



Fisheries Training and Extension Materials



Catalogue 2003

- Training Course Modules & Manuals
- Handbooks And Technical Manuals
- Extension Materials

- Videos
- MIS Databases
- CD-ROMs

Department of Fisheries

Foreword

During more than two decades of Government and donor assisted projects a plethora of extension and training materials have been generated for many different kinds of training interventions. Some of the materials would have been project specific and perhaps require little use thereafter. However, a significant amount of material has been either lost or is still archived since project closure. For many professionals working in training and extension, awareness of and accessing relevant materials has often proved to be difficult. This has invariably resulted in professionals unknowingly reproducing existing material. The Fisheries Training and Extension Project – Phase 2 (FTEP-II) has begun to establish an extension and training material Resource Centre for the Department of Fisheries. During the past two years the project has been collecting and archiving relevant material from the department, projects and relevant non-government organisations working in aquatic natural resource development.

This catalogue describes the materials collected, updating the first version published in 2001 with 141 more entries, most significantly from other projects and organisations and, for the first time, is presented in both English and Bangla. A wide range of materials are presented for reference and to aid the many training intervention approaches practiced e.g. 50 training course modules and Manuals, 11 extension packs and kits, 17 videos and dozens of booklets, technical handbooks, flashcards and posters etc.

This version is not to be regarded as the definitive version for the department. In fact it should be updated on a regular basis with inclusion of the most relevant material as tested and reviewed by DoF training and extension experts. It is hoped that the publication of the catalogue will help trainers, extensionists and planners with material development and perhaps most importantly, initiate the establishment of a training and extension material resource centre and a way forward to standardize and mainstream future material development.

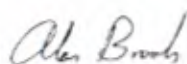
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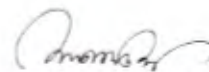
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TRAINING COURSE MODULES & MANUALS

(Modules prepared for 'modularisation' of courses i.e. link modules to form trainee specific courses. Manuals are generally prepared for known trainees and target groups).

(Modules Developed by FTEP-II) Extension and Training

1. An Overview of Common Approaches Used for Extension Programme

(M/ET/D/01)

This is a three days course intended particularly for the managers or senior officers both of GO & NGOs who have the authority to choose suitable extension approaches for their working areas. The module focuses and compares methodologies, cost and impact of common proven previously implemented extension approaches e.g. Pond-side Group Training Session, Farmers Fish School, Model Village Programme, Trickle down and Mass Media.

Sessions include introduction to different extension approaches, implementation procedure of different approaches and their merits, demerits, cost and impact. Following completion of this course, participants will gain a greater understanding about the approaches and their effectiveness enabling them to be able to confidently select the most appropriate and cost effective approach for their locality. FTEP-2 developed this modules November, 2002.

2. An Overview of the FFS Extension Approach

(M/ET/D/02)

This is a 2-day course module particularly planned for the extension managers such as DFO, UFO and NGO executives to improve their knowledge and awareness about the FFS extension approach. The FFS is completely a new approach in agricultural extension in Bangladesh. Recently the DAE and CARE GO-INTERFISH project used this approach very successfully to train farmers on Integrated Pest Management (IPM). Effectiveness of the approach in fisheries extension, implementation procedure, merits-demerits and required materials and cost has been elaborately discussed in this module.

The intention of the course is that upon completion extension managers should be in an informed position to decide on whether this type of approach, compared to others, would be the most appropriate for their circumstances. The Fisheries Training and Extension Project-II

3. An overview of the MVP Extension Approach

(M/ET/D/03)

This is a 2-day awareness raising course module designed to enable senior and mid-level zilla/upazilla fisheries and agriculture extension officers improve their knowledge and understanding of Model Village extension approach. The main course content of the module are: introduction of model village extension approach, implementation techniques and necessary resources of model village extension approach, merits and demerits of model village extension approach, economics aspects of model village extension approach, visit on model village extension activities and monitoring and evaluation techniques.

This is a residential course and requires both classroom and field facilities. After the completion of the course they will be able to develop their confidence on selection of model village extension approach as per need in their respective district and upazilla. FTEP-2 developed this modules July, 2001.



The 37 Modules on display (all training centre) described herein

TRAINING COURSE MODULES & MANUALS

Extension and Training

4. An Introduction to Mass Media Approach for Extension

(M/ET/0014)

This is a 2-day awareness raising course module designed to enable senior and mid-level fisheries and agriculture officers to improve their knowledge and awareness on mass media extension approach. The main course contents of the module are; introduction, importance, merits and demerits of mass media, description, uses of methods and implementation procedures of different mass media, useful mass media method selection for fish culture extension, selected mass media method preparation, demonstration, case study and monitoring and evaluation of mass media.

This is a residential course and requires both classroom and field facilities. After the completion of the course the participants will be able to make valued judgements about whether use of mass media in their extension programmes has a role and thus warrants further training. FTEP-2 developed this modules July, 2001.

5. An Overview of the Pond Side Group Training Session Extension Approach

(M/ET/0005)

This 2 days course module is design for mainly DFO/UFO but also all persons involved in extension planning. As it is a short course the intention is to raise awareness in 'Pond side Group Training Session' or commonly known as 'PGTS'. The Participants will gain an insight and conceptual understanding of this approach such as, introduction to PGTS Approach, its significance, advantage and disadvantage, implementation strategy, comparative analysis with other extension approaches, monitoring and impact assessment.

The course described is residential and requires classroom and pond-side training venue. Session plans are detailed with recommended key points, handouts, exercises and flipchart plans. Course budget and training materials list assist the trainer and/or training manager prepare the course easily.

Upon completion of the course the participants will have sufficient knowledge regarding PGTS so that they will be able to effectively plan extension in their area and be able to make strategic decisions about extension workers needing to learn more about this course through the 'how to' 5 day programme (CM/D/02 & ET/D/15). FTEP-2 developed this modules November, 2002.

6. Introduction to PRA Techniques

(M/ET/0016)

This 6 days course module is designed for DT/SUFO/UFO/NGO workers involved in planning, decision making and programme implementation. The Participants will gain a comprehensive understanding on PRA tools and usage. The course content covers introduction to PRA approach, its history, evolution and significance, field of application, advantage and disadvantage, differences between PRA and others methods, triangulation and group dynamics, main procedures of PRA/PLA and their application in the field. To complement the theory, one and half days is fully and another day is partially allocated for field practices with different tools and techniques of PRA.

The course describe is residential and requires classroom and outside training venue. Session plans detail key points including a flipchart plan, which will be helpful for the trainers to deliver sessions effectively. Course budget and training materials list also included herewith to assist the manager coordinate the training more effectively. By the end of the course, the participants will be able to conduct PRA in their respective field confidently. FTEP-2 developed this modules July, 2001.

7. Basic Extension & Training Skill Development

(M/ET/0001)

This manual is designed to enable Upazilla Fisheries Officers to enhance their skill and knowledge on basic extension and communication principles and methods, adult learning theory, role and characteristics of ideal extension worker, adoption process of information, bottom-up extension approach, group formation and difficult group member management, target group profile, classroom presentation techniques, training aims and learning objectives, different stages of training cycle, participatory training techniques, participatory rural appraisal (PRA), disaster management, training file preservation etc. The participants, after attending a 12-day course, acquire necessary skill to plan, organise, run and supervise pond-side training on basic fish culture independently using and preparing simple training aids appropriate to small group of rural farmers adopting a participatory approach. They will also be able to assess the qualitative aspects of training using some indicators. The course described is residential and requires classroom and pond-side training venues. FTEP-2 developed this modules July 1999.

8. ToT Skill Development I -Theory & Classroom Techniques

(M/ET/0008)

This is a six day course intended for trainers who have already had experience in training and/or have had foundation training in ToT techniques. Part of the course and thus the manual focus on how to deliver the Basic Extension Skills Course and Aquaculture Extension Skills Course. The manual covers the relevant sessions on team building, managing learning environment, managing difficult group members, working with small training groups, training methodology, use of training materials and course evaluation techniques. Throughout the course participants are given the opportunity to practice their classroom and field training techniques. Guidelines are given in the manual on how to prepare this. FTEP-II has found this course particularly valuable for training UFOs to become trainers to deliver a number of technical and extension approach courses to other officers, school teachers and NGO extension workers throughout the country. FTEP-2 developed this modules November 2002.

TRAINING COURSE MODULES & MANUALS

Extension and Training

9. ToT Skill Development II-Practical Demonstration Techniques

(M/E/T/D/09)

This is a 5-day course intended for trainers who have already had experience in training and/or have had foundation training on ToT techniques. Part of the course and thus the manual focus on how to deliver classroom and practical training and module preparation. The manual covers the relevant sessions on participatory classroom and practical training techniques, training delivery skill, working with group and role of group members, preparation of simple visual aids, course and session evaluation techniques. Throughout the course, the participants are given the opportunity to practice their classroom and practical training techniques. FTEP-II expects that this course will be particularly valuable for training UFOs to become trainers to deliver a number of technical and extension approach participatory courses to a wide range of target groups. FTEP-2 developed this modules January, 1998.

10. ToT skill Development III – The Advance Techniques

(M/E/T/D/10)

This six-day module is designed to enable trainers having previously received basic ToT course and gained practical experience on formal training delivery and course management. The module places strong emphasis overall management of 'Training Cycle' e.g. from planning through to evaluation and point out the grammatical issues of different delivery techniques. The course also emphasizes on modern training module preparation with narrative session plans.

The module comprises of the following sessions i.e. theoretical discussion on education, learning & training, theory & principles of adult learning and its application in training delivery, covers all components of training cycle and their management strategies. Additionally, the module also incorporates the module preparation techniques, creation and management of learning environment and identification & management of different difficult members. This course is residential and would be suitable for both mid-level GO & NGO trainers. FTEP-2 developed this modules November, 2002.

11. Techniques in Monitoring PGTS Delivery to the Farmers

(M/E/T/D/11)

This manual is intended to develop Upazilla Fisheries Officers (UFO) skill and knowledge in monitoring 'Pond Group Training Session (PGTS) on basic fish culture activities; which are conducted by the Asst. Fisheries Officers and Field Assistants. The participants gather comprehensive knowledge on the 'different parts of PGTS along with time allocation, *modus operandi* of follow-up activities, PGTS evaluation aspects and exercise. FTEP-II reporting system and aspects of 'PGTS-6'. Special emphasis is put on co-operation and assistance from Follow-up team members at the field level. After attending this three day course, the participants will have a thorough understanding of field based FTEP-II training operations and how to use the 32 criteria 160 objective point monitoring forms and assessment technique. The course does not include too much of theoretical M&E aspects; but concentrates on direct field training delivery techniques. The form and its use may be adopted to all types of small group farmer training. The course described is residential and requires classroom and pond-side training venues. FTEP-2 developed this modules February, 2000.

12. Extension & Training for Field Staff

(M/E/T/D/12)

The manual is designed to enable Assistant Fishery officer/Field Assistant and NGO workers to enhance their knowledge on different extension approach, effective communication in extension role and characteristics of extension worker, group details, group formation, group mobilization, managing difficult group member, participatory practical training techniques using small group pond-side training as an example (e.g. PGTS), visual aid, session preparation, gender in aquaculture, monitoring, evaluation, PRA etc. After attending 12 day's course participants successfully deliver training to rural small scale farmers through small groups (PGTS) using illustrated participatory learning sessions and 'hands-on' practicals.

This course is residential requiring both classroom and pond side training venues. Session plans are detailed with recommended key points, handouts, exercises and flipchart plans. Course budget and training materials list assist the trainer and/or training manager prepare the course easily. FTEP-2 developed this modules August, 2002.

13. A Guide to Training Fry Traders in good Transportation Techniques & Farmer Extension Messages

(M/E/T/D/13)

This course manual mainly divided into two parts. Part 'A' is residential training for mainly, AFO/FA/NGO staff delivered by DT and part 'B' is on pond side training for Fry Traders delivered by AFO/FA/NGO staff. Part 'A' is designed for 3 days attendance to improve the knowledge and skill of fry transportation and method of training delivery. Furthermore, the participants will be able to develop their confidence to manage the Fry Traders during training, debriefing and follow-up session.

The part 'B', manual describes one-day programme to develop practical skill and technical knowledge on fry transportation procedures and basic pond aquaculture technique. Basic technical messages to extend to the farmers will be supported by using a simple pictorial mini-album showing the basic steps of pond aquaculture (i.e. deweeding to harvesting including risk management) and importance of promoting quality fry supply. FTEP-2 developed this modules July, 2001. The Extension Pack EP/D/08 should be include for this course.

TRAINING COURSE MODULES & MANUALS

Extension and Training

14. A Training Course for Child-to-child (CtC) Extension Kit Users

(CM/D/02)

This course manual is particularly planned and developed for rural children to stimulate their ability and knowledge on preliminary aspects of pond fish culture, using 'learn through fun' approach with a view to disseminating the learning among similar age groups and children who attend non-formal primary education schools. The participants get to know about the simple aspects of child psychology, children group formation techniques, pond ecosystems and the living communities there-in, different culturable fishes and their food, supplementary feed, fertilisation, vegetable gardening on pond dykes etc. Special cheaper tools like angling games and Ludu have been devised so that children become aware and get acquainted with basic fish culture in an amusing and competitive mood. The participants are required to produce attractive training aids for rendering sessions attractive to children. The target groups for this course will be extension workers and teachers/trainers in primary schools. FTEP-II targeted *Kishoree* girls for this course. The course described is residential and requires primary schoolroom and pond-side training venues. FTEP-2 developed this modules July, 2000.

Aquaculture Extension Course for AFO & FA

(CM/D/02)

This manual is intended to help out extension trainers to enhance their skill and knowledge in delivering 'Pond Group Training Session (PGTS) on basic fish culture activities. The participants gather comprehensive practical and technical knowledge on the 'assessment of farmer's training needs, their present status and goals'; pre-stocking preparations involving removal of unwanted aquatic weeds, removal of predators, liming and fertilisation; stocking aspects; post-stocking measures involving judicious use of on-farm resources, risk management, partial and final harvesting. After attending this 5-day course, the participants can successfully deliver PGTS to rural farmers in small groups on 1. Training need assessment (TNA), baseline, goal and monitoring (BGM) and eradication of unwanted weeds and predators, 2. green water, 3. stocking management, 4. integrated resource management and 5. risk management. During this training course, the participants acquire skill on preparation of appropriate coloured attractive visual aids and other training materials suited to deliver PGTS. The target groups for this course will be all government & NGO officers and extension workers engaged in farmer level training, and preferably with science background. The course described is residential and requires classroom and pond-side training venues. FTEP-2 developed this modules January 1999.

(Note: The AEC Course for AFO and FA (CM/D/02) is the same modular course prepared for PGTS Training).

Games Trainers' Play

(CM/D/02)

This is essential in the effective adult learning process to encourage participants to be more responsive and participative. For this purpose, the professional trainers usually use different types of games and warm-up activities for ice breaking and stimulating the participants. Considering this, the book on "Trainers' Play the Games" is designed to address the needs of trainers. Different games and small group formation techniques are incorporated in this book. Before delivering the session, the trainer selects appropriate games or group formation techniques from this book. So, in this connection, it would be a very useful book for the professional trainers. FTEP-2 developed this modules November, 2002.

An introduction to Participatory Rural Appraisal (PRA)

(CM/D/02)

This course is designed for the DoF field level worker (AFO & FA) who are assigned for implementation of different activities in the field such as identify fisheries village, farmer group formation, farmer need identification, conduct training and provide follow up support to the farmer in the field. Duration of this course is two days. By this course participant will get basic concept in such as PRA definition, origin of PRA, differentiation between PRA and RRA, characteristic and principal of PRA, PRA applying aspects, limitation and advantage of PRA, three pillars of PRA, use of PRA in the development cycle and what should do or not do during PRA. Use of some PRA tools (Transect, social map, resource map, wealth ranking, mobility map, Venn diagram etc) also discuss in this course. At the beginning day all the subject discuss in the class room up to lunch. After lunch transect and social mapping tools practice in the field and prepare report. In the 2nd day resource map, wealth ranking, mobility map and venn diagram practice in the field and prepare report and after lunch participant present report in the plenary session. By this training participant will be able to identify fisheries village, farmer group formation, farmer need identification, provide follow up support to the farmer in the field and can be collect information from the field for prepare various report easily. In addition by this training AFOs and FAs will be capable to implement their respective departmental work through rapidly and correctly and also they can be supervise different activities in the appropriate way implemented by the different NGOs. The module is produced by FFP in 2002.

Extension and Training

Monitoring and Evaluation

(M/ET/D/18)

This course is designed for the DoF field level worker (AFO & FA) who are responsible for implementing different departmental and project activities. By this course participant will be able to understand and fill up different reporting format such as different extension format, baseline format and training evaluation format by which all information will present in the same way. Different extension format are AET/ME 002a this form will be used for compile reporting for the monthly implementation of extension activities in the upazila level and sent to the concerned district fisheries office and one copy will remain at the upazila office. AET/ME 002b by this form district fisheries officer will compile the monthly extension activities for all upazilas in the district and sent to the divisional deputy director and preserve office copy. AET/ME 002c this form is used for compile monthly extension activities of all district in the division and sent to the PMU in Dhaka and maintain office copy. Different baseline format are AET/ME 003a upazila team will fill in this baseline format for fisheries village and retain the completed form in the upazila office. AET/ME 003b this form will be used for compile all fisheries village information and sent it directly to the respective DFO, divisional DD, PMU and one copy will retain in the upazila office. Different training activities format are AET/ME 004a this format will give the picture of adoption level of different steps of fish culture, AET/ME 004b this form will give a general indication of the impact of the fisheries activities on trained farmers, AET/ME 004c this format will be used for measure fish production increase or decrease, AET/ME 004d will be used for recording the issues and constraints faced by the farmers of fisheries village and all these format will preserve in the upazila fisheries office. AET/ME 004e this format will be used for compile impact assessment survey in the fisheries village and sent it to the DFO, divisional DD, PMU and one copy will retain in the upazila office.

