MINUTES OF THE WORKSHOP
on

PERI-URBAN AQUATIC PRODUCTION AND IMPROVEMENT OF THE LIVELIHOODS OF THE URBAN POOR IN SOUTH EAST ASIA

22-23 November 2005
Hotel CIVIC INN, Gulshan
Dhaka, Bangladesh

Organized by:
Bangladesh Fisheries Research Forum (BFRF) & Practical Action Bangladesh
Supported By

Department for International Development (DFID), UK, under its Aquaculture and Fish Genetics Research Programme (AFGRP), Stirling University-UK and PAPUSSA-European Union.

Purpose and objectives of the workshop:

The purpose of the workshop was to facilitate the exchange and analysis of experiences of a variety of stakeholders regarding the potentials and limitations of peri-urban aquatic production as a strategy for livelihood improvement in the Bengal region. Successful approaches and critical factors in the design and implementation of local and national programmes and policies will be identified.

The specific objective of the workshop was:

- To facilitate the inclusion of peri-urban aquatic production in national and local policies and programmes.
- To establish Bengal platform for information exchange and mutual support in the field of peri-urban aquatic production in South East Asia
- To widen the scope of Papussa and incorporate the work and experiences of other stakeholders

Participants:

A total of 45 participants attended the workshop, The participants was mostly representing from the Department of Fisheries (DoF) , Bangladesh Fisheries Research Institute (BFRI), Department of Environment (DoE), Department of Agricultural Extension (DAE), Bangladesh Agricultural Research Council (BARC), Bangladesh Fisheries Development Corporation (BFDC), Rajdhani Unnan Kartipakha (Rajuk), Public Universities-Bangladesh Agricultural University (BAU), Dhaka University (DU), Khulna University (KU), FAO, Senior staff of leading non-governmental development organisations (BRAC, PROSHIKA, CARITAS, TARA, BWSM, CUP, TMSS) representatives from private sector entrepreneurs. A full list of participants is presented in **Annex-1.**

The Workshop was initiated with the recitation from the Holy Quran.

Dr M. Abdul Wahab, President, Bangladesh Fisheries Research Forum and Professor, Faculty of Fisheries, Bangladesh Agricultural University initiated the workshop by welcoming all the participants in the program. In his introductory speech he informed the participants regarding Dhaka city that was chosen as the workshop place for being one of the most populous communities in the world for it's high population. He then talked about sustainable growth that can be brought about in the country through urban and peri-urban aquaculture that can improve the socio-economic conditions of the country.
The organizers and the members were thanked for their hard work and effort behind this workshop. The honorable participants and representatives from Department of Fisheries, Department of Environment, Department of Agricultural Extension, Bangladesh Fisheries Development Corporation, Dhaka University, Khulna University, Bangladesh Agricultural University, Bangladesh University of Engineering and Technology (BUET, Practical Action-Bangladesh, Private Entrepreneurs, Rajdhani Unnan Kartipakha (RAJUK) and other NGO's were welcomed.

Anton Immink, Information Coordinator, DFID-AFGRP,UK was the next to welcome everyone in the workshop and he began his speech with a welcome note and then shared his views regarding the various studies that have been conducted during his stay in Bangladesh. He emphasized on the role of aquatic production in Bangladesh which doesn't only include the production of fish but also cultivation of edible aquatic vegetables/plants along with waste management as well. He talked about waste management that is an important issue which needs to be addressed. If this is done there will be better quality of food at cheaper prices.

He also mentioned the objectives of the workshop which does not only include discussions but also group discussions regarding urban and peri-urban aquaculture that will develop strategies based on which solutions will be formulated as well.

Dr Mahmudul Islam, Programme Officer, FAO representation of Bangladesh made a key note presentation on ***"Livelihood Development of Urban Poor through Urban and Peri-urban Aquaculture".***

At first he briefed the audience regarding urbanization that is taking place very rapidly throughout the world and compared the invasion of poverty that is increasing day by day due to migration of population from the rural areas to the urban areas in their search for work. Hence the people suffer from malnutrition and other problems as their purchasing power remains low.

He then presented a rough sketch of the overall scenario in the South East Asian countries that are also victimized by the same problem.

In addition to that he gave a brief description of the fish and livestock production that takes place in the country annually. And it was found out that out of the total population of the country 3 million people contribute to and are engaged in aquaculture activities.

He then showcased the problems that mar the growth of urban and peri-urban aquaculture among which the major problem is infrastructural activities that induces the construction of buildings for various purposes. This leads to filling up of water bodies and leaving less space for aquacultural activities. It also includes encroachment of rivers and lakes that is evident in our city.

A case study on the aquaculture in and around Sirajganj (Dhaka?) was presented in the workshop which portrayed very low production of fishes in the significant water bodies which included lakes, ponds, small beels and others. And this was due to many limitations that hamper the growth of the fishes.

