

Genetic Improvement of Farmed Tilapias
Phase II - UNDP Project GLO/90/016

FINDINGS OF THE EXTERNAL ADVISORY PANEL
November 1996

THE REVIEW

The fourth review of Phase II of the Genetic Improvement of Farmed Tilapias (GIFT) project was carried out 15-19 November, 1996 at the request of the United Nations Development Programme's Sustainable Energy And Environment Division (UNDP/SEED). The project is a collaborative effort implemented by the International Center for Living Aquatic Resources Management (ICLARM), Manila, Philippines in cooperation with the Freshwater Aquaculture Center - Central Luzon State University (FAC/CLSU), the Philippines National Freshwater Fisheries Technology Research Center - Bureau of Fisheries and Aquatic Resources (NFFTRC/BFAR), both at Muñoz, Nueva Ecija, Philippines, and the Institute of Aquacultural Research (AKVAFORSK), Ås, Norway.

The terms of reference for the External Advisory Panel (EAP/panel) were to review: the quality, focus and progress of the research and training components; issues relating to germplasm development; environmental and social impacts; networking; and other appropriate issues which may arise. Specific issues to address included:

1. Overall project activities and planning.

A. The scientific basis of the germ-plasm improvement programme, the effectiveness of project management, and the ability of the project team to carry out the tasks of the project without the need for outside guidance and consultation.

B. The prospects of the Philippine National Breeding Programme achieving self-sufficiency.

C. The draft 1997 work plan: is it complete, is it sound, are tasks properly prioritized, and is the likelihood of successful completion high.

2. Issues specific to the 1996 review.

A. Assess the post-project situation with regard to long-term research plan, technical leadership, support staff, field sites, improved germ-plasm security, and operation of INGA.

B. The reorganization of ICLARM and its potential impact on the GIFT project;

C. The allocation of time and effort to various activities by professional project staff at ICLARM and partner institutions;

D. Activities expected from GIFT in support of other parties, such as DEGITA, INGA, and the Philippine National Breeding Programme;

E. The possible use of GIFT project funds to support INGA and the Philippine National Breeding Programme;

F. The status of preparation of user-friendly documentation on the technical, organizational

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and financial aspects of the Philippine National Tilapia Breeding Programme for use by other national breeding programmes;

G. The status of preparation of a GIFT Manual of Procedures Volume I, the expected completion date for Volume II, and the status of user-friendly software for database management;

H. The status of preparation of scientific papers, likelihood of completion by project termination, and how the scientific papers might be developed into an information package on GIFT project activities for use by INGA members;

I. The status of construction of dedicated facilities, the legal arrangements vis-a-vis ICLARM, arrangements for supplying broodstock to the Philippines and other INGA member countries, and planned programmes for the Subic Bay and Egypt sites;

J. The status of training programmes and future planning for training;

K. Assessment of implementation of 1995 EAP recommendations;

L. Assess of the commissioned review papers;

M. Assess the impact of project achievements on tilapia production efficiency and consumer availability.

3. Need of the final project review in 1997.

NOTE: Response to Terms of Reference Item Number 3 was delayed until March 1996 based on the outcome of the status of the project as determined during the review (see section "Regarding Future Planning" in this report.

METHOD OF REVIEW

External Advisory Panel members (see Appendix I) assembled in Manila, The Philippines on 15 November and held a planning and strategy session attended by UNDP/SEED representative, Mr. Phil Reynolds. The panel chair, Graham A. E. Gall, also met with the GIFT Project Leader, Dr. A. Eknath. The panel traveled to Muñoz, Nueva Ecija the evening of 15 November where the first phase of the review was completed (see Appendix II - Agenda).

The review was carried out based on information contained in specific presentations by project staff, one-on-one and group interviews with project staff and examination of documents (Appendix III). The panel examined the project site, interviewed core project staff, and held discussions with the project leader. In addition, the panel met with members of the ICLARM management staff, representatives from AKVAFORSK, and the leaders of the Freshwater Aquaculture Center, Central Luzon State University (FAC/CLSU) and the Philippines National Freshwater Fisheries Technology Research Center - Bureau of Fisheries and Aquatic Resources (NFFTRC/BFAR).