Farmer Exchange Visit (FEV)

(M/ET/D/19)

Farmer exchange visit is more effective good learning process. One success farmer can explain his knowledge, skill and success to the another farmer and another tour farmer can get an opportunity to explain their views, ideas, knowledge, experiences, success and failure with other farmers. As for their need, they could discuss and share their knowledge with success farmer so there believes could be increased, grow more interest to adopt a new technology and can play role for taking decision to accept the new technology among himself and the community.

By farmer exchange visit, Technology can transfer from farmer to farmer with in a few time. Farmer can observe and evaluate the success of succeeded farmer, trust can grow, don't make doubt/hesitate to adopt a new technology, knowledge & skill can increased by sharing and able to analyze the cost-benefit ratio.

FTEP-2 consider about this subject start this program by the farmer's need assessment of PGTS farmer through respective AFO and FA of the Department of Fisheries Field Staff. Tour farmers selection after discussion and nomination made with all group members; who has interested, socially accepted, can practice new technology, should have time to be a volunteer as a friend trainer for the rest of the members of the group as well as the welfare of community.

Knowledge score system here establish before and after farmer exchange visit to justify the improvement of farmers ability and impact of his program. So it may be considered one of a good and effective program for technology disseminate and socio-economic development of the poor farmers community.

Aquaculture Technologies

15. Basic Aquaculture Skill Development

(M/AT/D01)

This is a 6 days course manual designed to enable AFO/FA to improve their skill and knowledge on basic pond aquaculture. The participants gather comprehensive technical knowledge on probable problem on pond aquaculture, benefit of pond fish culture, pond baseline, pond selection, pond design, pond construction, unwanted fish & predator control, liming and fertilization, nursery pond preparation, species selection and stocking density, fry transport and release, post stocking management, supplementary feeding, partial harvesting and restocking, small scale aquaculture economics, integrated resources management, farm and farmer visit and their need assessment and pond management checklist. This is a residential course and requires both classroom and pond side facilities. After the completion of the course they will be able to develop their confidence to manage their farmers need and farmers training.

16. Pond Preparation Techniques

(M/AT/D02)

This is a 3-day course manual designed to enable AFO/FA/NGO staff to improve their skill and knowledge on pond preparation techniques. This is a link module to other courses for fish culture beginners. The main contents of the course are; overview of pond & aquaculture management methods, site selection, physiochemical factors of pond, steps of fish culture, dyke and bottom repair, weed and predator fish control, liming and fertilisation, natural food and toxicity test.

This is a residential course and requires both classroom and practical facilities. After the completion of the course the participants will have the necessary understanding, confidence and knowledge to advise pond operators on good pond preparation practices. FTEP-2 developed this modules November, 2002.

17. How to Establish a Low Cost Carp Hatchery

(M/AT/D03)

This is a six-day residential training course developed mainly for AFOs, FAs (DoF) and NGO extension workers. It aims to improve the knowledge and skills of participants on low cost the backyard carp hatchery design and operation. This module consists of 14 sessions comprising of background and history of artificial propagation, introduction role and components of low-cost hatchery, brood care and brood pond management, brood fish selection, identification and transport, introduction to hormone, sources, doses for different fishes, preparation of hormone solution and techniques of injection, inbreeding, hatchling rearing and economics.

During the course one day schedule for out side private low-cost hatchery visits and meeting with hatchery operators for better understanding on different hatchery activities. within the course participants should get the opportunities to practice the different skills used in hatchery operation. At the end of the course participants will be able to organise and implement low-cost backyard hatchery training courses for beneficiaries. The course venue requires both classroom and closer to a hatchery for support practical sessions. FTEP-2 developed this modules July, 2001. The Extension Pack EP/D/11 should be include for this course.

18. Nursery Production Techniques

(M/AT/D04)

This is a 5-day course developed for field staff particularly Assistant Fisheries Officer & Field Assistant of DoF and NGO extension workers with a view of improving their knowledge and skills to assist farmers to produce quality fingerling/juvenile. The manual contains all the theoretical and practical aspects of carp, punga and prawn nursery management. In addition, the course attempts to impart the importance of production economics to the target audience. The whole course is documented under the same cover keeping some common sessions for all species but at the same time separate session plans have been included where necessary, especially in stocking and feeding management. Elaborate session plans with key points, appropriate teaching methods, enjoyable group splitting techniques and separate exercise sheet for each group and pair work makes the course easy to deliver. Furthermore, a spreadsheet comprises the list of all necessary materials and equipment to help trainers organise the course easily. Upon receiving this course participants will gather outstanding knowledge and skills on pre-stocking, stocking and post-stocking management of carp, punga and golda seed production. This is a residential course, being well balanced by theory and practical requiring both pond side delivery as well as classroom discussion. The manual is developed by FTEP-II, a DFID funded project in July 2001. The Extension Pack EP/D/06 should be include for this course.

Aquaculture Technologies

19. Nursery Management Techniques for Carp- Pangus-Golda

(M/AT/D/015)

The module entitled Nursery Management Techniques for CPG is particularly designed for AFO, FA and NGO extension workers to improve their knowledge and skills so that they may assist farmers to produce high quality fingerlings and juvenile of Carp, Pungas and Golda species. Many aspects of nursery pond management are the same for the three species groups. Therefore to avoid duplicity of training this module describes only the stocking and post-stocking management aspects of Carp, Pungas and Golda nursery highlighting variations in culture technology as appropriate. The module comprises all the theoretical and practical aspects of hatchling/PL stocking along with subsequent techniques of fingerling and juvenile production. Additionally attention has been given to provide a clear understanding relating to economics of these culture technologies. An additional feature of the course focuses on providing participants with exposure to real farming situations for all three types of culture technology with particular attention given to success and challenges experience by carefully chosen experienced small scale farmers.

Elaborate session plans with key points, appropriate teaching methods, enjoyable group splitting techniques and exercise sheet for each group and pair work makes the course easy to deliver. Furthermore, a spreadsheet comprises the list of all-necessary materials and equipment to help trainers plan and organise the course easily. Upon receiving this 6-day course, participants will gather an outstanding knowledge and skills on stocking and post-stocking management of 3 major types of seed production. This is a residential course, being well balanced by theory, practical and field visit. FTEP-II, a DFID funded project developed this module in August 2002.

20. Grow-out Management Techniques for Carp-Pangus-Golda

(M/AT/D/006)

This is a 6-day course module designed particularly for the AFO, FA and NGO extension workers. To avoid duplicity with other courses having similar pre-stocking requirements this module describes the stocking and post-stocking rearing aspects for three key economically important culture species groups; Carp, Pungas and Golda. Stocking density of mono culture and poly culture with appropriate ratio, post-stocking management such as supplementary feeding, natural food maintenance, some common hazards and disease with their controls and prevention, suitable harvesting size with marketing procedure have been elaborately discussed in separate sessions. Additionally the modules present important information on production economics of each type of culture.

The module is planned as a residential course requiring both classroom and pond facilities. Recipients of this training should have had a foundation course in basic carp culture (*Course M/AT/D/01*) or pond preparation module (*Course M/AT/D/02*) beforehand. Another important facet of the course is that it allows the participants to visit Carp, Pungas and Golda farms providing important opportunity to experience real life working examples. After attending the course, participants will be able to extend their training abilities to transfer skills and knowledge to farmers for all three species groups. The Fisheries Training and Extension Project-II developed this course in August 2002. The Extension Pack EP/D/02 and EP/D/04 should be include for this course.

21. Golda Culture Management

(M/AT/D/007)

This manual has been developed for the benefit of Government and Non-government fisheries extension workers to improve their present knowledge and skills on Golda culture. This is a 5 day course comprises of all necessary aspects of carp-prawn poly culture both in pond and gher systems. The prospects and limitations of prawn culture, social and environmental issues relating to the gher areas, characteristics of suitable water bodies both of pond and gher and different physico-chemical factors of water bodies with optimum range and control measures have been discussed in the introductory sessions. Pond/gher preparation techniques, appropriate species along with their food and habitat, appropriate stocking density and ratio, juvenile and fingerling transportation with releasing methods are described in the pre-stocking and stocking management sessions. Following pre-stocking and stocking management elaborate discussions are presented on supplementary feeding, maintenance of natural food, disease prevention, diagnosis and control, common problems encountered, pond economics, record keeping and suitable harvesting and marketing process in the later sessions.

This manual is planned to deliver as a residential course both in classroom and pond side. After receiving the course participants will be able to train end-users, mainly farmers in the culture and management of Golda in pond/gher systems. The Fisheries Training and Extension Project-II developed this manual in December 1998.

TRAINING COURSE MODULES & MANUALS

Aquaculture Technologies

22. Small Cage Aquaculture

(M/AT/D/00)

This manual is particularly designed and developed for extension workers to increase their knowledge and skills on basic cage aquaculture so that they can be able to disseminate the technology to the farmers successfully. Course content includes appropriate site and farmer selection, easy access cage making materials, suitable species selection and stocking, low cost supplementary feeding, cage management and return of investment. During the course participants will learn how to prepare two types of cages using easy access low cost inputs and set in water with right direction. The course is mostly skill oriented but require both theory discussion and practical demonstration. This is a 5-day residential course developed jointly by CARE-CAGES and FTEP-II in April 2001. The Extension Pack EP/D/07 should be include for this course.

23. Soil and Water Quality Management in Aquaculture

(M/AT/D/09)

This is a 5-day duration course manual developed for Assistant Fishery Officer/ Field Assistant and NGO workers to improve their knowledge and skill on water quality management in aquaculture. The participants will gather comprehensive knowledge on importance of soil and water quality management in aquaculture. The sessions cover soil types and its components, soil-water interaction, effect of bottom mud on productivity and important physico-chemical parameters important to maintaining a good culture environment. Associated with this, the sessions attempt to provide participants with a basic understanding of essential nutrient cycles contributing to management of phytoplankton, zooplankton, benthos populations. Basic practical steps to maintain water quality for aid extensionists and pond managers to improve pond productivity. Results of survey report on water quality in Bangladesh are discussed to highlight pond productivity status. This course is residential requiring both classroom and pond side training venues. Session plans are detailed with recommended key points, handouts, exercises and flipchart plans. Course budget and training materials list assist the trainer and/or training manager prepare the course easily. FTEP-2 developed this modules August, 2002.

24. Fish Disease Management

(M/AT/D/10)

This is a 3-day course manual designed to enable AFO/FA/NGO staff to improve their skill and knowledge on fish disease control. This course will cover the following topics; importance of fish disease control, causes of disease in the pond, environmental and nutritional effect on fish disease, general symptoms of fish disease, different types of fish disease prevention and control, disease control checklist and disease prevention measures.

This is a residential course and requires both classroom and pond side facilities. Recipients of the course should be able to provide valued advice to pond operators on potential and actual diseases problems or recognise that a more detailed follow-up assessment is required by experts in this field. FTEP-2 developed this modules November 2002.

25. Pond Dyke Cropping Techniques

(M/AT/D/11)

This is a 4-day course manual designed to enable mainly, AFO/FA/ NGO staff to improve their skill and knowledge on Pond Dyke Cropping. The participants gather comprehensive technical knowledge on importance of PDC, selection criteria of PDC, classification and nutritional and economical importance, design and planning of dike cropping, seasonal vegetable growing information, cultivation method of crop on dike, collection and preservation of vegetable. This is a residential course requiring both classroom and pond side facilities. After the completion of the course it is expected that participants will be able to assist farmers develop their own pond dyke cropping systems appropriate to their own environment and resources. FTEP-2 developed this modules July, 2001. The Extension Pack EP/D/10 should be include for this course.

26. Rice Fish Culture

(M/AT/D/12)

This is a five-day training course developed mainly for UFO, AFO and FA of DoF. It aims to improve the knowledge and skills on the basic principles of rice-fish farming, environmentally friendly Integrated Pest Management (IPM) and inform on the contribution of paddy and fish to the National economy (food, nutrition and employment). The course incorporates an introduction to rice cultivation, with particular emphasis on any modification needed for rice-fish culture, and its economics. Details of fish species selection, stocking rates and post stocking management supported with field visits and interviews with farmers are also included. During the course the participants are given the opportunity to practice the different skills used in rice-fish farming. By the end of the course participants will be able to prepare, organize and implement rice-fish training courses for the beneficiary. The course is residential and requires both classroom and opportunity to excess in rice field for practical session. FTEP-2 developed this modules July, 2001. The Extension Pack EP/D/03 should be include for this course.

Social Development and Environment

27. Gender Awareness for Officers & Extension Workers

(M/S/D/01)

Though this 5 days course designed for mainly mid-level officers (i.e. UFO level) it can be used as a guide for different target groups. The following sessions are included with this manual- male-female participation in development work and its beneficiaries, position & situation of men-women, physical differentiation:-labour division, socialisation, patriarchy, excess to resource and controlling power, concept of gender, gender role, gender need, empowerment, women's advancement- national & international, gender language, gender policy of Bangladesh & DoF.

To present the course in a more participatory and enjoyable way, case studies, problem solution, role-play, sentence making are described as presentation and training techniques. Traditional and non-traditional work lists of men and women are attached with this manual. Beside this, a debate on, "Only woman awareness will Develop Gender relationship" included in this manual which could help to clear the Gender concept to the participants. FTEP-2 developed this modules with assistance of external consultant in August, 2002.

28. A Training Guideline on Gender Issues for Farmers

(M/S/D/02)

This is a three-day course module developed for both GO & NGO field workers who usually train both male and female farmers. Following the 'trainer's note' style it mainly focuses on contribution of man & woman in development activities, status of man & woman in the society, the causes of differences between woman & man in the society, conception of gender, the gender and development, gender roles, gender needs, overall achievement from implementation of gender, etc. are described clearly. The course described uses different types of visual aids, games and warm-up activities and that is not a residential requiring a village based training venue. FTEP-2 developed this modules November, 2002.

29. Savings and Micro-credit Management

(M/S/D/03)

This 5-day residential course is aimed specifically at small NGO field workers working with NGO organised poor groups involved in managing group's savings and micro-credit. The module covers the overall management of savings and micro-credit for rural poor people specifically roles of NGO workers in saving & credit management, sources, accounting and record maintenance of savings & credit, approval & disbursement of credit, calculation of interest, preparation of repayment schedule & procedure of credit, realisation of bad loans, roles of civil society in savings & credit management and how to manage the group.

FTEP-2 developed this modules November, 2001.

30. IGA Selection and Management Techniques

(M/S/D/04)

This module is intended to help out the NGO workers to enhance their skill and knowledge in selection and management of IGAs by the poor people. The participants could gather comprehensive knowledge on different types of IGAs suitable for the poor, selection procedure of adaptable IGAs for the poor, skill development of the poor in managing the selected IGAs, constraints of managing IGAs, roles of NGO workers in managing IGAs and the essential facilitation skills to manage the group. This is a five day course requiring classroom training only using a wide variety of participatory training techniques. FTEP-2 developed this modules November, 2001. The Extension Pack EP/D/09 should be include for this course.

TRAINING COURSE MODULES & MANUALS

(Manuals Developed by FTEP-II)

Extension & Aquaculture Technology Training

31. Basic Extension Course for AFO & FA

(CM/D/001)

This manual is designed to enable participants to improve their skill and knowledge on basic extension and communication principles and methods, adult learning theory, roles and characteristics of ideal extension workers, adoption process of information, bottom-up extension approach, group formation and management, target group profile, training aims and learning objectives, different stages of training cycle, participatory training techniques, training file preservation etc. The participants, after attending a 12-day course acquire necessary skill to plan, organise and run pond-side training on basic fish culture independently using and preparing simple training aids appropriate to small group of rural farmers in a participatory manner, and also assess the qualitative aspects of training using some indicators. The target groups for this course will be all government & NGO officers and extension workers engaged in farmer level training. The course described is residential and requires a classroom and a pond-side training venue. FTEP-2 jointly with FFP, developed this modules June 2000. The Extension Pack EP/D/01 should include for this course.

32. Aquaculture Extension Course for AFO & FA

(CM/D/002)

This manual is intended to help out extension trainers to enhance their skill and knowledge in delivering 'Pond Group Training Session (PGTS) on basic fish culture activities. The participants gather comprehensive practical and technical knowledge on the 'assessment of farmer's training needs, their present status and goals': pre-stocking preparations involving removal of unwanted aquatic weeds, removal of predators, liming and fertilisation; stocking aspects; post-stocking measures involving judicious use of on-farm resources, risk management, partial and final harvesting. After attending this 5-day course, the participants can successfully deliver PGTS to rural farmers in small groups on 1. Training need assessment (TNA), baseline, goal and monitoring (BGM) and eradication of unwanted weeds and predators, 2. green water, 3. stocking management, 4. integrated resource management and 5. risk management. During this training course, the participants acquire skill on preparation of appropriate coloured attractive visual aids and other training materials suited to deliver PGTS. The target groups for this course will be all government & NGO officers and extension workers engaged in farmer level training, and preferably with science background. The course described is residential and requires classroom and pond-side training venues. FTEP-2 developed this modules January 1999. The Extension Pack EP/D/01 should include for this course.