He concluded his presentation by providing the solutions to these problems in which he mentioned the measures that should be taken by the regulation and legislation bodies, city councils, the private sectors and as well as the international organizations to improve current conditions.

The Chief Guest **Md. Abdul Karim**, Secretary, Ministry of Fisheries and Livestock, Government of the People's Republic of Bangladesh presided over the workshop by presenting his opinion regarding urbanization that is taking place all throughout the world in which he mentioned that Bangladesh is no exception. In his speech he thanked the organizers for their effort in bringing forth such a workshop that will be helpful in making decisions regarding this sector. And also mentioned the various occupation and livelihoods connected to urban and peri-urban aquaculture which will help the people to improve their per capita income which will in turn enhance their standard of living. He assured that necessary actions will be taken regarding important recommendations that will be the outcome of this workshop. He thanked BFRF, DFID-UK, Stirling University and PAPUSSA for organizing this workshop.

William Leschen, Team leader, PAPUSSA Project, Stirling University, UK, began his speech by welcoming all the participants to the workshop. He briefed everyone regarding the objective of this workshop which is to formulate an action plan of implementation regarding what will be done in Bangladesh to develop urban and peri-urban aquaculture. He said that by 2025 population will increase further and all the participants have the responsibility to develop the plan which will shape a better future for the people.
He emphasized that this workshop is a valuable workshop as it not only includes people from various sectors but also people from various countries as well. The objective is to move towards multi-disciplinary platform to present peri- urban aquaculture. He emphasized on the encroachment of water bodies for construction of buildings and the fact that it should be stopped in order to adapt peri-urban aquaculture. Marketers were also invited so as to disseminate information to the people who can achieve a livelihood from peri-urban aquaculture.

Technical Session 1:

.The technical session was chaired by Dr Md. Aminul Islam, Professor, Bangladesh Agricultural University, Mymensingh. He welcomed everyone in the technical session and informed everyone about the discussions that will be held regarding constrains of peri-urban aquaculture.

Mr. Khabir Ahmed, Member Director (Fisheries), Bangladesh Agricultural Research Council and Dr Md. Akhteruzzaman, Coordinator, Bangladesh Fisheries Research Forum jointly presented a paper on "Constrains and potentials of peri-urban aquaculture in the context of Bangladesh". After their presentation a question answer session was held.

Prof. Saila Ghosh, Professor and Vice President of Centre for Environmental Management and participatory Development, Kolkata, India**,** presented his paper on the **'Lesson on peri-urban aquaculture and livelihood improvement in India"**. After his presentation a question answer session was held.
Comments made on the Prof. Saila Ghosh paper were:

1. How do you manage the waste water and what is done to 50% of the area that remains unutilized?
2. What are the prevailing major policies to use the major semi-urban aquatic culture? What are the relevant regions? What methods are used? What are the policies of livelihood?
3. How do you manage the eleven EKW blocks? How are the people participating?
4. How are the people coping up with contamination and pollution?
5. How to protect the plankton from pollution?
6. Why are the lands not economically used?

Ans1. Heavy metal is there and EKW is there. The best thing to do is to sell off the lands in case if any actions fail. Even if there is heavy metal, regular assessment couldn't be made. But the authority has been given the responsibility to check the quality and quantity of heavy metal.

Ans2. Due to chemicals and excess nutrients the growth in fish can be different. It can also sometimes have a bad smell but this is not the big factor.

Ans5: Water is not available there but chemical fertilizers must be used which will raise cost but floriculture can be used which can help the economy in gaining foreign exchange by exporting flowers. In a way government has given it as a lease to the local people which looks nice as well as help the economy. In Kolkata, there is an NGO which focuses on saving wetlands. New types of fish are cultured in natural wetlands for sustainable growth.

Video Presentation on PAPUSSA project

In the video presentation aquatic plants grown in four SE Asian cities have been emphasized. Aquatic plants that can be consumed are neglected and this is what has been showcased in this video.

Different areas in Phnom Phen, Hanoi, Ho Chi Min, Bangkok were chosen to be video cased. In these areas aquatic plant such as Morning Glory/ Water Spinach and water mimosa are a source of livelihoods for many people in these cities. The aquatic plants that are cultivated intensively often use chemicals and pesticides. Hence forms a source of livelihood for people in peri-urban areas.

Another question answer session was held based on the video presentation.

Q1:What is Mimosa?

Ans. It is an aquatic plant which has edible stems and leaves.

Q2. What is the economic status of the people who are involved in cultivating the aquatic plants?

Ans. Primarily urban citizens of lower income status quite often those migrating into the cities from rural areas – many used to be involved in growing rice.

Q3: Are the water bodies seasonal or irrigated?

Ans. Some use waste water of the city for cultivation. In Phnom Pehn, Bangkok and Ho Chi Min city these aquatic plants are grown using waste water throughout the year however production levels can be lower in the dry season due to increasing concentrations of pollutants within the waste water. But in Hanoi due to its lower winter temperatures – increasingly farmers cultivate different aquatic plants – water dropwort and water cress which fetch good prices in the market and grow better at lower temperatures thus allowing them to maximize their incomes.

