production

- 1 Wholesaler / retailer of snakehead fish
- He is also producer
- He is large-scale fish farmer in Supanburi
- Water use is from the secondary canal (the main river is Nakornchaisri river)

- Pump in from the surface of river, but pump out from the bottom of the ponds
- Fish feed: mainly fresh fish, bought from Mahachi mixed with rice bran
- High investment cost, over one million Bhat per crop

Fish marketing
- Fish are caught by a harvesting team, not by farmers
- At the current average price of 145 Bt/kg, it is still profitable, but there will be a loss when the price falls below 80 Bt/kg.
- Both retail and wholesale

Vegetables
- Thai morning glory (long, green stem)
- 2 sellers (women) are from Ayuthaya (Ladbua Luang and Sena districts)
- 1 seller (man) is from Nonthaburi, also farmer
- 1 seller (woman) is from Supanburi (with red morning glory)

Producers
- They are also farmers, diversified from rice field to morning glory due to higher return and quicker of cash flow (Ayuthaya)
- Water use is from irrigation canal (in all 3 provinces)
- Red morning glory is collected by old woman in the rice field
- Not much fertilizer and pesticide use
- Also use for home consumption

Marketing
- Collecting products from their farms and neighbour, put in the pick up in Talad Thai
- Coming on daily base, by pick-up truck, once a day
- Renting selling space (about 6 – 8 hrs)
- Selling in one day, price varied to freshness
- Amount sell is adjusted from the demand side (1 pick up truck)
- Buying 13 Bt./bund and sell 20 Bt./bund

Mimosa
- Wholesale and retail seller
- Buy mimosa from informal contact farmers in Samutprakaen
- Come to Talad Thai at the mid day
- Selling to customers who came from other provinces (rather on wholesale)
- Selling 100 Bt/bund

Remark
- Good transportation network, highly accessible
- Water resources seemed to be not so polluted (not sewage)?
- Seems to be safe (judged by home consumption)

6. Workshop summary

Objectives for WP1, taken from the project proposal (Appendix 4.4) were revisited and based on group discussion agreement was reached concerning the most appropriate approaches to employ in collecting the desired information. A checklist was developed for the initial phase of the Institutional Assessment and participants agreed to follow the Market Assessment checklist outlined in Section 5; a forward workplan for the months up to and including the State of the Systems Workshop in October was also agreed.

6.1. Tools for the job

Spatial distribution of PAFPS described:	primary data own knowledge transects: road - canal interviews with key informants mapping exercises with community
Disaggregate communities by wealth and gender:	consider well-being, not only financial wealth wealth ranking by community employ proxy indicators gender (men & women, boys & girls)
Assess rural-urban linkages:	geographically - using mapping approaches planning concept and examples list for partners
Ethnicity, minorities & tribes	who are the major ethnic groups involved ethnicity includes kinship - familial & social relations (e.g. reciprocal labour agreements)
Vulnerability:	shocks - sudden trends - longer-term change
Assets:	financial, human, natural, physical & social

(for origins of terminology see DFID Sustainable Livelihoods Framework, Appendix 7)

Stakeholders:

Primary	- direct	producers labourers
	- indirect	consumers
Secondary		institutions market traders intermediates

6.2. Outline for preliminary institutional analysis

We are interested in which organisations that are involved with managing / planning / administering PU areas.

- it was agreed that we would interview key informants

- we agreed to investigate any legislation or policy governing PU activities, this might Town and Country Planning legislation and we could find out more from local authorities

- we also agreed to talk to some primary stakeholders to see which institutions they deal with, including local institutions - producer groups/ cooperative / village councils / community groups / NGOs etc

Information relating to PAFPS and land use is obviously of prime importance

- we can use secondary data - e.g. city master plans to look a possible future developments

Also in each institution identify key contacts, who will readily talk to you perhaps not the most senior people) and record their name and contact details

Also use contacts to collect information and open doors to key informants in other institutions - even feel free to use AIT alumni

The concept of representing institutional relationships and fields of influence using venn diagrams was also discussed; an example of a venn diagram for actors in urban governance was also presented (Appendix 8).

Market assessment (see checklist Section 4)

6.3. Forward workplan

Institutional analysis	April to May (report by end May)
Preliminary market assessment	May to June (report by end June)
Further training & development of PCA approach	June & July
PCA fieldwork	July to September
State of the Systems (SOS) Workshop	October at NIHE, Hanoi

Appendix 1. Workshop agenda

Schedule of the workshop in Bangkok 31st March-4th April 2003

Sunday 30th	Arrive Bangkok, Thailand (Contact Dr. Ruangvit Yunpunth MB: 09-8030284 at KU Home, Kasetsart University)