33. Basic Extension Course for Extension Officers' of FFP

(CM/D/003)

This is a 12-day course manual designed particularly for the Fourth Fisheries Extension Officers. According to the Fourth Fisheries working approach, these newly recruited extension officers will be mainly responsible to implement the Model Village Programme (MVP). To implement this Programme successfully, an extension officer should have adequate knowledge on basic extension theory and both sufficient knowledge and skills in training. To improve those two main aspects session content has been included for the course are basic understanding of extension, principles of extension, role and characteristics of a successful extension worker, adoption process and affordable extension message, extension methods and communication, bottom-up extension approach, gender awareness, survey and PRA methods, farmers' problems identification, group formation and management, adult learning theory, target group profile, participative training techniques, training aims and learning objectives and simple visual aids and session preparation. Moreover, a large session on office administration has been included in the content to improve the administration capacities of the newly recruited officers. During the course, the participants will be provided with the opportunity to demonstrate a model group training session. The model session will help participants to acquire necessary skill to plan, prepare and conduct a pond side training session and be able to evaluate training. This is a residential training course and needs to be conducted both in the classroom and at the pond side. FTEP-2 developed this modules in February, 2000 in collaboration with FFP staff.

34. Aquaculture Extension Course for Extension Officers' of FFP

(CM/D/004)

A 5-day course manual designed to enhance the participant's skills in delivering pond side group training. From this course, the participants will gather comprehensive practical skill and technical knowledge on basic pond aquaculture. Further, they will be able to develop their confidence to manage medium size groups during training. The course content arranged in the manual are divided into two major sections, pond side practice and classroom discussion following the practice session. During the course, the participants will get an opportunity to practice the delivery of the sessions 1. Dike repairing, de-weeding and removal of unwanted fish and predators, 2. Green water (pond liming and fertilisation), 3. Stocking management (Species selection, stocking density, fingerling transport and release), 4. Farmers resource management and 5. Profit in fish culture (Risk management, partial harvesting and restocking). In addition, the participants attending in the course will be enabled to prepare and use properly colourful and attractive visual aids appropriate to their target audience. The course is especially developed for the Fourth Fisheries Extension Officers, described as residential, and requires both classroom and pond side venues. FTEP-2 developed this modules in June, 2002 jointly with FFP.

Extension & Aquaculture Technology Training

35. Basic Extension Methodology & Carp Polyculture Techniques

(CM/D/05)

This manual is developed for NGO personnel to improve their skill and knowledge on introductory aspects of extension, roles and characteristics of ideal extension workers, adoption process of information, bottom-up extension approach, group formation and management, target group profile, simple visual aids, learning environment, participatory training techniques, training aims and learning objectives, different stages of training cycle, classroom presentation techniques, training need assessment and evaluation techniques, training file preservation etc. Each practice session is followed by comprehensive discussions on relevant technical issues. After attending this 5-day course, the participants can successfully deliver PGTS to rural farmers using appropriate training aids. The target groups for this course will be all government & NGO officers and extension workers engaged in farmer level training, and preferably with science background. The course described is residential and requires classroom and pond-side training venues. FTEP-2 developed this modules in January, 1999.

36. Basic Extension & Training Methodology, IPM & Carp Polyculture Techniques for Secondary School Teachers

(CM/D/06)

This manual describes a two-week course designed to improve the knowledge of aquaculture and extension & communication skills of Secondary School Science Teachers. It covers the associated theoretical and practical issues included in the agriculture curricula for classes 6-10. Initially, the course explores the role of teachers in extension, session planning and the preparation of simple visual aids. The next section includes training in the fishery resources of Bangladesh, water and soil quality related to fish culture and is followed by the main steps in pre-stocking preparation such as fertilisation, aquatic weed and predatory fish identification and control. Aspects concerning the improvement and measurement of natural productivity are incorporated into post-stocking pond management. Particular emphasis is placed on the selection and fish stocking regimes suitable to the availability of farmer resources and natural environment. Other topics covered are pond economics, nursery pond management, prawn culture, farm resource management and integrated pest management. Monitoring of teacher's performance after training has demonstrated a much improved delivery of these subjects to students, increased production from the school pond and its use as a training tool. Additionally the teachers are provided a 13 item 'Resource Box' of teaching aids. FTEP-2 developed this modules in January 2002.

37. Economic & Technical Aspects of Pond Aquaculture for Bank Staff

(CM/D/07)

The 5-day course, furnished in this manual is principally intended for bank staff involved in rural credit disbursement. It is designed to take the mystique out of pond aquaculture for people who have not had any previous exposure to the subject. The course gives the participants an insight into basic pond management strategies with particular emphasis on input costs, risk reduction and likely production targets, if correct pond management procedures are followed. By the end of the course, the participants will have the ability to assess the investment potential and viability of pond farmer application proposals for credit. FTEP-2 developed this modules in October 2002.

Trainer's Notes for PGTS

(TN/00)

The farmers' training advocated by FTEP-II is small group participatory training over five two-hour learning sessions. A three hour review session (sixth session) takes place after one fish production cycle later. These training notes are essential for would be trainers who wish to deliver these highly participatory and entertaining farmer learning sessions. The notes act as a detailed guide through the five sessions:- 1. Training needs assessment and pond status/condition; 2. 'Green Water', prepares the pond prior to stocking; 3. 'Stocking Management' completes the fish stocking of the pond correctly and appropriately; 4. 'Farmer's Resources' identifies all resources and needs (given in session 1) and prepares farmers' for beneficial positive action for good pond management. It may include the traditional fertilising and feeding or may be more on-farm resource based and integrated with other systems depending on farmer's circumstances; 5. 'Profit in Fish Culture' enables farmer to understand the potential risks and conversely the potential high returns. Partial harvesting and re-stocking may be included. The sessions are flexible based on need identified in session one. These notes are detailed to the extent that every step is described, even questions to ask in the Q and A sessions. The notes tell you how to use the training materials. This guide will be best utilised by experienced extensionists. However, if the two courses listed in this catalogue (Basic Skills Extension Course and Aquaculture Extension Course) are done beforehand, the complete beginner can use these notes.

TRAINING COURSE MODULES & MANUALS

(Developed by other Projects)

Course on PRA, SLA and M & E

(TM/D/01)

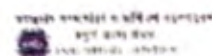
This manual is developed by Fourth Fisheries Project for Upazilla level officials to improve their skill and knowledge on PRA, SLA and monitoring. Content of the course includes preliminary concept and principle of PRA, application and techniques of PRA, concept and techniques of M&E, steps of M&E. Course described is residential. It requires classroom, pond side and village venues.



Essential skill course for extension officers: (PRA, monitoring, office management)

(TM/D/02)

This manual is developed by Fourth Fisheries Project for extension officers to improve their skill and knowledge on PRA, monitoring and office management. This is 6-day course. It requires classroom, pond side and village. Content of the course are preliminary concept & principal of PRA, use of PRA, techniques of PRA, Extension & training activities, monitoring, introduce monthly monitoring format & fill up, Technological information collection (prepare format & fill up), impact indicator, production information (decrease-increase), job description of Upazilla team, create team inspiration, official communication, maintain papers and record financial and treasury role, recruitment role of govt. employee and leave role. After getting this training EO could understand about PRA, monitoring and office management.



Carp-Golda mixed culture

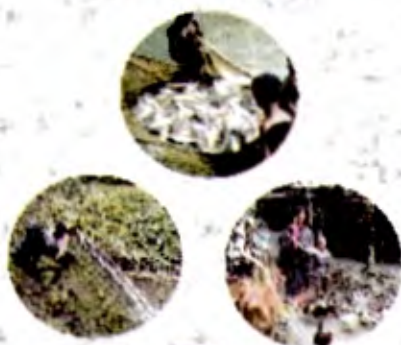
(TM/D/03)

This manual designed by Fourth Fisheries Project for Fourth Fisheries extension officers. This is a 8 day course. The contents of the manual are introductory and characteristics of Carp-Golda mixed culture, soil and water quality, pond preparation, transportation, pre-stocking management, risk and hazard management, prawn nursery management, record keeping of cost-benefit, importance of paddy cum fish, merits and demerits of culture, steps of culture method. Pre and post stocking management activities. After attending this course participant able to adopt carp-golda farming and paddy cum fish culture.

It's a residential course, require classroom and pond side venue.

Govt. of the People's Republic of Bangladesh
Ministry of Fisheries and Livestock

Patuakhali Barguna Aquaculture Extension Project
INTEGRATED POND FARMING GROUP FIRST YEAR
TRAINING MANUAL
For
Extension Trainer



Author / Art
Prepared by / Edited by
C.A.R.C.
C.A.R.C.
Public Field Staff

Integrated Pond Farming Group First Year Training Guide for Extension Trainers – PBAEP (FFP)

(TM/D/04)

Patuakhali Barguna Aquaculture Extension Project (PBAEP) prepared this training guide. The objective of the training to manage the pond and pond dikes in a holistic farming approach. Contents are small livestock rearing, vegetable cultivation, compost preparation, disease management, harvesting and marketing, Optimum pond environment and green water, pond preparation, fertilizing and feeding, species selection and stocking. Training sessions take 3-4 hours that are explained in a classroom setting. Pond side training sessions take 1.5-2 hours.

লক্ষিত জনগোষ্ঠীর জন্য

জেতার প্রশিক্ষণ
ম্যানুয়েল

বৃহত্তর নোয়াখালী জেলার মত্যা চাষ সম্প্রসারণ প্রকল্প

প্রণয়নে : প্রতিষ্ঠা কমিউনিকেশন

Training Manual on Gender for Farmers

(TM/D/05)

A farmers training manual on gender has been prepared for target group farmers by gender core team, GNAEP with technical assistance, Protikrti Communication. A couple of important issues of gender are included in farmers training manual. The messages on gender issues are described in simple and with practical examples. Present condition of women in Bangladesh, Role of women in aquaculture, activities of men and women and access to and control over resources are contents of the farmer training manual. These four issues on gender take place in 3 deferent sessions with one and one and half hours duration of each session. Participatory training techniques are used and a numbers of picture card related to the sessions are used in the farmers training.

Training Manual on Training of Trainer for Officers

(TM/D/06)

This is a 7-day course mainly intended for the Officers of DoF, DTA and NGOs who are working in GNAEP. The course is designed by GNAEP to help the participants to improve their training skill, knowledge and methodology, so that they can organize and carry out training activities effectively. It comprises the basic concept of training, target group profile, training need assessment, adult learning theory, managing difficult group members preparation of session plan, participatory training techniques, presentation skills, principle of extension and team building. Throughout the course the participants are given the opportunity to practice delivery in classroom training and farmers group training at the pond site. The course is designed and delivered fully participatory way. Based on last 2 years project experiences, the course is revised and developed in a new version in English in October 2002.

বৃহত্তর নোয়াখালী জেলার মত্যা চাষ সম্প্রসারণ প্রকল্প
(জিএনএইপি)

সম্প্রসারণ প্রশিক্ষকদের
প্রশিক্ষক প্রশিক্ষণ কোর্স



কোর্স ফাইল

অক্টোবর ২০০২



বাড়ী-১৬, সড়ক-৩৬, হাউজিং এস্টেট, মাইজদি কোট,
নোয়াখালী-৩৬০০

Greater Noakhali Aquaculture Extension Component
(GNAEC)

Training Of Trainer (TOT) For Offices



COURSE MANUAL

October 2002



GNAEC
House No 16, Road No 36, Housing Estate, Majidpur Court Noakhali

Training Manual on Training of Trainer for Extension Trainer

(TM/D/07)

This is a 6-day course has developed by GNAEP for the Extension Trainer (ET) who are mainly involved in farmers training at field level. The course is designed to help the Extension Trainers to improve their training skill, knowledge and farmer group training methodology, so that they can organize and carry out farmer training at pond site effectively. It comprise the basic concept of training, target group profile, training need assessment, preparation of session plan, preparation of training aids, presentation skills, training session evaluation, adult learning principle, managing difficult group members. Throughout the course the participants are given the opportunity to practice delivery in farmers group training at the pond site. The course is designed and delivered fully participatory way. Based on project experiences, the course is revised and developed in a new version in Bangla in October 2002.

Basic Training Manual for Officers

(TM/D/08)

This is a 10-days basic course developed by GNAEP for the officers of NGOs and DTA staff. This course is generally delivered to the newly recruited staff. It comprises the combination of the basic concept and methodology of formation and mobilization of Fish Farming Group (FFG), technical training in aquaculture and integrated rice-fish-prawn farming, role of gender in aquaculture and monitoring & evaluation system. Throughout the course participants are given the opportunities to filed visit field for acquiring practical knowledge. Based on project experiences, the course is revised and developed in a new version in Bangla in August 2002.

Greater Noakhali Aquaculture Extension Component
(GNAEC)

Basic Training Course For Offices



COURSE MANUAL

August 2002



GNAEC
House No 16, Road No 56, Housing Estate, Maydon Court Noakhali

বৃহত্তর নোয়াখালী জেলার মৎস্য চাষ সম্প্রসারণ প্রকল্প
(জিএনএইপি)

সম্প্রসারণ প্রশিক্ষকদের
বেসিক প্রশিক্ষণ কোর্স



কোর্স ফাইল

সেপ্টেম্বর ২০০২



বাড়ী-১৬, সড়ক-৩৬, হাউজিং এস্টেট, মাইলদী কোট,
নোয়াখালী-৩৬০০

Basic Training Manual for Extension Trainer

(TM/D/09)

This is a 10-days basic course has been designed by GNAEP for the Extension Trainers (ET). This course is delivered generally to the newly recruited Extension Trainers. It comprises the combination of the basic concept and methodology of formation and mobilization of Fish Farming Group (FFG), technical training in aquaculture and integrated rice-fish-prawn farming, role of gender in aquaculture and monitoring & evaluation system. Throughout the course participants are given the opportunities to filed visit field for acquiring practical knowledge. The contents of basic training course for officers and extension are the same, but methods of delivery are considered in a simple way for Extension Trainers. Based on project experiences, the course is revised and developed in a new version in Bangla in August 2002.

Training Manual on Gender for Extension Trainer

(TM/D/10)

A two days gender training manual has been developed for Extension Trainer by Gender core team, GNAEP with technical assistance, Protikrti Communication. Most important issues of gender and related to the project objectives are included in the training manual. Introduction of gender, Condition and position of women in Bangladesh, gender role analysis, access to and control over resources women empowerment, gender needs analysis and role of women in aquaculture are the main sessions for the extension trainer training on gender. Participatory training techniques are emphasized to delivery the training course.

সম্প্রসারণ প্রশিক্ষকদের জন্য

জেন্ডার প্রশিক্ষণ
ম্যানুয়েল

বৃহত্তর নোয়াখালী জেলার মৎস্য চাষ সম্প্রসারণ প্রকল্প

প্রণয়নে : প্রতিকৃতি কমিউনিকেশনস

Technical Manuals

Technical Manual on Fish Culture in Seasonal Ponds

(HTM/D/01)

'Fish Culture in Seasonal Ponds' comprises of eleven chapters. Chapters 1-3 contain information on the classification and characteristics of seasonal ponds, major culturable species, and feeding ecologies of different culturable fish. Chapter four and five deal with different aspects of mono- & polyculture systems with particularly differing inputs needed for such culture system respectively. Different steps of pre-stocking, stocking and post-stocking management covering a full cycle of fish culture are detailed in chapter seven. Aetiology, diagnosis and measures against different fish diseases are narrated in chapter seven. Some common problems of fish culture along with remedial measures, economics of seasonal ponds, calendar of fish culture, and checklist of different to-do lists have been detailed in chapters 8-11 respectively. Biology and culture methods of nilotica and silver carps are also detailed in annexes. This handbook is especially suited for trainers with science background but fish culturists, students and interested readers can also benefit from this handbook. Published first in June, 1995 by DoF/BAFRU, it was later republished in December, 1998 by FTEP-II/DoF. This manual is included in the extension pack EP/D/01.



Technical Manual on Fish Nursery

(HTM/D/02)

This technical handbook on fish nursery contains fourteen chapters. Basic information on different sources of fry, indigenous and exotic species suitable for nursery, characteristics of nursery and rearing ponds, different larval stages covering hatchling to fingerling, inputs needed for nursery, spectra of phytoplankton and zooplankton available in nursery ponds etc, are narrated in the first five chapters. Basic pre-stocking and stocking aspects with emphasis on identification of healthy fry, stocking density of different species, transportation and acclimatisation techniques with prophylactic treatments, and feeding at different stages are described in chapters six and seven. Pre-stocking, stocking and post-stocking aspects for prawn and African catfish are concisely described in chapters eight and nine respectively. Pond economics, record keeping and checklist of works are described in subsequent chapters. Information on length-weight relationship, tubifex collection, artemia hatching, breeding of carpio, preparation of compost and local measurement units are referenced in the annex portion. The handbook is suitable for trainers, interested educated farmers and graduate students with science background. It was published in June, 1995 by DoF/BAFRU. This manual is included in the extension pack EP/D/06.

Technical Handbook on Shrimp Culture

(HTM/D/03)

This technical handbook on tiger shrimp culture contains eight chapters. Basic information on the availability of the species, advantages and disadvantages of culture, biological characteristics etc. are detailed in chapter one. Characteristics of shrimp culture ponds along with ideal physico-chemical parameters, different culture methods and diverse level of inputs necessary for shrimp culture are elaborated in chapters two and three. Chapter four details the different steps involved in pre-stocking, stocking and post-stocking management of shrimp culture. Diseases commonly experienced by the shrimp farmers of Bangladesh have been elaborated in chapter 5 along with aetiology and diagnostic measures. Thirteen common problems faced by farmers and their probable solutions are concisely described in chapter 6. Chapters 7 and 8 take a look at pond economics, record keeping and checklist of works. Valuable information on life-cycle, mating, growth, moulting, basic engineering aspects of ponds, sampling and feeding techniques etc. may be referenced in annexes. The handbook is suitable for trainers; interested educated farmers and graduate students with science background. It was published in January, 1996 by DoF/BAFRU.