Q4: In flatland like Bangladesh is it tough to harvest such plants?

Ans. No, it has been seen that aquatic plants as such are easy to grow in wetlands due to the tropical weather.

Q5: Do any donor agencies contribute in the waste water management?

Ans: In Hanoi there are 5 distinct waste water rivers/channels, conversely in Ho Chi Min City there are many channels but more diffuse and less systematic than Hanoi. In Hanoi the local commune committee is responsible for arranging the pumping of waste water into the farmers fields – farmers then have to pay weekly rates.

Q6.Do you have any practical study regarding the after effects that can take place after consuming the vegetables grown in waste water in Kolkata as well as Hanoi?

Ans: In Phnom Penh a research institute is studying heavy metal and parasites that are water borne. Studies have been conducted to remove bacteria from the water bodies A huge amount of aquatic plants are sold everyday to different people in the localities but to date we have seen no available data or publications which indicate any severe outbreak of disease or associated health problem from the consumption of aquatic plants produced in these systems. Our consumer surveys indicated in general in all 4 cities that urban consumers had few worries about consuming aquatic plants produced in waste water but were far more concerned about the health implications of consuming fish produced in urban waste water.

Q7: We have a bad experience regarding cultivation of duck weed in waste water which has failed, why?

Ans: As it is not done on a commercial scale most of the aquatic plants are grown seasonally. It may also happen due to the use of chemicals which are creating negative impacts. This may hamper growth.

Break out group Discussion

Four groups were formed and tasked with addressing five questions to identify problem and solutions which was followed by the presentations. The participants were divided into four groups namely:

1. Government Organizations
2. NGOs
3. Private sector entrepreneurs/ Commercial Producers
4. Researchers (University teachers, institute scientist)

All the four groups were provided with the following questions:

1. In relation to urban/ per-urban aquaculture production in Bangladesh what are the constraints and concerns your group has? (max. 5 points)
2. What are the potentials and hopes? (max. 5 points)
3. For the formation of a platform on per-urban/ urban aquaculture what should the overall aim be? (1 point)
4. What can the platform achieve for you? (max. 5 points)
5. How should it operate (members, management and meetings)? (max. 5 points)

Government Organizations Group:

Ans. 1

- Lack of planning and coordination and implementation and strategies
- involvement of private/public and different stakeholders
- ownership pattern and legal framework to address issues of ownership
- proper authority for execution, implementation of project
- social conflict and public awareness

Ans. 2

- Additional nutrition and protein supply
- employment generation
- sustainable utilization of water bodies
- conservation of biodiversity and eco system

Ans. 3

- Save the people to save the wetlands/urban and peri-urban ecosystems
- sustainable urban environment

Ans. 4

- to develop a sustainable model by taking into account local and global knowledge
- get direction for further development
- poverty alleviation tools

- environmental management tools
- networking of different organizations

Ans. 5
To develop a democratic system of communication, moving horizontal, vertical, lateral, upward, downward and in all around

NGOs GROUP

Ans1:

- Ownership of land and users
- Access of community people in such activities
- Production loss due to flush flood and increase in wastage and pollutants
- Social conflict

Ans 2.Potential & Hopes

- Waste water bodies
- job opportunity and income earning
- better utilization of free sources
- community people are becoming conscious about utilization of water resources
- pollution control and environmental improvement through recycling water

Ans 3. Overall Aim
To improve the socio-economic and livelihood conditions of the target population through diversified use of resources

Ans 4. The platform could explore opportunity and formation of guidelines to achieve objectives in a sustainable way.

Ans 5. Concept Development/committee formation/development of proposal/policy influence and networking.

Private sector entrepreneurs/ Commercial Producers Group

Ans.1
- Most of the urban people dump their wastages into the water bodies from factories (GEOSMIN COMPOUND). All the waste materials collect at the bottom of the water bodies. As a result the quality of water is degraded and natural productivity decreases.
- Microcystis and Euglena grows which is bad for aquaculture
- lack of capital, technology and good quality seeds
- ownership of the water bodies

- fish cultures in the waste water ponds may smell bad or might get discolored and also have a shorter post harvest life

Ans 2.

- Water is very rich in nutrients
- Marketing is very easy
- easy availability of input technology
- can improve the livelihood of the urban poor
- relatively more secure compared to rural farming

Ans 3. The aim should be poverty alleviation, income generation and protein supply

Ans 4.