On 16 November, the panel received a full briefing on the progress of the project during 1996. On 17 November, the panel held one-on-one discussions with various individuals and with the core project staff as a group. Detailed discussions were held with the Project Leader, Dr. Ambekar Eknath, representatives from AKVAFORSK, Drs. Hans Bentsen and Erling Fimland, with the project site leaders, Mr. Ruben Reyes and Ms. Jodecel Danting from BFAR/NFFTRC and with project leaders for the collaborating staff at FAC/CLSU, Dr. Tereso Abella and Professor Antonio Circa. For the remainder of 17 November, the panel reviewed, with project staff, documents pertaining to draft work-plans, draft budget information, an overview of plans for 1997, and forward planning presented by the Project Leader, Dr. A. E. Eknath and other members of the project management group.

Upon return to Manila on 18 November, the panel held discussions regarding administrative matters with the Deputy Director General of ICLARM and the project leader. In addition, the panel reviewed plans for future implementations of the GIFT technology, specifically the development of a foundation to implement a national breeding programme in the Philippines. The EAP also reviewed the activities of the International Network for Genetics in Aquaculture (INGA) regarding implementation of GIFT in member countries.

On 19 November, the panel provided a briefing on its draft report to ICLARM and its project partners. Finally, members of the panel participated in a UNDP/SEED Tripartite Review of the GIFT project where the panel provided a draft summary report of its findings, presented an oral report of its findings, and participated in discussions of project accomplishment and the 1997 work plan for the project.

Review of the GIFT Project

The report provides an overall assessment of the project, comments on detailed technical aspects

of the GIFT project, and provides general comments on project management. Detailed comments, offered on technical aspects of the strategic research, are presented for each project objectives discussed during the review and in the order outlined in the document, GIFT Phase II Interim Progress Report, January to October 1996, Parts 1 (dated October 1996). The comments provided by the panel deal with the general progress of the project, as well as management and operation of the project, particularly the issues identified in the terms of reference. Specific recommendations from the panel are identified for each project activity as appropriate. Additional recommendation regarding overall project management and planning for the future are provide later in the report.

Reference to “the GIFT Project” or “GIFT” throughout the document is meant to imply the complete package of products derived from of project objectives, including but not limited to, the genetically improved stock of tilapia (called the GIFT stock), the technology developed for breed improvement and broodstock management, biological and genetic information derived from project studies, and procedures and protocols for selection, field testing, and dissemination of fish and information.

Overview:

The panel finds that the GIFT project has made significant progress during 1996 with a number of notable accomplishments. The project continues to demonstrate the effectiveness of cooperation among national aquaculture research services (NARS) as true research partners and the application of modern animal breeding methodology to tropical aquaculture. The project also serves as an excellent model of cooperation among international and national organizations.

The Project Leader is commended for his leadership and dedication in the development of equitable research collaboration. The panel also commends the enthusiasm and dedication of the national staffs, the commitment of the national government, and the support of the partners. The skill level and dedication of the core staff remains high and a high level of cooperation among the partner agencies appears to have remained effective.

Less than adequate achievement was observed in some areas previously identified by the panel as requiring special attention. These items are addressed specifically as part of the reports detailed comments, and include the areas of publication preparation and planning for the future security and utilization of GIFT.

The administrative reorganization of ICLARM appears to be beneficial to the GIFT project since to new organization provides direct administrative lines of communication for the project leader and the new deputy director general position. However, the assignment of responsibility for the new ICLARM Genetics and Breeding Programme to the project leader is counter to earlier recommendations of EAP that the addition of an additional quantitative geneticist position was essential for smooth and effective management and operation of this project along with other similar projects envisioned by ICLARM. The EAP appreciated the apparent direct-line operational responsibilities assigned to the new Deputy Director General.

Detailed Technical Comments:

1. Selection and Dissemination of Genetic Gains

A. Selection and Estimation of Genetic Gain

Success in achieving genetic gain through the selection programme continues at a high level. The stock is well managed and implementation of additional selection objectives has proceeded adequately, even though the implementation of two-trait selection has been delayed due to an

oversight of not obtaining adequate data on early maturation. The development of a two-trait selection scheme will move the project to a new level of sophistication demonstrating the competence of the project.