Technical Manuals

Technical Manual on Prawn-Carp Polyculture

(HTM/D/04)



The technical handbook has been developed sharing practical experiences of different people and projects those who are working in fisheries sector in Bangladesh. So, more emphasis are given on the capacities of the Extension workers and their needs before selecting technical messages. The handbook comprises of 10 chapters covering all the necessary aspects of prawn-carp polyculture. Introductory aspects of polyculture; advantage-disadvantage, characteristics of suitable water bodies both of ponds and ghers, culturable species along with their food and habitat is described in chapter 1. Different chemical factors with their optimum range and control measures, required inputs and equipment, various culture management systems have been discussed in chapters 2-4, while chapter 5 elaborately describes pre-stocking, stocking and post-stocking management showing different steps chronologically. Concise discussions on disease prevention, diagnosis and control, common problems farmers encounter, pond economics and record keeping are detailed in chapters 6-9. Chapter 10 points out the summary of prawn-carp polyculture indicating daily and weekly tasks, checklist of tasks with a frequency and a proposed work planner. Some additional valuable messages e.g. Prawn life-cycle, suitable pond water colour; site selection, pond layout and construction; practical experience culture in gher and chemical measurement units have also been

included in the annex. The handbook is suitable for trainers, extension workers and progressive farmers. This book was published in August, 1995 by DoF/BAFRU. This manual is included in the extension pack EP/D/02.

Technical Manual on Carp Culture

(HTM/D/05)

This technical handbook on carp culture is comprised of nine chapters. Basic information on different types of indigenous and exotic carps along with their food and habitats is specified in chapter 1. Pond typology with different types of culture methods and numerous inputs needed for growing fishes have been illustrated in chapters 2 and 3 respectively. Chapter 4 details the different steps involved in pre-stocking, stocking and post-stocking management within the fish culture calendar. General problems faced by farmers, their probable solutions and different types of fish diseases are concisely described in chapters 5 and 6 respectively. Chapters 7-9 take a look at pond economics, record keeping and summary of different fish culture steps. Valuable information on site selection, pond digging, desired pond water colours, control of aquatic weeds, compost preparation etc. are referenced in annexes. The handbook is suitable for trainers, interested educated farmers and graduate students with science background. It was published first in June, 1995 by DoF/BAFRU and later republished in December, 1998 by DoF/FTEP-II. This manual is included in the extension pack EP/D/01.



Technical Manual on Pond Production Biology

(HTM/D/06)



This technical handbook entitled 'Production Biology of Ponds' describes in four chapters.

- i- introduction to fish and fish culture (definition, history of fish culture etc.);
- ii- the fisheries resources and its importance, statistics on water areas, habitats, spawning grounds, problems of natural productions;
- iii- different types of ponds with their characteristics and
- iv- different abiotic & biotic factors affecting fish with measures to control them, phytoplankton, zooplankton, benthic and fringing communities, water and soil quality aspects and management systems of fish culture. The manual is especially suited for trainers with a science background who wish to enhance their theoretical knowledge on different aspects of pond production biology. The handbook also includes some indicators on the productivity of ponds and concise data on water quality parameters of ponds from the different districts of Bangladesh. The manual was first published in June, 1995 by DoF/BAFRU and republished in December, 1998 and in December, 2000 by FTEP-II/DoF. This manual is included in the extension pack EP/D/01.

Farmers' Manuals



Farmers' Manual on Fish Culture in Seasonal Pond

(HTM/D/07)

This manual is essential for would-be farmers who wish to grow fish in seasonal ponds. The manual acts as a detailed guide through the content: definition of seasonal pond, pond characteristics, characteristics of culturable fish, species suitable for seasonal pond, weeding, removal of un-wanted fish, liming, fertilising, observation of natural food, toxicity test, fingerling release, transportation, acclimatisation, supplementary feed, harvesting and diseases. In addition, local measurement and every day activities for fish culture are included in this manual.

Farmers' Manual on Fish Nursery

(HTM/D/08)

This manual is designed to enable nursery farmers to manage their carp nursery pond properly.

Farmers can get information from this manual about local unit of measurement, classification and types of nursery, characteristics of nursery pond, necessary inputs, types of fry, steps of fry culture such as pond preparation (weeding, carnivore and weed fish removed, liming, contact with fish traders, fertilisation, natural food test, insect control, water toxicity test, etc.), identification of good and bad fry, transportation of fry, adaptation and release and then post-stocking steps (mortality rate check, post-stocking fertilisation, feeding and transfer to rearing pond). The manual also explains how to fertilise, feed, harvest and sale fingerling, manage hazards, keep records etc.



Farmers' Manual on Shrimp Culture

(HTM/D/09)

This technical handbook with 46 pages, most suited for common shrimp farmers, contains information on basic steps of shrimp culture. Different types of shrimp culture methods, basic characteristics of tiger shrimp, types of culture ponds, effects of tidal amplitude, diverse level of inputs, eradication of unwanted fish and predators from shrimp ponds, pond drying, application of fertilisers, observation of natural productivity, toxicity test etc. are lucidly described in the first half of the handbook. Identification of larvae on the basis of morphological characteristics, density of post-larvae, acclimatisation and transportation of fry, water exchange, feeding aspects, diagnosis and preventive measures against common shrimp diseases, common problems of shrimp culture and probable solutions,

harvesting and marketing aspects etc. have been lucidly described in the second half of the book. The handbook with nice illustrations in each page is specially suitable for farmers of all level irrespective of literacy. It was published in January, 1996 by DoF/BAFRU.

Farmers' Manuals

চাষী সহায়িকা
গলদা চিংড়ি-কার্প মিশ্র চাষ



বাংলাদেশ
জলসম্পদ
এক
বিভাগীয়
কিশোর হোস্টেল
কলকাতা

Farmers' Manual on Carp-cum Prawn Culture

(HTM/D/10)

This technical handbook with 52 pages, most suited for farmers, contains information on basic steps of carp-cum-prawn culture. Advantages of polyculture, characteristics of species and ponds suitable for polyculture, basic pre-stocking steps covering deweeding, eradication of unwanted fish, liming and fertilization, test of natural productivity and toxicity, installation of shelters for prawn etc. are lucidly described in the first half of the book. Basic information on species selection and determination of stocking density, acclimatisation and transportation of fingerlings, post-stocking fertilisation

and supplementary feeding, common problems of polyculture and probable solutions, harvesting and marketing aspects etc. are described in the second half of the book. The handbook with easily understood illustrations in each page is appropriate for farmers of all levels irrespective of literacy. It was published in July, 1995 by DoF/BAFRU.

Farmers' Manual on Carp Polyculture

(HTM/D/11)

The handbook entitled carp culture has been developed to help farmers to recall and/or learn technical messages needed to improve the management of pond. Simple technical messages on pre-stocking, stocking and post-stocking activities with colourful illustrations, tables and popular rhymes have been furnished in the book. Emphasis is given on farmers' ability and availability of resources locally. Some additional information about new pond excavation, water retention capacity of a pond, compost-making ingredients, quantity and methods are described in annex. The handbook was developed by DoF/BAFRU and first published in July, 1995.

চাষী সহায়িকা
কার্পের চাষবাদ



বাংলাদেশ
জলসম্পদ
এক
বিভাগীয়
কিশোর হোস্টেল
কলকাতা



Four Extension Booklet from Second ADP

(HTM/D/12)

This project published four booklets on shrimp culture. These are 1. Shrimp fry nursing, 2. Introduction of traditional and improve extensive shrimp culture, 3. Improved extensive culture of shrimp, 4. Golda prawn and mixed culture of fisheries.

Twenty three Booklets on Development for Aquaculture Entrepreneurs

(HTM/D/13)

Department of Fisheries published twenty-three booklets. Out of those twelve are reprinted by through National Package Program a DoF funded Development Project. These are-(i) Carp nursery management (ii) Carp polyculture (iii) Carp-Golda polyculture (iv) Sarputi culture (v) Paddy cum-fish and prawn culture (vi) Pangus culture and hatchery management (vii) Pan culture (viii) Nilotica culture (ix) Bagda culture and its management (x) Golda nursery management (xi) Golda culture (xii) Integrated fish culture. Three are reprinted by Upazila level Aquaculture extension project. These are (i) Carp polyculture (ii) Pangus culture in pond (iii) Integrated fish culture. These booklets are for all type of farmer, which cover culture techniques and cost-benefit analysis of different culture method. These also cover essential inputs and their sources for farming. These booklets encourage especially medium and large entrepreneurs.



Poster Booklets for Pond Fish Culture

(HTM/D/14)

These poster booklets are designed to train farmers in pond fish culture pictorially. There are five booklets: (i) Pond Biology, (ii) Pond Preparation, (iii) Pond Stocking, (iv) Pond Fertilisation, and (v) Pond Routine Management and Harvesting. These booklets are well designed to train the illiterate farmers. The booklets are published jointly by DANIDA and BRAC.

Small-scale Freshwater Aquaculture in Bangladesh: An Information Kit

(HTM/D/15)

The contents of this information kit (199 pages) are generated from a 15-day long participatory workshop organised by Bangladesh Rural Reconstruction Association (BARRA), CARE-Bangladesh, International Institute of Rural Reconstruction (IIRR) in collaboration with ICLARM, ITDG & Dept. of Fisheries and patronised by European Union, DFID and Ford Foundation. The first chapter highlights the importance of fish culture in rural development, family nutrition, women employment; formation of model fishing village; environmental consideration in fish culture and a popular lyric. Chapter two elaborates on water quality aspects, characteristics of culturable species, cage culture, farming aspects of seasonal and perennial ponds, nursery ponds, culture of forage species, artificial breeding of carps, pangus culture, prawn culture, post-harvest cares, and flood plain fisheries. Chapter three provides information on integration of rice-fish and livestock. Chapter four describes substantial information on qualities of a good trainer, different extension approaches, mitigation of problems, role of fry traders, socio-economic analysis etc. A list of publications on aquaculture and organisations associated are annexed. This book is recommended for extension workers, entrepreneurs and university graduates.



Fish Culture Manual

(HTM/D/16)

The contents of the manual related to peoples role in fish culture, culturable water bodies in Bangladesh, culturable species, implement of fish culture techniques and management in rural pond, integrated fish culture in pond, commercial fish culture, paddy cum-fish culture, indigenous small fish culture, fish culture management in unstocked water body, fish hatchery management and fry production, fish disease, control and treatment, technological package transfer, fish processing and marketing, system of getting bank loan, source of fish culture materials.

This is recommended for entrepreneurs, extension worker and fisheries experts. This manual developed by DoF in July 2002.



Guideline on Aquaculture – DoF

(HTM/D/17)

This guideline developed from collaboration with DoF, UNDP and FAO. Contents of the book are how can aquaculture help us, a skilled farmer, essential items, essential chemical for fish culture, idea before starting fish culture, how fish culture will start, summary of activities before stocking and after stocking, daily supplementary food, weekly activities, monthly activities, problems and prevention, reminder, summary of aquaculture, use of aquaculture technology and success. Any kind of farmer of minimum literacy may benefit from this book.

National Fisheries Policy: GoB/MoFL

(HTM/D/18)

This is a complete fisheries act from MoFL, GoB. Contents are fisheries resource in Bangladesh, objectives of National Fish Act (NFA), legally covered NFA and area of NFA. Inland water resource management, preservation and harvesting role, inland water fish culture and management role, coastal shrimp and fish culture act, marine fisheries resource preservation, management harvesting role, fisheries related assisting role, another matters and implementation strategy of National Fisheries Policy.

Genetic Improvement and Conservation of Carp Species in Bangladesh

(HTM/D/19)

ICLARM and BFRI jointly published this book. It contains introduction, background information different endemic and exotic carps. Habitat degradation, carp bio-diversity in natural ecosystem, role of different carp species in fish production, biology of carp reproduction and artificial techniques for their seed production, fish hatcheries in public and private sectors, brood stock management scenario in the hatcheries, problems identified existing fish stocks and hatchery operation. Particularly breeding and genetic improvement of silver carp and major carp. Biology and artificial breeding techniques, conservation and management measures. This document is useful for hatchery operators, fishery biologists, researchers and planners for developing program.

Genetic Improvement and Conservation of Carp Species in Bangladesh



HANDBOOKS AND TECHNICAL MANUALS



Cage Culture for the Poor - 3 Volume

(HTM/D/20)

a. Technical recommendation with case study

This is a guideline about small investment in cage aquaculture with technical recommendation for extension worker. It contains - introduction, materials, and culturable species for cage. Alternate production technique, cage management, specified problems, harvesting & marketing and farmer case study.

b. Organizational extension in cage aquaculture

This guideline mainly for NGO's. Content of the course are what is cage aquaculture, information about cage aquaculture, cage aquaculture for NGO, NGO's role for developing cage aquaculture, legal entrance of water body, farmer selection, loan for NGO's and farmers and successful story of same NGOs.

c. Training guideline for extension worker and farmer

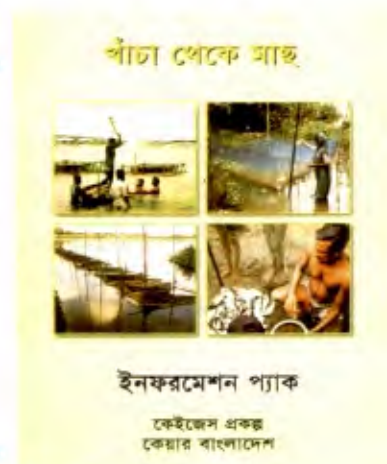
This is a four-day course for extension worker and farmer. It contains introduction (course, cage), cage setting, species and method selection, fry-selection, transport/ stocking, feeding, management and monitoring, farmer organize and training.

This three volume published by CARE Cages Bangladesh.

Information Kit on Cage Culture

(HTM/D/21)

Targeted for the general readers and published by CAGES project of CARE Bangladesh, this information kit comprises of 12 single sheets with basic message on introduction to the project, cage culture in different Asian countries; present, past and future prosperity of cage culture in Bangladesh, technology development and extension, caging materials and costs, species suitable for cage culture, of importance of cage culture, caging materials and preparation of cages, installation of cages, species suitable for cages, transportation and stocking of fry, home-based preparation of pellets and feeding, fry wintering and alternative production techniques, problems and solutions associated with cage culture and fish harvesting, NGOs as partner engaged in cage culture and marketing of fishes.



Basic Cage Culture Training- Guideline for Facilitators

(HTM/D/22)

This manual (version English) is developed for trainers with a view to update and participants' technical knowledge and skill in aspects of basic cage culture. Contents include site selection; farmer selection, cages construction and installation, species selection, fingerling transportation and stocking, feeds and feeding, cage management, main constraints, harvesting and marketing. After attending this 3 days course, the participants can successfully deliver training to their extension staff and also rural farmers using appropriate training aids. The course described is residential and requires classroom and paddy field. This manual has been published by INTERFISH Project of CARE Bangladesh supported by DFID.



Fish Culture in Cages

(HTM/D/23)

Targeted for the general readers and published by CAGES project of CARE Bangladesh, this booklet snapshots on importance of cage culture, caging materials & preparation of cages, installation of cages, species suitable for cages, transportation and stocking of fry, home-based preparation of pellets and feeding, fry wintering and alternative production techniques, problems and solutions associated with cage culture and fish harvesting & marketing. This manual is included in the extension pack EP/D/07.

Rice Fish and Fish Seed Production Manual

(HTM/D/24)

This tiny manual is developed for farmers and extension workers to improve their skill and knowledge on fish farming simultaneously or rotationally with paddy. The contents are- introductory aspects and scope of fish farming in paddy fields, aquatic ecosystem in a paddy field, characteristics and preparation of paddy fields, design and construction of dykes and trenches, pre-stocking, stocking and post-stocking aspects, supplementary feeding, fertilisation management, production techniques of *Tilapia* fry in paddy fields, general problems and solutions, disease management, community based paddy farming, planning and economics etc. This manual (31 page) has been published by DFID funded INTERFISH Project of CARE Bangladesh in December, 2000. This manual is included in the extension pack EP/D/03.



ধানক্ষেতে মাছ চাষ
ও
পোনা উৎপাদন সহায়িকা



উদ্ভিদবিশেষ : ২ প্রকরণ
লেখক: বাংলাদেশ

CARE
BANGALADESH



প্রকাশনা
১৯৯৯ সালে প্রকাশিত
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Pond Dyke Cropping

(HTM/D/25)

This manual is developed for literate farmers, extension workers and entrepreneurs to improve their skill and knowledge on vegetable farming. The chapters broadly deal with leafy vegetable, fruity vegetables, spicy vegetables, oil seed production, lentils, pond dyke management, insects affecting vegetables, seed preservation and production calendar. Culture techniques of gourd, ladies finger, spinach, papaya, eggplant, bean, squash, cucumber, tomato, sesbania, neem, drumstick, red amaranthus, pumpkin, pea, maize etc. have been described in detail. Enriched with clear colour pictures, the manual will be appreciated by common readers also. This manual has been published by INTERFISH Project of CARE Bangladesh supported by DFID in September, 2000. This manual is included in the extension pack EP/D/10.

Technological Guideline of Fish Production -BFRI

(HTM/D/26)

Contents of the book are brood fish management and improve quality carp fry production, PG collection and preservation for artificial breeding, improved nursery management of carp fishes, carp poly culture in pond, breeding and fry production of gift tilapia, gift tilapia culture in seasonal pond, breeding and fry production of rajputi, rajputi culture in seasonal pond, pabda, gulsha breeding and fry production, improved hybrid magur culture, indigenous magur and shing fry production and culture, breeding, fry production and culture of pungus, golda fry production in backyard hatchery, carp-golda mixed culture in pond, fish feed production and application, duck -fish, poultry-fish, rice-fish, pen culture, preservation and development of *ilish*, flood land fisheries resource development and management, *Bagda* culture in *gher*, crabs fattening, marine shrimp and fish culture according crop cycle, vatki culture in pond using tilapia fry, fish Disease identification, prevention and health management, shrimp disease identification prevention and health management. Interested farmer, entrepreneurs, NGO, hatchery manager can use this technical guidebook.