- We can increase our sale of seeds, adult fish and other goods
- technology transformation will be easier
- entrepreneurship development, export agency
- new area will come under aquaculture

Ans 5. The platform should be maintained through cooperative systems

Researchers (University teachers, institute scientist) group:

Ans. 1

- Concentration/accumulation of nutrients/ pollutants
- water types, seasonality and species of plants and animals that can be cultured
- development of culture technology packages
- community participation and marketing of the products
- diseases of aquatic plants and animals versus human health concerns

Ans. 2 Potentials and Hopes

- baseline information available on culture technology
- information available on the seasonability of water types
- group formation and training of the urban poor
- extension infrastructure available
- excellent micro-credit system available

Ans. 3 Overall Aims

To develop a sustainable peri-urban aquaculture system.

Ans. 4 Platform Achievement

- availability of knowledge and information based on aquatic plants and animals
- utilization of peri-urban waters for multiple purposes
- interaction and coordination with national and international organizations
- planning and designing future projects and proposals
- publication and dissemination of research results

Ans. 5

- Formation of a committee
- selection of a coordinator
- formation of website
- undertaking joint-project
- organizing of national and international workshops and meetings

Day 2: Wednesday 23 November 2005

Technical Session- 2:

The technical session of the workshop was chaired **William Leschen,** Team leader, PAPUSSA Project, as he initiated the workshop with an overview of the current status of peri-urban aquaculture. He talked about the people who need to be involved with this issue and how this platform will work as a whole with an integrated effort. With this he invited Mr. Kuong Khov to present his study.

Presentation -1

Mr. Kuong Khov, Royal University of Agriculture, Chamkar Daung, Dongkor District, Phnom Penh, Cambodia presented paper on **"Lessons Learnt in the PAPUSSA Project in Cambodia". Mr. Kuong Khov** presented his paper based on lessons learnt in the PAPUSSA Project and he briefed about Phnom Penh and its physical features and proceeded with his presentation.

The presentation was followed by a question answer session at the end.

Q1. What is the role of the government in the urban and peri-urban aquaculture?
Ans: Mr. Khov replied that in Cambodia, a free-market system runs where the government plays no active role. The producers themselves find out the demand in the market and produce that specific vegetable or fish. Hence starting from identifying the need to producing the specific product and marketing of the product, the farmers themselves do it all.

Q2. Who acts as the middleman?
Ans: The wholesalers find out the latent demand in the market and ask the producers to produce the products that are in demanded by the people.

Q3. What do the poor people do? Was there any study conducted regarding the livelihoods of the people?
Ans: There was a study conducted and it was found out that the poor people produce those items that are easy to produce and the government and sometimes the landowners lease them the land to harvest in.

Q4. Where are the aquatic plants and fishes grown together in the same piece together?

Ans: The people producing one specific item concentrate in producing that. For example, the farmers producing Morning Glory continues producing the same vegetable due to huge demand. Not only that, it's also easy to produce. But fish are quite expensive to grow with start up costs for fish culture being quite restrictive for proper people.

Q5. How is the ownership/distribution of land determined in amongst a vast water body?
Ans: As people migrate from the rural areas to the urban areas, they don't usually own land, but they take lease land from the government and use that for producing. The ones with a better financial condition can buy a piece of land, use it for producing the aquatic plants & animals themselves or rent it out.

Presentation-2
Mrs. Nguyen Thi Dieu Phuong, Research Institute for Aquaculture No.1, Hanoi, Vietnam, presented a paper on **"Lessons learnt in the PAPUSSA Project in Vietnam".**
Mrs. Phuong gave an introduction of Hanoi City along with its physical features and how the producers are producing the aquatic plants and fish in Hanoi.
After her presentation, questions were asked and answered at the same time.

Q1. Why do the farmers concentrate on producing four species of aquatic plants in Vietnam whereas in Cambodia the farmers concentrate on producing only two species?
Ans: Mrs. Phuong answered that in North Vietnam there are four seasons which suits the production of morning glory and water mimosa in the warmer summer months and then water dropwort and water cress in the colder (15-20º C) winter months, whereas in Cambodia there are only two seasons which is just suitable for the production of two species of aquatic plants – morning glory and water mimosa.

Q2. Does integrated production of livestock and fishes as well as aquatic plants cause any disease or problem to the fishes?
Ans: This practice has been carried out for a significant period of time, and no such disease problem for humans has been detected so far. If the fishes are eaten raw, then some problem might well occur however as long as they are well cooked there have been no major reported disease outbreaks in Hanoi related to eating fish which were cultured in conjunction with livestock systems. As regards to disease problems for the fish themselves from livestock waste in the ponds – the fish actually benefit from the livestock wastes acting as a source of nutrients within the pond to encourage the growth of phyto and zooplankton which considerably increases the growth rate and overall production levels within the pond.

Presentation – 3
De Le Thanh Hung, Faculty of Fisheries, University of Agriculture and Forestry, The Duc district, HO Chi Min City, Vietnam presented a paper on" **Aquatic plant Production system in Peri-Urban areas in Ho Chi Min City**
Mr Hung presented his study with a representation of the physical features with the help of a map of Ho Chi Min City. He talked about the aquatic production systems in peri-urban areas. Many plants and fishes are grown in these areas. Six studies were conducted regarding aquatic production systems in waste water. He talked about the threats for

future development of systems which includes natural disaster such as flooding which is the most harmful of all threats. He concluded his presentation by stressing on the fact that aquaculture is an important livelihood for many people in South East Asia.
His presentation was followed by discussion and a series of question answers.