Day 1 Monday 31st

08.30-09.00	Depart Ku home to a meeting room
09.00-09.30	Workshop program review by the project co-ordination; start the meeting
09.30-10.30	Peri-urban aquatic food production around Bangkok and environs (KU) (Present the initial work with Key Informant interview and discussion)
10.30-11.00	Break
11.00-12.00	Peri-urban aquatic food production around Hanoi (RIA I) (Present the initial work with Key Informant interview and discussion)
12.00-13.00	Lunch
13.00-14.00	Peri-urban aquatic food production in southern Vietnam (UAF) (Present the initial work with Key Informant interview and discussion)
14.00-15.00	Peri-urban aquatic food production around Phnom Penh (RUA) (Present the initial work with Key Informant interview and discussion)
15.00-15.30	Break
15.30-16.30	Methods/ tools/ approaches to conducting the Participatory Community Appraisals David Little, Stuart Bunting
16.30-17.00	A brief review of methods used in other studies Dr. Siriluck Sirisup, AIT.
Evening	Welcome meal

Day 2 Tuesday 1st

08.30-09.00	Depart KU home to a meeting room
09.00-09.30	Review of today's programme, summary of yesterday session
09.30-10.30	Workshop sessions; each partner preparing an example of an approach
10.30-11.00	Break
11.00-12.00	Presentation on selected approach
12.00-13.00	Lunch
13.00-13.30	Introduction to Talad Thai; one of the largest places for the agricultural product. Briefly report for the short field trips to see the aquatic food production and marketing systems identified around Bangkok; fact findings on the marketing system
13.30-16.30	Depart to Talad Thai ; To study the marketing system of peri-urban aquatic production in Bangkok
16.30-17.00	Return to Ku home

Day 3 Wednesday 2nd

08.30-09.00	Depart KU home to a meeting room
09.00-10.30	Discussion on the fact finding from marketing systems of peri-urban aquatic production in Bangkok; in terms of linkage to producers
10.30-11.00	Break
11.00-12.00	Workshop session; Introduction to Bangbuathong area Preparing the methodology and tools for the further field survey (with the references to fact findings from the marketing system
12.00-13.00	Lunch
13.00-14.00	Travel to Ampher Bang Bua Thong, Nonthaburee Province
14.00-16.00	Group survey practice in accordance with prior preparation

Appendix 1. Workshop agenda

16.00-17.00 Return to Ku home

Day 4 Thursday 3rd

08.30-09.00	Depart KU home to a meeting room
09.00-10.30	Discussion on finding from Bangbuathong site Discussion methodology use/ adjust/ improve as necessary Introduction to the further site
10.30-11.00	Break
11.30-12.30	Depart to 2nd field survey. Visit integrated fish farm and monoculture catfish farm at Klong 7 Lumlukka, Pathumthanee province.
12.30-13.30	Lunch
13.30-14.30	Travel to Samutprakarn Province
14.30-15.30	Visit water mimosa farm, Samutprakarn and snake skin gourami
15.30-16.30	Return to Ku home

Day 5 Friday 4th

08.30-09.00	Depart KU home to a meeting room
09.00-10.30	Discussion about the field survey, Identify the problem from the field survey and summary the system approach
10.30-11.00	Break
11.00-12.00	Group work from each partner preparing the system tools and methods/ tools for/ approaches to conducting the Participatory Community Appraisals in their country
12.00-13.00	Lunch
13.00-15.00	Present the system approach from each partner, discussion & comment for the further work plan
15.00	Close meeting

Appendix 2. Participant details

Name	Address
Ms. Wanwisa Saelee	Asian Institute of Technology, Thailand
Dr. Ruangvit Yoonpundh	Dept. of Aquaculture, Kasetsart University, Thailand
Dr. Varunthat Dulyapurk	Dept. of Fisheries Management, Kasetsart University, Thailand
Mr. Chumpon Srithong	Dept. of Aquaculture, Faculty of Fisheries, Kasetsart University, Thailand
Dr. Siriluck Sirisup	Asian Institute of Technology, Thailand
Ms. Tham Thuy Nguyen	Division of Enteric Infections, National Institute of Hygiene and Epidemiology, Vietnam
Dr. Lan Phong Nguyen	Division of Enteric Infections, National Institute of Hygiene and Epidemiology, Vietnam
Mr. Seng Samphal	Royal University of Agriculture, Cambodia
Mr. Chhouk Borin	Royal University of Agriculture, Cambodia
Mr. Albert Salamanca	Dept. of Geography University of Durham
Dr. Stuart Bunting	Institute of Aquaculture, University of Stirling, UK
Dr. Jonathan Rigg	Dept. of Geography, University of Durham
Dr. Le Thanh Hung	Faculty of Fishery, University of Agriculture and Forestry Ho Chi Minh City, Vietnam
Dr. Panm Anh Tuan	Research Institute for Aquaculture No.1, Hanoi City, Vietnam
Prof. Peter Edward	Asian Institute of Technology, Thailand
Dr. Harvey Demaine	Asian Institute of Technology, Thailand
Dr. David Little	Institute of Aquaculture, University of Stirling, UK