Guideline on Intensive Fish Culture and Annual Calendar

(HTM/D/27)

This booklet published from Fisheries and Livestock Information Department, DAE. The contents of the book are culturable fish in pond, pond classification in aquaculture, nursery pond, rearing pond management, stocking pond management, control and prevention of disease, annual calendar, production and cost-benefit analysis, *Raj Puti* culture, cost-benefit of *Raj Puti*, explain some biological and agricultural terms.



Prawn Culture in Paddy Fields

(HTM/D/28)

Targeted for the general readers and published by Bangladesh Agricultural Research Council (BARC) in January 1992 under the auspices of 'Farm Management Research and Development Programme, the booklet contains two major parts- a) paddy cum prawn culture and b) rotational culture of paddy and prawn. There are detailed information on dyke development, trench and outlet excavation, ploughing, fertilisation, rice variety selection and plantation techniques, selection of size and species of prawn, pre-stocking precautions and activities, stocking density, water management, harvesting and economics.

Nilotica Culture

(HTM/D/29)

Targeted for the general readers and published by Bangladesh Agricultural Research Council (BARC) in January 1992 under the auspices of 'Technology Transfer Monitoring Unit (TTMU)', the booklet contains information on the salient features and life cycle of *nilotica*, preparation of brood pond, brood collection and stocking, supply of artificial feeds, fry management in rearing ponds, activities involved in semi-intensive management, preventive and curative measures against common diseases and economics of *nilotica* culture. This manual is included in the extension pack EP/D/05.





Fisheries Resource

(HTM/D/30)

It is a fish culture technical and management related manual. The contents include constraints in development and technique removal of constraints. Method of pond re-excavation, classification of pond and fish culture in pond. Integrated fish culture and management, prawn culture and management. Different techniques of fish culture, breeding, hatchery construction, nursery pond selection, fry production and marketing, disease and control and fisheries resource management in open water, fish processing and marketing, feasibility study of the project, economical analysis, case study and fish culture slogan. Fish farmer, interested people and extension worker can use this book. Proshika published this manual in Bengoli.

Thai Pungus Culture Manual

(HTM/D/31)

This manual is published by Business Advisory Services (BASC) in May 1998. It contains introduction, fisheries resource in Bangladesh and pungus culture, probability/benefit/problems of pungus culture, external and biological characteristics, male and female pungus, nursery pond, grow out pond, soil and water quality, culture method, management type, fry, fertilizer, supplementary feed, chemical materials, design and implement of an ideal farm, pre-stocking, stocking and post-stocking management. Introduction to hatchery, physisibility, materials of different parts, brood management, problems and solution, diseases and its control. Interested entrepreneurs, extension worker, fish farmer and NGO's can use this manual. This manual is included in the extension pack EP/D/04

থাই পাংগাস মাছের
চাষ ম্যানুয়াল



বিজ্ঞানসম্মত প্রযুক্তিগত সেবাসেবা (বাসক)
BASC কার্কাটা নং: ১০২, পল্লব ২ ১০০৪, বাসকমি, ঢাকা-১২০৯

Mymensingh Aquaculture Extension Project (MAEP) Produced Manual

(HTM/D/32)



The manuals published from MAEP are:-

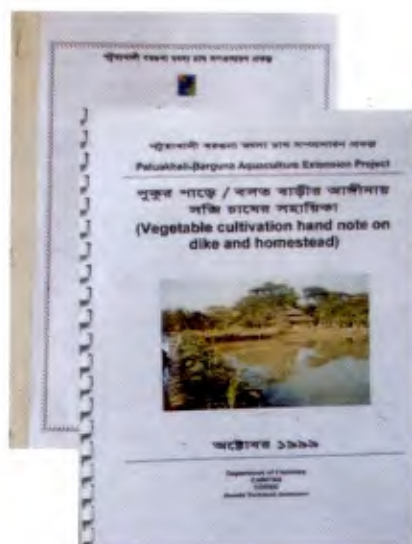
- ◇ Aspects of producing table fish in ponds
- ◇ Works of table fish production in ponds
- ◇ Fish seed production in ponds
- ◇ Fish production in rice fields
- ◇ Specific fish production techniques
- ◇ Equipment and calculation of fish production.

The materials contain technological information, production data, useable inputs, culturable species and different culture pattern. Farmers' record book that contain physical and biological parameter. These materials will be helpful for all aquaculturist.

Carp Culture (*Rui-jatio Macher Chash*)

(HTM/D/33)

This is an extension carp culture manual published by the Integrated Food Assisted Development Project (IFADP). The manual contains pond preparation, fry collect and stocks, fertilization, use of supplementary feed, culture management, harvesting and marketing and finally keep accounts. Extension worker can benefit by this book. Literate and semi literate people can use this book.



Patuakhali Barguna Fish Culture Extension Project's Publications

(HTM/D/34)

Guideline on integrated aquaculture:

This book published from PBAEP for block supervisor of DAE. Contents are aim and objectives of PBAEP, concept of integrated aquaculture, pond preparation & fertilization. Introduce three layer, species selection & stocking, fry transport, supplementary feed, problems & solution, harvesting and marketing, rice fish culture, land selection, fry selection & stocking, take care rice & fish and harvesting.

Guideline on indigenous magur fry production and culture management :

Contents are advantage and probability of magur fry production, construction of hatchery, brood management, artificial breeding, flow chart of artificial breeding, fry nursing and culture management.

Training guide on integrated pond farming group:

Contents of the book are introduction, compost preparation and vegetable production technique. Poultry & livestock rearing, practical-1, pond preparation & fertilization, practical-2, introduce three layers, fry stocking and feed application. Disease management and practical-3.

Vegetable cultivation hand note on dike and homestead :

Contents are nutrition value of vegetable, seed preservation method, variety of pumpkin culture, various vegetable culture, problems of different fruit trees and integrated pest management.



Easy Fish Culture (*Shahoj Mach Chash*)

(HTM/D/35)

This technical hand book Developed from Northwest Fisheries Extension Project-2 (NFEP-2), this is for literate and semi literate farmers. Contents of this book are pond preparation, fry release, African magur culture, different feed for fish, take care of pond and fish, partial harvesting, fish disease and prevention, rice cum fish, cost - benefit analysis, this is a pictorial informative hand book.



Technical Guideline for Extension Trainer on Carp Polyculture with Golda in Pond:

(HTM/D/36)

This technical handbook on carp polyculture with Golda in pond has been developed for Extension Trainer who are working with Fish Farming Group (FFG) in the field. Basic information on carp polyculture with Golda in pond is described in the book. This technical handbook is comprised of ten technical chapters. The important and benefit of carp polyculture with golda in pond is highlighted in chapter-3. The different steps involved in pre-stocking, stocking and post-stocking management within the polyculture is described in chapters 4 -9. Water quality & management has been discussed in chapter 12. Fish culture activities calendar is referenced in table-4. The technical guideline is helpful for Extension Trainer to train the fish farmers. It was published first in April 2000 by GNAEP. Drawing illustration was used in first edition. The second edition was published in November 2001 with reviewed of some technical recommendation based on field condition and illustrated with photographs.

Technical Guideline for Farmer on Carp Polyculture with Golda in Pond:

(HTM/D/37)

The technical guideline on carp polyculture with Golda in pond has been developed to help farmers to recall and/or learn technical messages needed to manage carp polyculture with Golda in pond. Simple and key technical messages on pre-stocking, stocking and post-stocking activities with appropriate photographs and tables have been provided in the book for better understanding of the farmers. The inputs for fish culture are given emphasis on farmers' ability and resources availability in locally. General problems faced by farmers, their possible solutions are described in table-4. The daily route work and fish culture activity calendar also included in the farmers' handbook. It was published first in April 2000 by GNAEP. Drawing illustration was used in first edition. The second edition was published in November 2001 with reviewed of some technical recommendation based on field condition and illustrated photographs.



Farmer Training Manual to be used by Extension Trainer

(HTM/D/38)



The farmer training manual has been developed as a session guide for Extension Trainer to conduct farmer training effectively. The training manual is included ten learning sessions (each session is mentioned as a module). Pre-stocking, stocking and post-stocking management is covered by 6 learning session, social and gender awareness is covered by 2 session and one session is included as review session in the manual. Each session is delivered to the farmer group at pond site and takes place 2-3 hours. In this manual each session is described particularly the sequence and methods of session delivery to the farmers group. One session takes place in a month and finally completed in 10 months. It was published first in April 2000 by GNAEP. The second edition was published in December 2001 with some modification based on field recommendation.

Reference Book on Gender and Development

(HTM/D/39)

The book has been prepared as a reference book on different issues of gender & development. Conceptual ideas on gender and development, National and international observation of women development, Women & Law and Women in aquaculture issues are mainly included in the reference book. The information of the book was collected from different media and publications. The main purpose of the reference book is to increase the knowledge on gender and development for all level staff and extension trainer and also assist to conduct gender training staff, Extension Trainers and farmers.



Manual on Integrated Prawn Farming

(HTM/D/40)

Integrated rice-fish cultivation manual illustrated the discussion with simple language on rice field base integrated prawn farming considering the local ecological condition. This manual mainly focuses the technique of prawn cultivation using low external inputs and integration techniques of rice, carps and dikes crop in the same plot. Farmers' friendly this manual emphasizes on reduction of risks associated with prawn by lowering the production cost and increasing income through integration of other crops. The manual contains plot configuration, prawn nursery system, homemade prawn feed preparation, dike cropping, cultivation management etc. It was published in January 2002 by GNAEP and PBAEP.

Manual on Integrated Rice Fish Farming

(HTM/D/41)

This manual has been developed with an aim to assist farmers in their decision making and management of their rice-fish farming. The manual basically focuses the practical field experiences of rice-fish cultivation gathered by farmers and staff. The document has been written using very simple language and examples with the support of relevant photographs easy to understand by all categories of readers. This document contains the elaborate discussion on feasibility, rice field ecosystem, field configuration, and total cultivation management, conservation of wild fish and different critical aspects of rice-fish farming. It was published in January 2003 by GNAEP.



EXTENSION MATERIALS

Extension Packs



Carp Polyculture by PGTS

(EP/D/01)

The farmers' training advocated by FTEP-II is small group (<15) participatory training over five two-hour learning sessions. A three hour review session (sixth session) takes place after one fish production cycle later. The pack containing training notes, leaflets, farmer record sheet, flashcards and technical manuals (TN/D/01, LF/D/01, LF/D/03, HTM/D/01, HTM/D/05, HTM/D/06) is designed to provide the trainers with all necessary materials to conduct this training. The highly detailed **training notes** guide the trainer through the five learning sessions viz:- 1. Training needs assessment and pond status/condition; 2. 'Green Water', prepares the pond prior to stocking such dyke maintenance, predator removal and necessary inputs; 3. 'Stocking Management' completes the correct fish stocking of the pond; 4. 'Farmer's Resources' identifies all resources and needs (given in session-1) and prepares farmers' for beneficial positive action for good pond management. It includes the traditional 'recipe' pond inputs using chemical and animal wastes fertilizers but also attempts to develop farmer understanding of use of on-farm resource

based integrated systems; 5. 'Profit in Fish Culture' enables farmer to understand the potential risks but conversely the potential high returns. Partial harvesting and re-stocking may be included. The session content is flexible based on identified need in session one.

To provide useful information for farmers, four colour illustrative **leaflets** are distributed to farmers corresponding with the topic presented in sessions two to five titled: **II. Green Water, III. Farmers Resources, IV. Stocking management, V. Profit and Risk management in aquaculture**

A set of 106 thoroughly researched and field tested **flash cards** covering an extensive range of subjects relating to fish and fish culture activities are designed to present key messages and linked together develop complex ideas about what the farmer is practicing now, intends to do and later, in session six, discuss what actually happened, the so called BGM (Baseline-Goal-Monitoring). The cards are prepared as line drawings which the trainers colour themselves for greater impact.

One double sided **Farmer Record Sheet** enables farmers to be able to record their present, intended and actual activities, input rates etc. Thus replacing the old farmer diary system with a quick referencing record on one sheet for the whole production cycle.

Anyone with knowledge in basic pond fish culture can use the training notes but complete implementation of the training sessions involving BGM will require additional training of trainer.

Golda-Carp Polyculture

(EP/D/02)

This package contains all necessary materials to enable trainers deliver five-quality 2½-hour small group pond side learning sessions for farmers wishing to learn more about Carp-Golda farming. An evaluation session follows the five learning sessions and upon completion of the production cycle.

The sessions are highly participatory requiring a number of teaching aids especially flash cards and real materials. For even experienced trainers delivery of high quality participatory training requires a detailed guide and provision of all materials. To overcome this the extension package comprises of 126 flash cards to illustrated essential learning points during the sessions, detailed trainer's notes, set of five leaflets for the farmers, farmer record sheet to enable them to maintain production activity records and a trainer's tally sheet to record the information of whole group.

The notes act as a detailed guide through the five learning and one evaluation session as with "Carp polyculture by PGTS" (Reference EP/D/01) but relevant to the Golda Carp polyculture training practices.



EXTENSION MATERIALS

Extension Packs

Rice Fish Culture Technique

(EP/D/03)

Rice- fish farmer's extension training pack is prepared to carry out the aims of improving the farmers knowledge and skills on the basic principles of rice-fish integrated farming, environmentally friendly integrated pest management (I.P.M.) and inform on the contribution of paddy and fish to the National economy. This extension pack targeted to DoF upazilla level AFO/FA and NGO workers to train the farmers so that suitable rice farmer can involve confidently rice-fish integrated farming in their areas.

This extension pack consists of five sessions. 1st session is group formation and awareness arising where trainer discuss with the farmer on basic nutritional message, Gender awareness and participation, group formation stepwise approaches etc. The 2nd to 4th sessions are mainly on basic rice fish farming (identification of farmer baseline and goal, Land preparation, Plantation and Stocking, Post stocking rice and fish management) and 5th session is monitoring and evaluation to review the result with the farmers and plan for future. In all sessions trainers note is designed to provide the trainer with an easy to follow step by step guide, many tips and relevant information, flash card (14 Nos.) to illustrate key learning points.

The training method used in small group (10-12 farmers). Every technical session includes the practical session guideline to accomplish the realistic outcome. Three leaflets include for the use farmer after training where simple methods of rice fish integrated culture is explain in plain language. The duration of all sessions are between 3 to 3.5 hour. A set of monitoring and evaluation tools is included to measure the output of the training. Overall this extension pack is highly helpful to conduct farmer training effectively in field for trainer.



Pangas-Carp Polyculture

(EP/D/04)

This extension pack is essential for extension trainers wishing to deliver highly participatory, interesting and entertaining training on Pangas Carp polyculture. This package contains all necessary materials to enable trainers deliver five quality 2- 2½ hour small group pond side learning sessions for farmers wishing to learn more about Pangas-Carp farming. An evaluation session follows the five learning sessions after completion of the production cycle.

The extension pack consists of six useful training materials-a) the **Trainer's note** to guide the extension trainer session format as Carp Polyculture (Reference EP/D/01) **Flashcards** to

illustrate essential learning points during the training sessions; c) **Technical manual** originally published by BASC, to provide additional technical information for the trainer; d) **set of Four leaflets** containing essential information for the farmer to keep; e) **Trainers Tally Sheet** to maintain all farmers production activities of each group and f) **Farmer record sheet** for individual farmers to maintain production activity records for easy reference and improved performance for subsequent production cycles.

Tilapia Polyculture

(EP/D/05)

This is an extension pack about "Tilapia polyculture" in seasonal ponds designed for extension workers who wish to train small scale fish farmers in pond side groups of 8 to 12 persons. Tilapia polyculture is presented as an opportunity to maximum utilization of resources such as ditches, very small ponds, derelict ponds and unutilized small water bodies for rural people. This type of culture technology is especially important for women who play an important role to produce fish in their homestead seasonal small ponds providing fish easily for family consumption and for sale for the family purse.

The extension pack consists of six useful training materials; the **trainer's note** to guide the extensionist, **flashcards** to illustrate essential learning points during the training sessions, **technical manual** originally published by BARC, to provide additional technical information for the trainer, **set of four leaflets** for the farmer to keep, a **Trainers Tally Sheet** to maintain the all farmers production activities of each group and a **farmer record sheet** for individual farmers to enable the farmer to maintain production activity records for easy reference and improved performance for subsequent production cycles.

The trainer's note comprises of 6 sessions. Each session 2-2.5 hours of different 6 days in a year as per requirement and season based. These sessions follow the same format as Carp Polyculture pack (Ref EP/D/01)



EXTENSION MATERIALS

Extension Packs



Nursery Management

(EP/D/06)

This "Nursery management pack" is an excellent way to improve the quality fingerlings for farmers. Through ensuring the optimum size and timing as per requirement for fish culture. This extension pack targeted to extension workers to train interested farmers in good nursery operation. As a result pond farmer should get good quality fingerling for them.

The extension pack consists of five useful materials; the trainer's note format is designed to provide the trainer with an easy to follow step by step guide throughout the all sessions with numerous tips and pertinent information, flashcards to illustrate essential learning points during the training sessions, technical book, to provide additional technical

information for the trainer (originally published by BAFRU), farmers manual, to provide additional information for the farmer (originally published by BAFRU), farmer pond record book, to enable the farmer to maintain pond expenditure and production activities records.