Q.1What type of breeding technology is used? Are there any health problems of the fishes?
Ans: Natural breeding system in ponds is used. Some farmers opt for other methods as well. Now the qualities of the fish seeds are very good, so the farmers don't see any problem with the health of the fishes.

Q2. What is the Problem with fish seed?
Ans: There is no inherent problem but it is costly to produce the fish seeds.

Q3. Is there any credit delivery agency from the government or private sector in Vietnam?
Ans: There aren't any such agencies from the government's side for aquatic plants but the farmers themselves are taking initiatives as because it is still a new concept in the country. The government does not interfere at all in these cases.

Presentation – 4

Dr Ruangvit Yoonpundh, Department of Aquaculture, Faculty of Fisheries, Kasetsart University, Chatuchak, Bangkok, Thailand presented a paper on "**Lessons learnt in the PAPUSSA Project in Thailand"**

Dr. Ruangvit began his presentation with a profile of Bangkok and its physical features. He provided a conceptual framework of Peri Urban Aquatic Food Production Systems around Bangkok which included market surveys. He talked about the market survey in which 665 market actors throughout different market levels in Bangkok were surveyed. He talked about four study areas. He discussed the various aquacultural activities carried out in the four areas.
After his presentation, the question answer session was not carried out due to shortage of time.

Presentation – 5
Will Leschen, Institute of Aquaculture, University of Stirling, UK and Team leader PAPUSSA Project, made a Presentation of the Main Research outcomes and Policy Recommendations of the PAPUSSA Project

In his presentation William summarized the findings from the 4 Papussa cities and talked about the integrated system used in growing fish. He also talked about the industrial wastes that are being used as fish feed. He talked about the various species that are produced by the urban poor for their livelihoods. He talked about the chemical fertilizers and pesticides used in the production of aquatic plants.

From the Papussa project he stressed the four most important areas which need to be addressed for policy change in order for peri-urban aquaculture to develop as being:

1. Addressing the health concerns of producing fish and aquatic plants in urban waste water – were they safe to eat – need to produce and encourage research based data on both chemical (heavy metal, pesticide etc) and potential human pathogen levels in ww and non ww produced fish and aquatic plants. These findings should be widely available and disseminated to all stakeholders – particularly policy makers, food safety and markets institutions.

2. For peri-urban waste water aquaculture to survive it is imperative that government in conjunction with other stakeholders now actively take steps to reduce industrial (and other) contamination of urban domestic waste water – recommend where appropriate "compartmentalizing" waste disposal by moving industry into zones where specialized waste treatment can be carried out – also possibility of looking at more localized community use of its own waste water in community based aquatic production systems which help recycle waste water whilst also providing employment and incomes for local people as well as a product/foodstuff which they can sell.

3 Clear regulations and monitoring of land ownership/tenureship within peri-urban areas – Govt to take steps to release/make available certain plots/ areas of land for individual households to begin to cultivate aquatic plants and fish. This can be developed further through concept of zoning of peri-urban areas for sole purpose of growing aquatic plants and fish.

4. Aquaculture/fisheries research and governmental institutions to actively promote or make a case for peri-urban aquaculture – setting up of particular dept or research group to produce practical workable guidelines on simple production systems which will work and be profitable in the future. Need to build up a research base in peri-urban aquaculture – to be included in the curriculum for BSc M.Sc students as well as earlier in some form in the schools curriculum

BREAK OUT GROUP DISCUSSION

After the presentation the participants broke away to review and discuss the recommendations and their impact on the Bengal Platform & peri-urban aquatic production. Three working groups were formed and each group was made available with a set of different issues in the questions to work with that follows:

Group-1

In relation to urban/peri-urban aquatic production please identify "Critical Actions" and "Responsible Organization" for each of the following issues:

- Legal access + ownership (and planning)
- Health issues (people + fish)
- Waste contamination / pollution control

Please note for "critical actions" that these should be things that are realistic/achievable. For "responsible organization" you can also include organizations that represent stakeholders affected by/ who can change due "critical action"

Presentation of Group I:

Issues	Actions	Responsibility
Ownership and Legal access	Negotiation with the land owner and other relevant stakeholder	Local govt. and related govt. departments and ministries
Health		
--People	Disease Identifying Take preventive and curative measures	Local Representatives, Public Health Departments, Environment related organizations, GO/NGO
--Fish/other aquatic product	Disease Identifying Problem Identifying Taking Measures	DOF/ BFRI/ DAE/ Ministries/ Related
Waste contamination and Pollution	Recycling (health and environmentally friendly)	Respective city/ Municipal corporation/ Municipality/ Local Govt./ Department of environment/ Relevant GO/ NGO
Social	Organize target people Awareness development	GO/ NGO
Marketing	Awareness pf food safety Reduce middlemen	Stakeholders' associations and GO/ NGO
Finance	Easy entrance to the financing organizations	Policy makers, Finance Ministry, Banks/ NGOs

After the group presentation the floor was open for comments that follow:

<u>Group-1</u>

Comment forwarded by William regarding ownership and legal action.