Work on estimating response to cool season rearing (genotype x season interactions studies) has not progressed as expected. The results of these studies are central to future breeding programme development. However, data analysis and reporting of results has not progress in concert with the completion of specific studies.

One generation of selection for early and late spawning was completed successfully. One additional generation was planned for in 1996 but the EAP raised concern about undertaking the second generation given expected budget constraints.

Recommendation: The project proceed with the implementation of two-trait selection. EAP does not support the need for an additional generation of data on cool season rearing since the marginal increase in information will be limited. Data analysis and preliminary reporting of results on response to cool season rearing should be undertaken by project staff, as EAP has confidence project staff can accomplish these activities.

B. Specific Genetic Studies

Manuscripts on replication effects from replicate rearing of families, and on effects of communal and separate rearing, planned for 1996 were not completed. In addition, this activity was not included in the 1997 work plan so the fate of these studies is not clear. It is unfortunate these tasks were not completed as planned since the information could have significant impacts on the design of management protocols recommended to other institutions.

Recommendation: EAP suggests that project staff explore ways of completing manuscripts on replication effects of rearing families and on effects of communal and separate rearing, possibly with assistance from the statistician at FAC.

C. On-Farm Trials and

D. Assessment of Socioeconomic Benefits

Work regarding on-farm trials and assessment of socioeconomic benefit has been handled through the DIGITA project. Progress has been satisfactory, and the data appear well developed and analyzed as indicated by results summarized for EAP by the DEGITA project leader. However, EAP noted a lack of biological expertise in the interpretation of results and conclusions. Although these activities have been delegated to the DEGITA project, it is important that GIFT be involved with DEGITA to provide full reporting of the results.

Recommendation: Biological expertise must be provided by GIFT staff to assist with the interpretation of results and conclusions of the analysis of DEGITA information. EAP encourages DEGITA to include full reporting of the main results in the GIFT final reports since

part of the objectives of GIFT in this area were transferred to DEGITA.

2. Investigate the Genetics of Economically Important Traits

A. Growth Performance and Farming Systems

The reporting of activities on complementary studies for review by EAP was improved greatly over previous years. Unfortunately, the report was not provided to EAP in a timely manner; since the material was provided to EAP only at the beginning of the panel meeting time for review and discussion was limited.

The summary data presented to EAP regarding farming systems suggest complex relationships and high variability of results of experiments. Staff are encouraged to complete analysis of the data and preparation of publications before continuing the research to properly assess the design of future experiments.

EAP noted that more care should be taken in designing studies of strain comparisons to reduce bias due to genetic sampling of strains. In addition, future experiments should be narrowly focused to address complexities identified from analysis of existing data.

Recommendation: Staff are encouraged to complete analysis of the data and preparation of publications before continuing research in this area to ensure proper design of future experiments.

B. Survival, Age-at-First-Spawning, Carcass Traits, and Biotic and Abiotic Stresses

The experimental work on sexual maturation and carcass traits has been completed, and draft papers prepared but not completed. The activity is not included in the 1997 work plan so the fate of these studies is not clear.

Work on the development of computer technology for implementation of two-trait selection (body size and age at spawning) has been delayed. However, completion of the required software and training of staff appears on a schedule sufficient to meet the needs of the selection programme.

One commissioned paper on biotic stresses is in final draft form but was not reviewed by EAP. The commissioned paper on abiotic stresses, specifically salt-water tolerance, was not completed but replaced by a special session at the INGA Steering Committee meeting.

Recommendation: Project staff should complete the papers on sexual maturation and carcass traits, as well as the two commissioned papers, to ensure the results are available for future breeding programme development. Priority should be given to sexual maturation and carcass trait data as these will have the greatest immediate impact on future programme development and implementation.

3. Documentation and Collection of Germ-plasm

The documentation and collection of Nile tilapia stocks were to have been transferred to INGA but GIFT continues to have first line responsibility. The EAP remains concerned about the impact of these activities on project activities, and therefore, has tried to place this complex issue into proper perspective.