The training method used is small group (1-3 farmers). Theoretical and practical training requiring one trainer/extensionist located near examples of best practice if possible. There are five short learning sessions. Duration of each session is one and half to two hour. After the completion of one production cycle a 90-minutes evaluation session will be conducted with the farmers for result review and future planning. January-April is the best time to conduct this training.

The main content of the course are; nursery pond preparation, pre-stocking management, natural food test, fingerling transportation, stocking, post-stocking management and economics importance of fry and fingerling production

Cage Aquaculture

(EP/D/07)

Cage aquaculture extension package contains a set trainer's notes, one farmer's record sheet, one trainer's record sheet and 59 flash cards. The trainer's notes is a complete guideline for the trainers to deliver four learning sessions and one evaluation session- i) Water body selection and cage making materials and equipment ii) Cage making and installation into water body iii) Fingerling stocking and feeding the cage iv) Cage management, Fish harvesting and marketing v) Farmer's training evaluation and identify future training needs. Despite of the culture technology the trainer's notes also contains simple nutritional messages and gender awareness issues and group formation techniques trainers needs to follow. These notes are very descriptive and provide step by step forward instruction to the trainers what points to be discussed. Even the notes tell the trainers what question to be asked to the participants with probable answers. This package will be best utilised by the experienced extensionist but the complete beginner who has little training skill can able to train farmers well using it.



Fry Traders

(EP/D/08)

This "Fry Traders Extension pack" is an excellent way to improve the Fry Traders fingerlings transport quality. This extension pack targeted to extension workers to train interested Fry Traders in good fry transport operation. As a result pond farmer should get good quality fingerlings.

The extension pack consists useful training materials; trainer's note to guide the extensions, flash cards to illustrate essential learning points during the training sessions, one pictorial mini-album provide additional & pictorial technical information for trainee and farmers.

The training method used is small group (8-10 fry traders). Theoretical and practical training requiring one trainer/extensionist located near examples of best practice if possible. There are three days on three short learning sessions. Duration of each session is two to two and half-hour. After three to four month of releasing the fry a 60-minute

debriefing session is conduct to review result verify the knowledge, achievement and plan for future. The best time to conduct the training is before fry stocking.

The main contents of the course are; fry transportation procedure, pre & post stoking management of pond aquaculture and risk management.

EXTENSION MATERIALS

Extension Packs

IGA and Micro Credit Management

(EP/D/09)

The extension pack entitled "IGA and Micro Credit Management" is particularly developed for the training of unemployed/part time unemployed peoples those who are unable to maintain their family expenditure through their present activity. At the end of the training beneficiaries will be able to select suitable activity for them to meet up their family demand.

The extension pack consists of four useful training materials; the trainer's note to guide the extensionist, flashcards to illustrate essential learning points during the training sessions, technical manual originally published by CARE, to provide additional technical information for the trainer, set of two leaflets for the participants to keep.

The training method uses small group and there are six useful short two or two and half hour sessions conducted during relevant times of the year followed by an evaluation session to share lessons learnt and consider future training needs.

The main content of the course are; The way to survive, general income generating activities in rural Bangladesh, selection of more suitable activities, fixed-up budget for selected activity, capital needed for the selected activity as initial cost and running cost, general discussion on micro credit and group activities to get credit.



Pond Dyke Cropping

(EP/D/10)

Pond dyke cropping is an excellent way to improve on-farm production and resource utilisation by use of the normally redundant pond banks (or dykes). This extension pack is designed for extension workers to train farmers how to integrate their vegetable and fish production systems through use of the pond dyke for improved food security and profit.

The extension pack consists of six useful training materials; the trainer's note to guide the extensionist, flashcards to illustrate essential learning points during the training sessions, technical manual originally published by CARE, to provide additional technical information for the trainer, crops seasonal calendar for trainer and farmer to discuss cropping strategies along the pond dykes, set of four leaflets for the farmer to keep and

a farmer record sheet to enable the farmer to maintain production activity records for easy reference and improved performance for subsequent production cycles.

The training method uses on-farm small group practical training requiring one trainer/extensionist located near examples of best practice if possible. There are four short two hour sessions conducted during relevant times of the cropping season followed by an evaluation session to share lessons learnt and consider future training needs.

The main content of the course are; basic nutritional message, gender awareness and participation, group formation, use of integrated resources, cultivation methods for suitable crops, risk-management, useful and harmful insect identification, pest control and economic analysis of dike cropping.

Low Cost Carp Hatchery

(EP/D/11)

Establishment of a Low cost Carp Hatchery is an effective way to make available the quality fry & fingerlings in the near by locality. The extension pack is designed for extension workers to train interested small entrepreneur how to establish a small carp hatchery through one to one training approach.

The extension pack consists of three useful learning materials; the trainer's note to guide the extensionist, technical manual originally published by BRAC to provide additional technical information for the trainer and hatchery record sheet to enable the operator to maintain production activity records for easy reference and improved performance for subsequent production years.

The training method uses on-farm one to one practical training from designing to production and overall operational management. Actually, this is a long-term learning process and no specific sessions. But there is issue-based discussion and demonstration during construction and production.

The main content of the extension pack are; designing the small scale carp hatchery, construction of the hatchery, brood stock management, hatchery production techniques, overall hatchery management issues and the spawn rearing and marketing.

EXTENSION MATERIALS

Leaflets and Flash Cards



FTEP-II Leaflets

(LF/D/01)

Four useful and informative leaflets for farmers taking part in "Pond Side Group Training Sessions". Although these leaflets form parts of the FTEP-II pond-side training, they would be appropriate for most carp-polyculture extension programmes. Distributed after the appropriate practical session as a reference for the farmers.

Green Water: Explains simply and clearly for the farmers the importance of fertilisation and liming during fish production. The objective is to maintain good green water quality with correct use of inputs. Key messages for the farmers are not to use fertilisers and lime if it is not needed although recommended doses for lime, inorganic and organic fertilisers are given for "More fish for less investment" are stressed in this leaflet.

Farmers Resources: Introduces the farmer to the concept of using 'on-farm' resources for fertilisation of ponds and feeding of the fish. These sources include for

example, leaves and livestock/poultry manure, composts and left over food from the kitchen etc.

Stocking management:- A particularly useful leaflet for farmers with simple texts and pictorial explanations on how to work out the correct stocking density of fish, species ratio and also how to manage purchase and selection of healthy fry.

Profit and Risk management in aquaculture:- Outlines the main considerations and risks in fish farming, covers financial issues, disease, drought, flood and water quality problems. A short note on how partial harvesting and restocking can improve fish production and profitability is provided.

BAFRU Leaflets

(LF/D/02)

Five technical leaflets on fish culture management practices for rural small-scale pond farmers were developed by DoF/BAFRU in 1996 and were widely distributed to DFO, UFO and NGO offices for farmer training.

The leaflets are still useful today. They are concise, colourful, attractive and highly informative, although do require a minimum level of literacy to be used effectively.

Eradication of predatory and unwanted fish: This leaflet contains basic messages on importance and methods of eradicating unwanted fish.

Liming: This pictorial leaflet snapshots on the importance, factors affecting dosages, timing, preparation and precautions involved in liming. It also contains three popular thought-provoking rhymes.

Stocking: This leaflet contains information on species selection, stocking density, different models of stocking with size and species variation. One blank table is added for use by farmers.

Observation on the natural productivity of ponds: This leaflet provides basic information on the significance of checking natural productivity and simple ways of assessing productivity. Farmers can easily adapt the techniques described in the leaflet.

Regular fertilization: This leaflet provides basic messages on the significance, types and quantity of fertilisers, methods of fertilisation along with some factors effecting fertilisation. It contains two rhymes. One blank table is added for use by the farmers.



Flash Cards

(LF/D/03)

106 thoroughly researched and field tested flash cards covering an extensive range of subjects relating to fish and fish culture activities. The flash cards relating to seasons and non fisheries subjects would be useful for any extension officer. The cards are prepared as line drawings which the trainers colour themselves for greater impact during sessions. These cards have been designed for use with the FTEP-II "Pondside Group Training Sessions" but would be applicable for most small to medium sized farmer group training and extension programmes. These can also be used effectively for stimulating discussions within feedback or discussion groups of farmers.

EXTENSION MATERIALS

Leaflets

Fish Disease: Prevention and Cure

(LF/D/04)

Published by 'Thana Level Fish Culture Extension Project' of DoF in June, 2000 for the farmers. The leaflet contains information on symptoms, causes, preventive and curative treatments of some common diseases viz. Epizootic Ulcerative Syndrome (EUS), tail rot, gill rot, white spot, black spot, argulus & leech infestation etc. The leaflet also contains information on some disinfectants and anti-parasite chemicals occasionally used in pond aquaculture.



Commercial Production of Pungus

(LF/D/05)

Published by 'Thana Level Fish Culture Extension Project' of DoF in May, 2000, the leaflet contains basic messages on advantages of pungus culture, pond selection and preparation, liming and fertilisation, toxicity test of water, species selection, prophylactic treatment, stocking, feed formulation and feeding, pond bed management, growth rate of fishes, harvesting & marketing techniques and economics.

Nilotica Culture

(LF/D/06)

This colour leaflet published from DoF, Matsya Bhaban. It contains introducing Nilotica, benefit of Nilotica culture, culture method, liming, fertilization, fry release, supplementary feed, fish harvest, life cycle and cost-benefit analysis.

Fish Act (DoF)

(LF/D/07)

This leaflet published from DoF for DoF Officers. Here some laws are executed, on importance of fisheries resource, its current and future demand, availability and development.

- | | | |
|----|---|------|
| 1. | Fish Protect act | 1950 |
| 2. | Pond development act | 1939 |
| 3. | Marine Fish act | 1983 |
| 4. | Fish and fish products (inspection and control) ordinance | 1983 |
| 5. | Fish hatchery and Aquaculture introduce as an industry | 1991 |

This leaflet also contains some awareness slogan.

New Water Body Act for Closed and Open Water

(LF/D/08)

This leaflet published from DoF in May-2001, under Fisheries Resources Development Project in Open and Closed *Jalmohals* under New *Jalmohal* Policy. Contents are introduction, project objective, cost and implementation period of project, water body covered by project, participation of national fisheries society, project implementation and water body management.

Carp Polyculture

(LF/D/09)

This leaflet published from Upazila Level Aquaculture Extension Project, DoF in February 2000 for farmer. Content of the leaflet are mixed culture, species in mixed culture, benefit of mixed culture, pond selection, pond preparation, fry stock in pond, stocking density per decimal, nursing after stocking, fish diseases control, treatment for unhealthy fish, harvesting and cost benefit analysis.

EXTENSION MATERIALS

Leaflets



FFP Leaflets

(LF/D/10)

Pond preparation for fish culture :

This leaflet prepared in colour by Fourth Fisheries Projects (FFP), DoF, Bangladesh. It contains importance of pond preparation, physical development, de-weeding and removal of unwanted fish. Maintain water quality and increase fertility. All type of farmer can use this leaflet.

Fingerling stocking in pond : This colour leaflet contains importance of fingerling stocking, species selection, individual stock able species number, seasonal/perennial pond, size and health of fingerling, transport and release in pond.

Female participation in fisheries village activities:

This colour leaflet it contains necessity of female participation in fisheries village activities, facilities, female participation in training and extension activities, increases

female participation in fish culture and constrains.

1PM for Paddy Cultivation

(LF/E/11)

Published by 'SPPS Project' under DAE in February, 1998, the leaflet contains pictorial information on the preliminary concept and significance of adopting 'Integrated Pest Management (IPM)'; conservation of beneficial insects, cultivation of resistant varieties; manual, mechanical and chemical control of insects and steps involved in controlling harmful *paruri* insects in paddy field. This leaflet is using for rice-fish training purposes.



Control of Brown Grasshopper Through 1PM

(LF/E/12)

Published by 'DAE-UNDP/FAO 1PM Project' under DAE in February, 2000 for rice-fish training purposes. The leaflet contains pictorial information on the life cycle of grasshopper, variety of rice resistant to brown grasshopper, control by spraying insecticide with modest doses, natural agents controlling grasshopper (e.g., spider, lady beetle, mind-bug etc.) and light trap for controlling grasshopper.

Go Inter-fish - "A Maser Chash" CARE

(LF/E/13)

This colour leaflets published from Go Inter-fish Project CARE for farmer. It is written like poem. Contents are rice fish culture, fry production of carpio, reduce mortality rate, fry transport, ulcerative diseases.



EXTENSION MATERIALS

Leaflets

GNAEP Leaflets

(LF/D/14)



Three technical leaflets on fish culture management practices were developed by GNAEP in 2001 and widely distributed to the farmers during the training as well as in farmers Field Day. Three main areas of fish culture i) pond preparation for fish culture, ii) stocking and iii) food and feeding management were illustrated in three different leaflets. All the leaflets were prepared in four colors with concise information with suitable photographs.

Pond Preparation for Fish Culture: This leaflet contains basic information of pond preparation steps; importance of pond repairing, methods and importance of eradicating unwanted fishes, Liming and fertilization and its precaution.

Stocking: This leaflet contains information on species selection, species density, and different recommendation of stocking with species variation. Importance of stocking density & ratio and methods of fingerlings release are also described in the leaflet.

Food and Feeding Management: This leaflet provides basic information importance and types of natural and supplementary feed for fish, simple ways of assessing productivity and farmers can take necessary action is described in the leaflet. Type of supplementary feed, preparation and application are also described in the leaflet.

BFRI Technological Leaflets

(LF/E/15)

i). **Rice fish culture** - Contents are advantage of rice fish culture, culture method, site selection, rice field preparation, species selection, fingerling stocking, management, diseases control and prevention, production and cost benefit analysis.

ii). **Improved hybrid Magur production technology** - Contents are advantage, brood fish collection and nursing, selection male and female for breeding, prepare hormone solution, injection push, egg collection by stripping and sperm solution preparation, egg fertilization, fry rearing, fingerling production, fry diseases control and prevention.

iii). **Pungus culture techniques** - Contents of the leaflet are pond preparation, source of fry, fry stocking, use supplementary feed, nursing, disease and control, harvesting and production, cost benefit and conclusion.

iv). **Nilotica culture technology in seasonal pond** - Contents are advantage of Nilotica culture, culture method in stock pond and cost benefit analysis.

v). **Culture Techniques of Gift Tilapia in Seasonal Pond:**

The leaflet describes the advantage of gift Tilapia culture, culture method of gift Tilapia in stock pond, diseases and prevention, cost benefit analysis. Any sort of fish farmer can use this leaflet.

vi). **Poly Culture Technology in Pond:**

Describes poly-culture of fishes, objective of poly culture, pond selection and management, species selection and fry stocking, apply supplementary feed, disease and control, harvesting, production and cost-benefit analysis. Farmer who are interested in poly culture they can use this leaflet.

vii). **Fish Disease Control:**

It contains name of the diseases, symptoms, control/ prevention of fishes that are seen in Bangladesh. Name of the disease are alser, tail and fin rot, reduce scale, gill rot, dropsy, parasitic, argulosis, fungus, mal nutrition, poisonous and oxygen deficiency.

viii). **Effect of Pesticide on Fish:**

Here in introduces pesticides, effect of pesticide on fisheries resource, harmful, pesticide, comparatively safety pesticide, effect of pesticide on fish health, needed conscious using pesticide.

ix). **Fish Culture Technology in Pan:**

Content of this leaflet are introduction, site selection, prepare pan, remove of predatory and unwanted fish, species selection, fry stocking rate, provide feed in pan, harvesting and production.

x). **Preparation and Application of Supplementary Feed:**

It contains nutrient demand of fish, feed composition, preparation of feed formulation, method of feed preparation, application rate and method of feeding, fish production and recommendation for farmer. Those leaflet's target group are farmers.



EXTENSION MATERIALS

Leaflets

Pungus Polyculture in Pond

(LF/E/16)

Another leaflet from BFRI, Chandpur. It contains benefit of pungus culture, pond preparation, source of fry, fry stocking, use of supplementary feed, nursing, worship, disease and prevention, harvesting and production, lastly cost-benefit analysis. Fish culture related anyone could use this leaflet.



Different Leaflets from PBAEP For Farmer

(LF/D/17)

Patuakhali Barguna Aquaculture Extension Project (PBAEP) is distributing leaflets to the farmers and service providers after conducting training. Every leaflet is 1 page A4 and contains key messages of a particular issue, this helps farmers to remind the training knowledge. PBAEP developed 11 different leaflets up to now.

- Integrated Pond farming
- Optimum Pond environment and green water concept
- Three layer concept
- Activities in pond farming
- Happy duck rearing
- Dyke cropping
- Rice-fish-vegetable management
- Optimum environment in rice field
- Simple messages of pond farming
- Derelict pond improvement
- Native magur (*C. batrachus*) breeding and grow out

Low Cost Hapa System for Quality Tilapia Seed Production

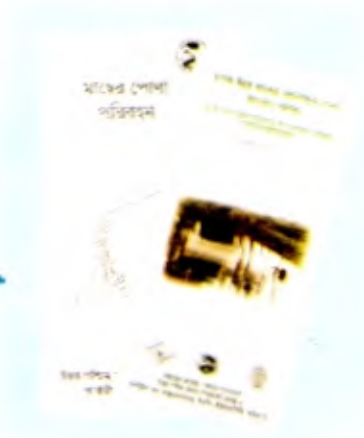
(LF/D/18)

Published by CAGES Project, CARE-Bangladesh, NFEP-II and Institute of Aquaculture, Sterling University, Scotland, this pictorial leaflet contains brief information on advantage of culturing GIFT (Genetically Improved Farm Tilapia), preparation of hapa, scope of and materials needed for GIFT fry production in hapa, differentiation between male and female tilapia, steps involved in and factors affecting seed production and economics of seed production.