Q: How we are going to negotiate with the landowner and other relevant stakeholders – a specific realistic approach

A: To format a mini-secretariat entrusted with the responsibility of follow up job of the prevailing action. (Prof. Aminul Islam)

Monawar Reza (TMSS) wanted a clarification on awareness of food safety in marketing.

A: Marketing approaches for opportunities that should be achievable to bring awareness development through advocacy and campaign.

A: A platform to suggest short-mid-long term strategies for peri-urban aqua product.

Group-2

In relation to urban/peri-urban aquatic production please identify "Critical Actions" and "Responsible Organization" for each of the following issues:

- Marketing opportunities
- Job employment, production opportunities
- New techniques/ better knowledge and extension)

Please note for "critical actions" that these should be things that are realistic/achievable. For "responsible organization" you can also include organizations that represent stakeholders affected by/ who can change due "critical action"

Presentation of Group 2:

Urban/Peri-urban aquaculture production:

Critical Actions:

Marketing Opportunities:

1. Awareness/motivation development – DOF, NGOs
2. Identification of marketing chain – BFRF, DOF, NGOs
3. Market infrastructure development – LGED, DOF, DOE
4. Value addition to the product – DOF, BFDC, NGOs
5. Quality control – DOF

Production Opportunities:

1. Identification of suitable water bodies and suitable technologies for culture
2. Mechanisms of technology transfer
3. Fish seed, feed, fertilizer, water management, harvesting (backward linkages)

Job/Employment:

1. In production
2. In harvesting
3. Marketing/Transportation
4. Other ancillary activities

New Techniques, Better Knowledge (and extension):

1. Selection (adoption) species of fish and plants for culture – DOF, NGOs Academics
2. Integration with the components – DOF
3. Identification of possible health hazards – Researchers/Universities
4. Motivation, Group formation and establishment of access rights of the poor – civil societies. NGN, COB
5. Micro financing – DOF, NGOs. DOE

6. Coordinated extension program – DOF, DOE, NGOs

Comments from the floor after the presentation of group 2:
William opined that to develop marketing infrastructure in future, inclusion of people from a Marketing background both working in markets and also those institutions involved in marketing research is essential.
--It was reported that at present the Department of Agriculture obtains a Marketing section & the responsibility can be put with them. Again it was stated that the NGOs are also doing the marketing and again there is a need of individual personnel from the commercial sector for marketing.
--Campaign to ensure product quality through awareness.

Group-3
The agreed aim for the "Platform" is "Sustainable per-urban development."
We still need to consider the role of the platform and how it should be structured.

The potential roles identified yesterday are:
- Knowledge base/ technology development
- Co-ordination of activities (planning)
- Networking/ international linkage

Do you agree? What else? (max. 5 points)
--Who should be responsible for coordinating the platform?
--What should the structure be?
Committee (elected? – where from?)
Activities
Members
Do we need a platform?
Yes we do.
The name
Committee for Urban Per-Urban Aquaculture Development

PSUPUAD/ PSUPAD CSUPAD

The Members from GOs, NGOs, Civil Society (CBO) and Politicians

International Organizations: BFRF MOLGRD MOFL/ DOF MOWR MOL MOEF MOA NGO Burue MOSICT NGO UN	Universities and other stakeholders: USAID WB ADB IUCN IDB JICA DFID DANIDA	Local MP Legislation DCD Local administration	RAJUK

- Long-term planning
- Fund raising
- Lobbying
- Networking
- Baseline Survey: Human Resource, Physical, Health and Hygiene , Institute

Working Committee:

Convenor	-- BFRF (Executive committee will select a convenor from BFRF)
Deputy Convenor	-- Practical Action
Members	-- Mahmudul Islam (FAO) -Mst. Akhteruzzahan (DOE)
BFRF	-- Platform Host & will select the Convener
FAO	-- Link to project cities

Members of Working Group:

Private Sector – Dewan Mohsin Ali, Tushar Integrated Fish Farm, Naogaon
DOF - Mahbubul Haque, Department of Fisheries
DOE -UMH -Mst. Akhteruzzahan, Department of Environment
Researchers - Dr Niamul Naser, Depatment of Zoology, Dhaka University
- Dr Mostafa Ali Reza Hossain, Faculty of Fisheries, BAU,
- Dr M.S. Shah, FMRT Discipline, Khulna University
FAO - Dr Mahmudpul Islam, Programme Officer, FAO, Bangladesh
LGED - TO BE IDENTIFIED

REAL ESTATE/ - TO BE IDENTIFIED
PROPERTY
DEVELOPERS
NGOS - Monawar Reza Khan, Deputy Director, TMASS
- Dr Munir Ahmed, Executive Director, TARA
-Md. Abdur Rahman, PPO, PROSHIKA
-Mohammed Ali, Practical Action-Bangladesh
PAPUSSA -Mr. Kuong Khov, Cambodia
BARC - Dr Khabir Ahmed, Member Director (Fisheries), BARC
BFRI -Dr Muhammad Zaher, CSO, Bangladesh Fisheries Research Institute
Kolkata Group — Nitai Khundu

After the group presentation the floor was open for comments that follow:

Group-3

The presenter of group-3 informed that there dialogue began with the debate whether they need a platform or not and they finally came into a consensus that they certainly need one.
It was decided that a working committee would be responsible for the formulation of the platform.

- The committee may consist of 9-11 members
- There was reservation for inclusion of local MP in the national program
- William remarked that the name Aquatic Product Development may give an impression of the development of the product only, leaving behind the social implications and productivity of the product

Role of the platform

Prof. Aminul Islam remarked that the platform tends to be a beauraucratic one as there is no inclusion of researchers and scientists.
Anton inquired about the role of the platform – what it will involve with and what it will deal with. He opined that inclusion of large and small-scale producers in the need-based committee who can link up with other major cities in terms of liaison networking. It will enhance smooth and regular communication of dissemination of message – the lesson learned. He also emphasized on the involvement of the real estate and construction developer and again someone particularly responsible for email, letters etc.
Prof. Aminul Islam stressed that the committee should consist of researchers for monitoring.
A steering committee headed by the secretary at the top tier of the national committee. There should be a local committee to exercise the activities at the local level.
The reservation of the inclusion of an MP was raised again and was explained that as he would represent a particular political party they may disrupt the activities. E.g. in selection of beneficiaries, members of the committee etc.
FAO representative reported that they have initiated a piloting project in Dhaka, Sirajganj, Barisal and Rajshahi with the support of the local committee. As they have already established a rapport they may be included in the afore-said committee to enforce the activities.
Monawar Reza (TMSS) there should be a common platform for GO, NGOs and private agencies with a common voice. As for the structure of the platform the following model was proposed.

End the end of the workshop a press conference session was organized to present the findings and recommendation of the workshop.

Name of person' was not attended the workshop recommended by the participants:

Person's Name	Organization	Your Name
Faruqul Islam	Practical Action	Mohammad Ali
Utpal Kumar Dutta	Practical Action	Mohammad Ali
Mr. Shahidul Islam	FAO-LPUAP Project Asri Business Extension Officer	Dr. Mahmudul Islam
Mr. Kamruzzaman	FAO-LPUAP Project Asri Business Extension Officer	Dr. Mahmudul Islam
Mr. Birendra Nath Dy. Director (Fisheries)	Thengamara Mohila Sabuj Sangha (TMSS)	Md. Khorshed Ali TalukdEr
Representative (Urban Research)	Center for Urban Studies (CUS), Dhaka	Humayun Badsha
President/ Secretary	Aquarium Fish Business Association, Katabon, Dhaka	Muhammad Zaher
Syed Arif Azad DFO, Sylhet	Dept. of Fisheries, Bangladesh	Kh. Mahbubul Haque
CARE representative	CARE- Bangladesh	Md. Zamal Uddin
Paul Roy	CUP (Coalition for the Urban Poor)	Rowshan Ara Shahin
AFM. Akhter Uddin	BSWM / UDP, Bogra, Vaipagla Mazar lane, 051-62879	Md. Aminul Islam 0175-067657
Representatives	Construction and Real Estate Developers, Dhaka + other major cities in Bangladesh	Will Leschen
Representatives	Food markets and marketing organizations Dhaka & other cites	"
Representatives	Urban/ Per-urban human health institutions, local level clinic, health posts	"
Sankar K. Biswas Sector Specialist (Fisheries)	BRAC 75 Mohakhali Dhaka-1212	Mokarram Hossain
Prof. Hosne Ara Begum	TMSS	Munawar Reza Khan
Not Known	Military Land Administration, Dhaka Cantonment, Dhaka	Prof. Dr Wahab, BAU
Nitai Kundu	Kolkata	Sengupta
Maj (Retd) M.A. Bashar	Comilla Cantt.	Mohammad Ali
Rituparna Bhattacharya	Localisation Research Collective rituparnabhattacharya@gmail.com	Asesh Sengupta