Fry Transport NFEP-2

(LF/D/19)

Fish production depend on health and morality of fry, health and morality depend transports, so it is one of the most important factor. This Leaflet describe how should fry transport, it also describe very simple language.



EXTENSION MATERIALS

Posters

DoF

(P/D/01)

1. Maintain Fisheries Act -

This is published from DoF. It is colored. It shows two pictures, harvesting under size fish, punishment for that. It is awareness creative poster.

2. Protect National Fish Ilish -

This is published from DoF. It is colored. The poster says two things with picture, not harvest zatka (small) Ilish, let them chance to give nutrient and money.

3. Culture Carp Fishes -

This is published from DoF. This poster says pictorial message from pond preparation to harvest. It is colored.



FFP

(P/D/02)

1. Fish fortnight – 2002

This is published from FFP, DoF. Here poster shows poverty can alleviate through fish culture and shows some picture like releasing fry, economically valuable fish. It is colored.

2. Women in aquaculture

This is published from FFP, DoF. It is colored and completely pictorial message. Here picture shows how women participate in aquaculture activities. This is very useful for semi-literate women.

3. May sanctuary safety habitat for fishes

This is published from FFP, DoF. The poster shows a sanctuary in a large waterbody and an extension worker briefing on sanctuary to the farmer.

4. Fisheries Village

It is a new concept for aquaculture who have pond in a village, they organized for training. The poster contain a slogan aquaculture in village create job and investment. This is colored and published form FFP, DoF.



PBAEP

(P/D/03)

1. Stock forty species per decimal

Poster express with pictorial messages more stock - more expenditure turns less production - less profit. Stock right number - less expenditure becomes more production - more profit.

2. Timely stock in pond

Stock right number, species and size in every layer. Acclimatize in hapa before stocking.

3. Timely and regularly fish culture become wealthy

This poster contains aquaculture activities with pictorial message. Here describe eight aquaculture management activities.



EXTENSION MATERIALS

Posters & Fish Cards



GNAEP

(P/D/04)

Seven posters have been developed by GNAEP in 2001 as a training & extension materials and distributed widely in the rural areas. Four posters are designed on pond aquaculture and project introduction i) Project objectives ii) steps of pond preparation iii) stocking and iv) supplementary feeds. Other three posters are designed on integrated prawn farming and natural fish conservation. All the posters are designed with four-color attractive photograph with simple extension messages.

IPM

(P/E/05)

Poster on beneficial and harmful insects:

1. Published by 'DAE-UNDP/FAO IPM Project' under Dept. of Agriculture in December, 1998, the poster in two sections snapshots on beneficial (spiders, lady beetle, carabid beetle, minidbug, demsel fly, microvelia, mesovelia) and harmful insects (*majra*, brown grass hopper, *panri*, hymenoptera, thripes, *leda*, *gandhi*, *galmachi*). the poster serves as an instant source of taxonomic guide for farmers.

2. Published by 'DAE-UNDP/FAO IPM Project under Dept. of Agriculture in April, 1998, the poster depicts on significance of conservation of beneficial insects, cultivation of resistant varieties (BR-25, BR-26, BR-27, BRI-27, BRI-28, BRI-29, BRI-31, BRI-32), adopting modern agro-fanning system, mechanical control of insects, and modest use of insecticides. The poster emphasises on the fact that adoption of IPM by farmers will lead to enhanced production and a pollution free environment.



Fish Cards

(F/D/01)

A set of fish cards is prepared for using farmers training session. The fish card set comprises nine species of carp fish and nine species of unwanted fish. Two sets of fish cards are distributed to each Extension Trainer for using in farmers training session.

EXTENSION MATERIALS

FlipCharts



GNAEP (Flipchart)

(F/D/02)

A colorful flipchart on carp polyculture with Golda in pond has been developed and distributed to the Extension Trainer. The flipchart illustrated with 29 pages on important of fish culture, pre-stocking, stocking and post stocking management. The flipchart is mostly using in farmers group training at pond site. It was published in January 2001.

BAEP (Flipchart-1)

(F/D/03)

This is a flipchart describing pond preparation techniques and fingerling stocking through picture and text. NGO staff trained by PBAEP use this flip chart during their target group training.

This is a 12 page flip chart. Each page contains A4 size colored picture and relevant text for the facilitator.



(Flipchart-2)

(F/D/04)

This is a flipchart on pond management. It includes regular fertilization, feeding, cash and non cash inputs, partial harvesting, disease control, dike cropping, poultry rearing etc. NGO staff trained by PBAEP use this flip chart during their target group training. Other service providers can also use this material.

This is a 12 page flip chart. Each page contains A4 size color picture and relevant text for the facilitator on the opposite side.

For more contact:

Patuakhali Barguna Aquaculture Extension Project

Department of Fisheries
Danida Technical Assistance
College Road Patuakhali
Tel: 0441-82169, 82098

District Fisheries Office
Fire Service Road
Patuakhali
Tel: 0441-82501

Update: December 2002

EXTENSION MATERIALS

Extension Kits and Games

Fishing Game

(EK01)

The objective of this game is for the players to learn which natural food items in a pond are favoured by commonly stocked species. Each player (maximum four) is given a card with pictures of five commonly stocked fish and a picture depicting their favoured food item at their head. In the "pond" (box) are placed identical individual pictures with a paper clip attached. The players attempt to catch a fish or food item with the magnet on the end of their fishing rod. The winner is the first person to fill their card with matching pictures of fish and feed. Each card has a slightly different combination of fish species to illustrate that some species feed on the same food item and therefore the stocking combination can be varied.



Ludu

(EK02)

Children learn more through playing a game than from just listening. This game was designed to help children understand the principles of basic pond management. The materials and playing procedure of this game are like the traditional "Ludu" game. Four children can play at a time. Each box on the board shows an activity and gives an instruction. Children play the game according to the instruction. It was observed that children enjoy playing the game very much. Children like to play with their friends and family members and through the game the simple sequential steps of pond aquaculture are passed on to other players.

Extension Kit for Nursery Owners and Fry Traders

(EK03)

This pictorial kit contains information on some basic steps of pond aquaculture viz- deweeding, eradication of predators and forage fishes, dyke repairing, stocking considerations, providing leafy vegetables for herbivores, assessing productivity, fertilization, pond dyke cropping and partial harvesting. Ten principles to be practised by an ideal fry trader have also been listed in the last page. Each page contains SR picture and relevant literature, duly laminated and affixed. Published by Patuakhali-Barguna Aquaculture Extension Project in collaboration with DoF/CODEC/CARITAS/DANIDA, this tiny kit is suitable basically for small pond owners.



Extension Kit for Farmers

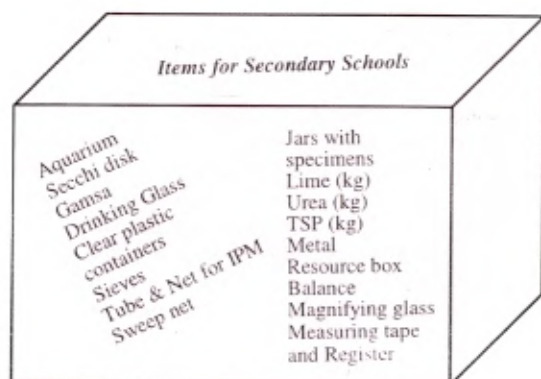
(EK04)



This pictorial pocket booklet contains information on pond aquaculture activities viz- deweeding, eradication of predators and forage fishes, dyke repairing, stocking requirements, providing leafy vegetables for herbivores, assessing productivity, fertilization, pond dyke cropping and partial harvesting. It also contains brief information on rice-fish integrated farming. This kit is enriched with small popular rhymes. Each page (2 1/2 by 4 inches) contains condensed picture and relevant literature. It is published by North-West Fisheries Extension project in collaboration with DoF/DFID. During the project period the booklet was sold to farmers by fry traders for a small profit.

EXTENSION MATERIALS

Extension Kits and Games



Resource Box

(EK05)

This resource box was developed in direct response to requests from teachers trained by fisheries projects. The equipment is simple and cheap yet can effectively help the teachers to practically illustrate the principles of pond management and Integrated Pest Management. It also gives students the opportunity to practice these skills during formal teaching periods and be able to utilise learned techniques in their domestic environment. NGOs have also found this equipment extremely useful for field extension officers involved in pond aquaculture and rice-fish extension.

CtC Kit Box

(EK06)

This is an essential resource for trainers of primary school children and compliments the Child to Child trainer's manual. It enables trainers to practically deliver training of children in the basics of pond management.

Items for Child to Child Trainer's Kit

Plastic Jar, Seive,
Colour pencil, Flash Card, Paper,
Chalk (Pack), Newsprint, Bag, Ring Binder,
Clip Board, Pen, Pencil, Line pad, Gamsa,
Glass, Magnifying Glass, Petridish,
Forcep, 4 Paper, A5 Card,
Plastic Wallet, Urea, TSP



VIDEO



EEC-Tilapia Hatchery, Asian Institute of Technology, Bangkok, Thailand

(VD01-/E)

Intensive hatchery production of tilapia fry is described at AIT hatchery complex in Bangkok, Thailand. Morphological differences in broodfish are shown followed by a detailed description of spawning techniques used in brood-tanks and hapas. Egg collection techniques are shown prior to incubation in hatchery jars leading to fry rearing in trays, small octagonal tanks and hapas. All hatchery components and systems are shown and described.

This 45 minute video is very useful for hatchery operators with pre-requisite knowledge in hatchery production technology. However, the sound and picture quality is below standard worsened by excessive hatchery background noise.

Small Scale Fish Farming in North-East Thailand

(VD02-/E)

This is a 20 minute video about the traditional fish culture practices in the north-East of Thailand. It shows how farmers have developed indigenous low cost and low risk sustainable fish culture practices using locally made resources and integrating on-farm by-products. Interviews with farmers highlight and focus on some of the difficulties that farmers face with this type of production technology particularly stocking of small size of fingerlings and concomitant high mortality soon after stocking.

To overcome these problems early rearing of fry is conducted in hapas set in the rearing pond. All aspects of design and culture techniques are shown and narrated.

Although the video is narrated in English the concept of early hapa rearing can be easily understood by non-English speaking viewers. All types of technologists, researchers and most of all extensionalists would find this video very interesting and informative.

Fish Doctors to the World

(VD03-/E)

This is a promotional video made for the Institute of Aquaculture, Stirling University. Lengthy interviews with the Institute's director and deputy director are combined with scenes taken from the disease diagnostics laboratory, tropical aquarium and university fish farm and hatchery at Howietoun. Much of the discussion focuses on the status of aquaculture, problems faced by the industry, future of aquaculture and a lengthy description of the historical background of Howietoun.

It is professionally filmed and narrated in English. Sound and picture quality are good. Persons wishing to learn more about the Institute of Aquaculture, Stirling University and/or improve their knowledge of tilapia culture would find this video useful.

BAFRU Information Video 'The Culture of Carps in Bangladesh'

(VD04-/E)

A short 18 minute overview of carp culture in Bangladesh. The full cycle from hatchery production to grow-out is described, albeit briefly and ostensibly with referral to Indian Major carps (Catla, Rui, Mrigal & Calbasu) and Chinese Carp (Grass carp, Bighead carp, Silver carp & Common carp). The culture of carp is described in eight parts:- 1. Introduction of different carp species, 2. Polyculture, 3. Carp Breeding (weight, age and shape of the body), 4. Induced breeding (pituitary gland extraction, dosage, hormone preparation and timing of injection), 5. Hatchery operation (hatchling time, collection and transport), 6. Pond preparation (Nursery and grow out pond), 7. Pond Nutrition (organic and inorganic fertiliser and supplementary feed) and finally 8. Harvesting (timing, method and expected yield).

The film is well presented and quality of high standard. It is suitable for non-fish culturists and all interested persons involved with fish culture new to Bangladesh.

A film about Tropical Aquaculture - In the Water are Fish

(VD05-/E)

This is a film about tilapia culture in Thailand. It is set in the north eastern part of the country which is the poorest part of the Thailand often facing hardships of long dry seasons and very wet rainy seasons. The tilapia is presented as an opportunity to improve rural livelihoods for the people of this region.

The history of the culture is described before detailing the species' feeding and breeding ecology. The techniques of breeding and culture are presented as well as marketing strategies and extension approaches practised. To improve production mono-sex culture is introduced with information provided about the gene bank set up in Stirling to provide 'genetically pure' strains for the promotion of this technology.

This video is ideal for those interested in basic tilapia culture and wish to learn more about fish culture practices in Thailand. The sound quality is good but picture quality moderately good.

Aquaculture in Bangladesh (DANIDA Support)

(VD06-B/E)

A 30 minute video narrated in Bangla specifically detailing the sequential steps of carp polyculture hatchery and grow-out cycles. These steps are demonstrated pond side by farmers and extension officers. The type of training conducted described and demonstrated covers eight topics:- 1. Rotenone application, 2. Predatory and weed fish control, 3. Use of lime and fertiliser, 4. Fingerling release methods, 5. Supplementary feed, 6. Compost Preparation, 7. Sampling, 8. Harvesting techniques. Interviews and feedback from farmers is given. Fry production is also covered in this video through three main activities which are practically demonstrated:- 1. Injection of brood fishes, 2. Egg collection by stripping, 3. Hapa preparation for hatchlings. Sound and picture quality is good. Ideal for extension officers and newcomers to fish culture particularly NGO, school teachers and bank staff. Since the language of narration is Bangla, farmers would also appreciate and learn from its content.

Documentary Film on Fish Culture Management

(VD07-E)

This film covered fisheries resource of Bangladesh and its management. Duration is 35 minutes and is in two parts. Part One leads with the contribution of inland water bodies, role of capture fisheries, importance of shrimp production and its contribution in national economy. The film also shows the constraints and opportunities of open water bodies, different traditional and mechanised fishing gears used by the fisherman in the Bay of Bengal, and fish marketing channels. This part ends by showing the risks and coping strategies of fishermen who live on the sea shore and impacts on their livelihoods.

Part Two introduces the fisheries resource of inland closed water bodies e.g. ponds, tanks, dighi etc. It also covers the importance of induced breeding in fish culture especially the contribution of hatcheries for extending the availability of fingerlings. The narrator highlights the importance of training in modern fish culture with references to outputs and practices of traditional fish culture. This film also briefly covers the steps of modern fish culture management, such as removing of aquatic weed, predatory fish, liming, stocking, post stocking fertilisation. Overall quality of this film is good and its intended target audience would be all levels working in basic aquaculture.

Folklore Opera on 'Save Fish, Save Your Country'

(VD08-B)

Produced by FEMCOM, the video of 22 minutes duration presents a case of classic example of how simple story-based artistic performance can leave an emotional impression on those who witnessed it. The video is based on the fact that a corrupt minister misguided the king with false information on the fishery and fishermen. He allowed some fishermen to use current net for clandestine fishing after being bribed by them despite the repeated request from so many corners. The shrewd people soon became rich and thus the economic condition of the professional fishermen began to decline. The king receive 'divine' sounds; he became aware and investigated into the matter. He caught the shrewd fishers and discarded the minister. At last, peace and happiness again started to prevail. The video is recommended to be presented on screen in open field for rural people with a view of growing awareness on sustainable use of fisheries resources.

Bangladesh Open Water and Flood Plain Fisheries and CBFM Activities

(VD09-B)

This documentary film of 30 minutes duration, produced by FEMCOM, is based on community based efforts of managing natural resources. The use of traditional fishing using crafts and gears by the fishermen is shown. The role of NGOs in organising, mobilising and building strong solidarity among the surrounding communities is demonstrated. The community's efforts in protecting the sanctuary and its significance in restoration of resources are documented. The common people, especially traditional fishermen of open water areas will be interested about the documentary.

Intensive Culture of Black Tiger Shrimp in Indonesia

(VD10-E)

The documentary is based on basic steps of intensive shrimp culture. The very high yields attained from this culture technique show how entrepreneurs accrue high profit at the expense of the environment. The documentary shows the methods of aeration, intensive supplementary feeding, managing day to day management problems, harvesting methods etc. The film is attractive for the entrepreneurs who are in a position to invest, although it might not appear to be appropriate to common farmers of Bangladesh. It requires a basic level of understanding of English and shrimp culture technologies.

Rice Fish Culture

(VD11-B)

This video attempts to cover too many topics. It is recommended that parts may be shown in any training intervention. The presentation starts by describing fish feeding ecologies especially species having a planktivorous diet. This leads to a demonstration involving fertilisers in jars to promote plankton blooms. This is well linked to the effect of pesticides, demonstration particularly pesticides (e.g. sumithion) that can have a devastating effect on insects, (both helpful and harmful) and plankton. The narration then moves to new topics; the spawning of common carp and tilapia so that hatchlings may be released in the rice field. The video may be useful for extension, workers technicians, and trainers.

Thana Fishery Officer's Development Programme

(VD12-B/E)

This is a 23 minute video intended for Thana Fisheries Officers who have a background in Aquaculture. The film is about a ToT course which focuses on training delivery techniques, technical information and basic extension concepts and principles. The technical session show a balance between theory and practice. Participatory training techniques are used in this course i.e. group work, role-play etc. This training is divided into three parts. Firstly, participants learn about how to conduct target group profile (TGP), training needs assessment (TNA), session preparation and visual aids preparation. Secondly participants are divided into two groups so that they practice session delivery among themselves and provide feedback. Finally, they conduct TGP & TNA and delivery session with a real farmers group which is evaluated by the trainer. Other contents covered through this course are communication, work plan & programme, maintain training file and technical information i.e. feeding, fertilising, natural food observation, stocking, harvesting and marketing.