Annex-1

List of Participants attended the Workshop

Sl No	Name	Designation	Organisation & Address	E-mail Address
1.	Dr Mohammed Zaher	Chief Scientific Officer	Freshwater Station Bangladesh Fisheries Research Institute, Mymensingh	fsbfri@bdonline.com
2.	Mr. Joarder Shibendra Nath	Deputy Chief	Deapertment of Fisheries, Matshya Bhban, Ramna, Dhaka	kmahbubh@yahoo.com
3.	Mr. A.B.M. Zahid Habib	Assistant Director	Deapertment of Fisheries, Matshya Bhban, Ramna, Dhaka	
4.	Mr. Kh Mahbubul Haque	Assistant Director	Deapertment of Fisheries, Matshya Bhban, Ramna, Dhaka	kmahbub@fisheries.gov.bd
5.	Ms. Hosneara Akter Khanom	Aquaculture Officer	Bangladesh Fisheries Development Corporation, 24-25 Dilkusha C/A, Motijheel, Dhaka-1000	bfdc@citechco.net
6.	Dr Khabir Ahmed	Member Director	Bangladesh Agricultural Research Council, Farmgate, Dhaka	khabirbarc@yahoo.com
7.	Md. Delwar Hossain	Deputy Director, Water, Management Field Service	Department of Agricultural Extension Khamarbari, Framgate, Dhaka	
8	M. Liakat Ali	Senior Fellow	Bangladesh Centre for Advance Studies, House No. 10 (3rd floor), Road No. 16/A, Gulshan, Dhaka	liaquat.ali@bcas.net
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10.	Humayun Badsha	Deputy Director (R & D)	Rajdhani Unnayan Kartipakha, Rajuk Avenue, Dhaka	h_badsha@hotmail.com rajukpkcell@yahoo.com
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13	Dr Anwara Begum Shelly	Director	CARITAS Fisheries Program, 1/C, 1/A, Pallabi, Mirpur,Dhaka	cfp@bangla.net
14	Munawar Reza Khan	Deputy Director	TMSS, Rangpur Road, Thengamara, Gokul, Bogra	tmss@accesstel.net
15	Mowdudur Rahman	Executive Director	Center for Coastal Environment Conservation,	

			Khulna	
16	Mostafa Quaium Khan	Executive Director	Coalition for the Urban Poor (CUP), 16/19 Babar Road, Mohammedpur, Dhaka-1207	cup@bdmail.net cup@bdonline.com
17	Md Aminul Islam	Executive Director	Bangladesh Society for Water Mnagement (BSWM) C/o. UDP, Malotinagar (Paikpara), Bhai Pagla Raod, Bogra-5800	udp@bdcom.com udp@bttb.net
18	Dr Mahmudul Islam	Programme Officer	FAO, Dhanmondi R/A, Dhaka, Bangladesh	mahmudul.islam@fao.org.bd
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21	Dr M. Abdul Wahab	Professor	Faculty of Fisheries Bangladesh Agricultural University, Mymensingh- 2202	wahabma_bau@yahoo.com
22	Dr Mostafa Ali Reza Hossain	Professor	Faculty of Fisheries Bangladesh Agricultural University, Mymensingh-2202	marhossain@yahoo.com
23	Dr M. Niamul Naser	Associate Professor	Department of Zoology University of Dhaka Bangladesh	mnnaser@udhaka.net
24	Dr M.S. Shah	Profesor	FMRT Discipline Khulna University Khulna	drmsshahbd@yahoo.com
25	Dewan Mohshin Ali	Managing Director	Tishar Integrated Fish Fram, Vill. & Post Office: Singsara, Upazilla: Atrai, Naogaon	
26	Mr. Abdul Mohit Talukder	Propiter	Vill. & Post Office: Kalaikuri, Upazill: Adamdighi, Bogra	Tel: 088 0741-55468
27	Abul Kalam Azad	Managing Director	Vill. Araiura, Post Ofice: Durgapur, Upazila: Adarsha Sadar, Comilla	
28	Abdus Salam Sarder	Hatchery Owner	Arabpur Fish & Prawn Fram Arabpur, Airport Road, Jessore	assarder@hotmail.com

29	M. Yusuf Ali	Managing Director	Mowla Fisheries & Agro Farm Chacra, Jessore	yousuf@bdonline.com
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32	Md. Safi Uddin Ahmed	Managing Director	Marsha Trade Int. 88/3 North Jatra Bari Abbas uddin complex (3rd floor), Dhaka-1204	
33	Mr. Razaul Haque	Managing Director	Jessore Fish Center Sankarpur, Jessore	
34	Mr. Sahariar Ahmed Ratan	Managing Director	Trimco International Ltd 2/2 Block-A, Lalmatia, Dhaka	
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39	Md. Sultan Ahmed	Journalist	Dhaka	
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43	Md. Emdad Ali	Programme officer	Sonali Din, ATN Bangla, Kawran Bazar, Dhaka	
44	Md. Zamal Uddin		Practical Action bnagladesh Practical Action-Bangladesh House# 32, Road 13A Dhanmobdi R/A, Dhaka	itb@itdg.bdmail.net
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