Aquaculture and Rural African Farmer. ICLARM/ GTZ

(VD13-E)

A two part 35 minute video made in 1990 by the department of Fisheries Malawi sponsored by ICLARM and GTZ. The first part (25 min.) describes the participatory and collaborative research program undertaken at the National Aquaculture Centre, Domasi, Malawi. A range of eight different technologies are being developed at the centre. These are described by the researchers involved; i) Performance of fallow grasses (*Cyperus sp.*) as feed and fertiliser in pond systems, ii) Development of terrestrial composting as a pond input, iii) Use of wood ash as a lime replacement, iv) Improved rice-fish systems, v) Use of a reed fence instead seine net, vi) Development of indigenous species for culture e.g. *Oreochromis karongae*, vii) Improved dike cropping with vegetables, viii) Development of 'FishBase', a database for African fishes. The value of farmer open days to improve farmer participatory involvement in the research is highlighted.

For the second part of this video, farmers and researchers demonstrate Pictorial Modeling of Pond Systems. This allows researchers to elicit indigenous knowledge to show resource flows in farming systems. Three phases are demonstrated, 1) Farmers conceptualise the model of their farm, 2) Elaborate inputs and linkages with actual objects, 3) Complete outputs from the system.

This video will be useful to junior fishery and extension officers, undergraduates and researchers seeking to develop new ideas for research and extension approaches. In some parts, the picture is not clear and sound from interviewees is occasionally indiscernible. Otherwise, a good insight into the Malawian fish culture scene.

Understanding Rural Livelihoods on Bangladesh Floodplains

(VD14-E)

In the past there has been a tendency for rural development to be driven by sectoral or single commodity approaches with the aim of increasing production. Since this does not always equate with positive livelihood outcomes, greater understanding of the complex systems and interdependence are needed. The holistic sustainable rural livelihood approach attempts to address this need for pro-poor growth policies and integrated initiatives to equitable and sustained development. This video examines how this approach can be better understood by reviewing the livelihoods on Bangladesh floodplains.

The livelihoods of four different groups are described in detail through the three main seasons of a floodplain in Bangladesh. These groups are i) fishers, ii) landless iii) sharecroppers and iv) wealthy landowner. The descriptions of their strategies and inter-dependencies are aided by contributions from the representatives from these groups.

Contributions from experts in rural development on how the understanding of these different livelihoods can assist in planning and monitoring of development programmes complement the descriptions of the different stakeholder groups.

Seed of hope

(VD15-B)

A documentary film has developed basically focussing the prospect of prawn farming in greater Noakhali area namely "SEED OF HOPE" in June 2002. 17 minutes length this documentary captured the movie shots of existing problems encountered by the farmers due to waterlogging of vast agricultural land in the area. The film also tried to illustrate the opportunities available for the farmers for addressing the problems through rice-prawn and rice-fish farming. This documentary film also focused the extension or farmer education strategies undertaken by GNAEP to support the farmers by filming the ongoing project activities to address the issue.

VIDEO

Wind of Change

(VD16-/B)

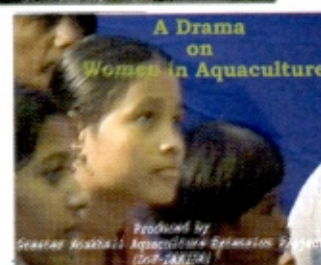
A documentary film focusing the people participation in the program initiated by GNAEP as livelihood option for char dwellers of greater Noakhali area. This is a 10 minutes film contains the major strategies following by the project to comprehensive support the poor household for enhancing wider adoption of rice-fish of rice-prawn suitable for local char area. Project believes that undertaken support will empower poor people to increase household income to meet up their livelihood needs and raise their voice. It is published in January -2003



Women in Aquaculture

(VD17-/B)

A drama has been produced on women in aquaculture. The main theme of the drama to aware and motivate the rural women to active participation in aquaculture. It is also focusing the empowerment of women and women participation in development activities. It is an about 1-hour drama and played by a local drama group. It is produced in September 2001.



MIS DATABASES

(Developed by FTEP-2)

Training Information Management System (TIMS)

(TIMS/D/01)

The Training Information Management System (TIMS) is developed as a part of the development of the Management Information System (MIS) for HRD/M process of the Department of Fisheries (DoF). It deals with the overall human resource development/management activities of the department. TIMS consists of three independent sub-systems: Training Need Assessment System, Training Database System and Monitoring & Evaluation System. An user manual has been developed that covers complete instruction for operation of the systems.

| Course No | Title | Duration | Status |
|-----------|-------|----------|--------|
| 1 | ... | ... | ... |
| 2 | ... | ... | ... |
| 3 | ... | ... | ... |
| 4 | ... | ... | ... |
| 5 | ... | ... | ... |

Training Database System

The Training Database System is used essentially a performance management tool to evaluate the course content, session and participants of the course. It is useful to improve to course module according to the feed back given by trainers as well as the participants. The System makes comparative analysis of course budget and trainee performance within and between the training centers and courses. A number of customized reports are generated from the system using multiple selection criteria. Some of the main reports are; participant list, course evaluation report, session evaluation report, cost analysis, grade analysis, training summary report within course and between training centers and so on. Customization options have been kept as like as the TNA system so that it can be implemented with other organizations.

Training Need Assessment System (TNA)

As the title suggests this system may be used to assess employee training need. To this end, detailed personnel information including training histories of all registered personnel are maintained. If the information is kept update trainee population lists may be compute generated automatically. In addition to identifying need, the system may also be used to determine suitable resource persons and specialists for specific courses. A number of customized reports are generated from the system using multiple selection criteria for filtering data. Also customization options have been kept so that it can be implemented with other organizations.

Course Name: [Field] Training Venue: [Field]
 Starting Date: [Field] Duration: [Field] Total Participants: [Field]
 Trainer's Expenditure: [Field] Course Information: [Field] Problems and Action: [Field] Session Trainer: [Field]

FTEP-II Trainers

| | |
|----|-----|
| 12 | ... |
| 14 | ... |

Divisional/Other Trainers

| | |
|----|-----|
| 27 | ... |
| 28 | ... |

Expenditure:

| | |
|--------------------------|--------------|
| Management Fee: | Transport: |
| Refreshment: | Refreshment: |
| Materials and Equipment: | Total: |

Record: 14 of 100

Evaluation of AFO/FA monitored by TFO

| Session | A | B | C | D | Total |
|------------|-------|-------|-------|-------|-------|
| ... | ... | ... | ... | ... | ... |
| Percentage | 73.33 | 80.00 | 82.06 | 86.15 | 81.88 |

Details of Evaluator and Trainer

Evaluator's Designation: [Field] Evaluator: [Field]
 Evaluator Address: [Field]
 FTEP Centre: [Field] District Name: [Field]
 Trainer Name: [Field] (If NGO name provide name)
 NGO Address: [Field]
 PGTS Details
 Farmer Group Number: [Field]
 Name of Session: [Field]
 Date of Evaluation: [Field]
 Group Address
 District: [Field]
 Thana: [Field]
 Union: [Field]
 Village: [Field]

Record: 14 of 100

Monitoring and Evaluation Database System

The M&E system is used to evaluate the training delivery performance of the trainers. It is particularly useful to identify the strength and weakness of the training sessions and topics delivered enabling concomitant action from the training team and also identify the individuals that are competent trainers and those that require further monitoring and support. The system covers the trainers as well as evaluators information and also some monitoring characteristics for sessions of the training delivered. A number of report modules have been implemented in the system with a multi-select criteria form. Some of the main reports are; trainer performance, trainer list as per scoring level, lacking identification, score analysis by station, variance analysis for measuring the variation of score given by different evaluator in different time and so on.

MIS DATABASES

(Developed by GNAEP)

Baseline Pond Survey Database in Greater Noakhali:

(FMIS/E/01)

This is an MIS database developed for storing baseline information of all pond and ditches of GNAEP working area before project intervention. The database covered pond owners/operators address, physical condition of pond, fish culture practices and overall pond management systems. Fourteen numbers of report were generated for 14 upazilla based on the information from this database. This database is mainly used for target group selection, pond selection and feasible area selection for project intervention and also the information will be used in future

Greater Noakhali Aquaculture Extension Project
Baseline Survey of Pond and Pond Operators

Farmer's Name: [Text Field]
Father's Name: [Text Field]
Address: [Text Field]
Pond Details: [Text Field]

Greater Noakhali Aquaculture Extension Project
Market Price Monitoring of Fish, Poultry and Livestock Product

Reporting Month: [Month] [Year]

| Commodity | Unit | Price | Remarks |
|-----------|------|-------|---------|
| Fish | kg | | |
| Meat | kg | | |
| Egg | doz | | |
| Dry Fish | kg | | |
| Chicken | kg | | |
| Goat | kg | | |
| Sheep | kg | | |
| Beef | kg | | |
| Pork | kg | | |
| Butter | kg | | |
| Milk | lit | | |
| Oil | lit | | |
| Grain | kg | | |
| Vegetable | kg | | |
| Fruit | kg | | |
| Spice | kg | | |
| Herb | kg | | |
| Medicine | kg | | |
| Other | kg | | |

Database on Market Price of Fish in Greater Noakhali:

(FMIS/E/02)

This database is mainly used to store fish price in different market under project area in different months. From March 2001 to till date information on 14 upazilla market are available in this database. The main areas of information stored in this database are, price of different size of fish by species, sources of fish comes to the market, other substitute commodities (Meat, Egg, Dry fish etc). This data is using to monitor the price fluctuation of fish in different seasons and the reasons for price fluctuation. And also the immediate effect of GNAEP intervention on local fish market.

Farmers Database:

(FMIS/E/03)

This database is mainly used to store and process ongoing activities of Fish Farming Group (FFG) and the group members. The main areas of information stored and used in the database are; Group name, address, and formation date, weekly meeting days, savings rate, nos. of male and female members of the FFG, basic information of the FFG members like as age, landholding, pond/field area, pond ownership, housing condition, occupation, annual HH income, health care and sanitation status of members HH.

Basic Information of FFG members

Group Name: [Text Field] Group ID: [Text Field]
Male member: [Text Field] Female member: [Text Field] FFG Formation date: [Text Field]
Weekly meeting day: [Text Field] Savings rate (tk): [Text Field] Name of ET: [Text Field]

| Group ID | Farmers ID | Farmers Name | Gender | Age | Land Own | Land Lease | Pond Own | Pond Le. |
|----------|------------|--------------|--------|-----|----------|------------|----------|----------|
| 3101011 | 01 | Rahim Ullah | M | 45 | 50 | 75 | 15 | |
| 3101011 | 02 | Rahim Ullah | M | 35 | 75 | 0 | 20 | |

Record: [Text Field] of [Text Field]

FFG ID Update Farmers ID Update Go Main Close

Baseline Socio-economic Survey

2.1 Age (years): [Text Field]
2.2 Gender: [Text Field]
2.3 Religion: [Text Field]
2.4 Education: [Text Field]
2.5 Occupation: [Text Field]
2.6 Land held by the Pond Operator (acres): [Text Field]
2.7 Number of Family Members: [Text Field]
2.8 Number of Earning Members (doz): [Text Field]

Baseline Socio-economic Survey

(FMIS/E/04)

This database is used for store and process the socio-economic baseline information of sample farmers under project working area from different strata. The main areas of information used in the database area; farmers basic information (name and address, age, sex and education etc.), Socio-economic information of the HH, culture, management, production and cost benefit of different agriculture and non-agriculture enterprise of rural HH, health and sanitation facilities, nutritional status. A final analytical report is under process which is prepared by the Winrock International. The database will be very use full for project monitoring purpose and also useful for future impact evaluation.

CD-ROMS



Contents

FTEP- II

(CD/D/01)

- ♦ 37 Course Modules
- ♦ A 4- sets Leaflets
- ♦ 109, Flashcards
- ♦ 11, Extension Packs
- ♦ Photo/Image bank
- ♦ Full Catalogue
- ♦ MIS Database
- ♦ Newsletters up to 2002, 2001, 2000 1999.

BAFRU

(CD/D/02)

- ♦ Training Manuals
- ♦ Leaflets
- ♦ Technical Handbooks
- ♦ Image Bank
- ♦ Reports

PBAEP

(CD/D/03)

- ♦ Training Materials
- ♦ Leaflets
- ♦ Handbooks
- ♦ Pictures
- ♦ Reports

NFEP-2

(CD/D/04)

- ♦ Monitoring & Evaluation Database
- ♦ Leaflets
- ♦ Course Manuals, Leaflets
- ♦ Pictures
- ♦ Research/Technical/Project/
- ♦ Survey Reports
- ♦ Microcredit Prog. Report
- ♦ Model Village Program

GOLDA-CARE

(CD/D/05)

- ♦ Report
- ♦ Technical Handbooks
- ♦ Training Modules
- ♦ Images/Photos
- ♦ Monitoring & Evaluation System

CAGE-CARE

(CD/D/06)

- ♦ Images/Photos

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Deputy Chief, Training Cell, Department of Fisheries

Library, Department of Fisheries

MAEP Fish Farmers' Manuals - Fish Production In Pond

(HTM/D/32)

The booklet has been elaborated for farmers of different social, economic and environmental background in order them to become technically sustainable and successful on profitable pond fish culture after training. It is very useful and informative for both the trainers and the farmers, which during and after training remains with them for future reference. Since the farmers are mostly illiterate or semi-illiterate it contains explanations with short texts and about 450 illustrations easy to depict the aquaculture principles and process. In this process a farmer could understand and follow the techniques even if she/he cannot read it. The training materials thus produced can be taken as an ideal one and can be followed by any aquaculture extension projects.

The booklet provides for both understanding and know-how of pond fish culture in general and table fish and fish seed production in particular. It contains all of the most frequently applicable/used intensive fish seed and environment friendly extensive, semi-intensive and intensive table fish (and Golda) production patterns (about 40 different choices), as well as provides detailed guide how to plan, follow up and evaluate fish production in pond both technically and economically. (It was first published, both in English and Bangla, in the present consolidated form in 2002.)



Trainers' Guide for MAEP Fish Farmers' Manuals -Fish Production In Pond

(HTM/D/42)

MAEP aimed that its trainers on pond fish culture would become fish culture subject specialists on farmers' level, which is considered as a very prestigious social and technical status in the rural society. The best chance for gaining improved social appreciation of trainers and their activities is to improve their creditability by removing possible sources of failing as trainer or/and subject specialist. Considering that the one of the most obvious way of doing so is improving their technical knowledge and training and advisory skill the present booklet has been elaborated.

This booklet is a complete trainer's guide, providing overall information how to conduct participatory group training on pond fish culture, as well as how to

perform professional pond visits. It also contains a detailed list of standard field equipment of trainers and needed/useful measurements and calculations. (It was first published, both in English and Bangla, in 2002.)

MAEP Knowledge and Adoption Test of Trainers, Surveyors and Farmers - Fish Production In Pond

(HTM/D/43)

MAEP has designed and made an overall technical curriculum for pond fish farmers, then has completed the relevant teaching book for the farmers/trainers, as well as the trainers' guide presented above.

This third part of the overall training package on pond fish culture has been elaborated in order to provide uniform guidance and criterions to verify the knowledge of both trainers and farmers, as well as how and in which extend the farmers have adopted the received technical knowledge. Accordingly there are three main chapters in the booklet.

The first chapter is the knowledge test of trainers, while the second one is the knowledge test of farmers, which is recommended being done in a participatory manner, giving chance to the farmers to give account about their knowledge in group.

The third chapter of the booklet is the adoption test in order to assess whether and how the farmer uses/applies the received technical knowledge on pond fish culture. As the objective of the pond fish culture is to produce fish, the adoption test concentrates on this prime objective. Accordingly direct and indirect indicators, already known from the pond visit section of MAEP

Trainers Guide, are listed and suggested being used in order to assess whether the fish production is proportional to the intention/plan of the farmer. (It was first published, both in English and Bangla, in 2002.)



ERRATUM



Cast Net Making, Repairing, Preservation and Traditional Fishing Gears in Bangladesh (HTM/D/44)

This manual, illustrated with about 60 pictures and the required diagrams, has been designed and elaborated for both trainers and interested farmers in order to provide the technique of cast net making, maintenance and preservation. Accordingly the different types of preservation techniques, preservatives, materials with specifications are detailed in addition to the know-how of cast net making.

Even if traditionally the fisher communities of Bangladesh know the technique of cast net making, this manual, first of its kind, aims to provide a systematic knowledge for those, who do not belong to these communities, such as women of households, where pond fish culture is practiced.

Therefore the manual is both an ideal training guide and systematic information kit, which actually enables those being successful in making and preserving cast net, who would do this either for own use or as an income generating activity.

The manual also contains the illustrated inventory of traditional crafts and hand made gears, which are widely used for fishing in rural Bangladesh. (It was first published in Bangla in year 2001).

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In addition to the HRD MIS Databases, FTEP-2 has also developed a number databases for Monitoring and Evaluation of Farmer Training-

1 Extension Management

- | | |
|----------------------------------|-------------|
| 1.1 Farmer Training Database | (FMIS/D/05) |
| 1.2 Payment Database (DoF) staff | (FMIS/D/06) |
| 1.3 Farmer Baseline | (FMIS/D/07) |
| 1.4 Impact Assessment | (FMIS/D/08) |
| 1.5 Post Training knowledge test | (FMIS/D/09) |

2. FTEP-II Programme Specific Databases

- | | |
|-----------------------------|-------------|
| 1.1 Credit survey | (FMIS/D/10) |
| 1.2 Fish disease | (FMIS/D/11) |
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