The EAP considers that the collection and evaluation of germplasm was an appropriate priority for Phase I of the GIFT project. EAP also recognizes that the incorporation of the African strains in the baseline population was the origin of the initial genetic progress in comparison to Asiatic strains and in addition, provided the opportunity to identify interesting results on strain variability and lack of potential for crossbreeding.

However, EAP further concludes that the great majority of the genetic variability provided by the collections which is of value to GIFT, was incorporated into the synthetic base population (the synthetic stock) and remains after several generations of selection the GIFT stock. Thus, the utility of the collection has fulfilled its intended purpose for GIFT.

Finally, the EAP acknowledges that the collection, or a part of it, may be of interest to ICLARM, or other agencies, as a biodiversity collection or as a source of material for future selection programmes. EAP therefore, repeats its earlier recommendations more specifically.

Recommendation: EAP considers that with regard to the GIFT project, the maintenance of germplasm should be limited to cryopreserved collections of the initial generation of the synthetic stock and the most recent generation of the GIFT stock. The responsibility of documenting, storing, managing, disseminating and developing the collection should be transferred immediately to an interested agency or agencies. Otherwise, the collection should be discarded.

4. Database Management

The project has designed and implemented a very large database of high quality and ease of use. The development of user-friendly software for database management has progressed well and should be adequate to allow INGA members interested in developing new programs to utilize the database methodology. The database has been well documented with only limited work left to complete the task making the data available to a wide range of users. The preparation and publication of scientific papers is dependent on the database so priority during 1997 should be on the data required for this purpose.

Recommendation: The database, without question, is the most complete, diverse and content rich data-set available in the world on tilapia genetics and related topics. GIFT, ICLARM and its project partners are encouraged to actively pursue utilization of the database by collaboration with other institutions, graduate students, and visiting scientists to ensure the proper dissemination of the detailed information available in the database.

5. Training Activities

A. Project Staff

EAP notes that on-the-job training and the INGA sponsored workshop on quantitative genetics have contributed greatly to the success and productivity of the project. However, the training planned for 1996 was not carried out while project staff continue to request individualized training targeted to their individual expertise and interest. These requests for training seem important now that the care and management of GIFT must be undertaken by local staff in the near future.

Recommendation: EAP encourages ICLARM and its partners, or the GIFT Foundation if it is established, to consider a programme of internship opportunities for project staff to work at other institutions or companies to gain the experience needed by individual staff.

B. Graduate Students

The studies undertaken by graduate students for completion of part of their degree requirements were of high quality and demonstrated the value of this approach to enhancing project productivity.

Recommendation: ICLARM and its partners should expand this activity through exploring relationships with other institutions as part of a programme to utilize the valuable database available,

C. Training in support of National Fish Breeding Programmes

GIFT has assisted actively in the develop a Philippines national breeding programme and to a lesser extent in the development of such programmes by other INGA countries. The activities undertaken to initiate a Philippines national programme may well serve as a model approach for the development of other national programmes. In addition, the project has been effective in training local staff for the operation of a Philippines national programme and in initiating an farm accreditation programme for multiplier hatcheries.

EAP continues to support efforts to find mechanisms to continue the GIFT project programme in the Philippines, and to ensure that, through the Philippine national programme, the genetic resources and technology of GIFT remain available to other countries. The idea of a private, non-profit 'GIFT Foundation' as the mechanism to establish GIFT in the Philippines seems appropriate but the details provided to EAP on organizational, financial and scientific planning were not sufficient to allow proper review.

Recommendation: EAP finds the planning effort for the GIFT Foundation available at the time of the review to be inadequate to assess the venture. Thus, the likelihood of the continuation of GIFT in the Philippines after completion of the GIFT project at the moment must be rated as

low. In light of this uncertainty, ICLARM must assume a financial commitment to guarantee continuation for the immediate short-term and should plan accordingly for 1998.

6. International Cooperation

The GIFT project and ICLARM are commended for their commitment to INGA which has resulted in an effective international network. There is evidence of: excellent cooperation among member countries; the development and potential funding of both national and regional programmes; the proper and timely transfer of germplasm and guidelines for the transfers; active training programmes; the development of national networks; and an on-going effort to document national genetic resources for aquaculture. The meeting of national ministry officials from INGA member countries, to be hosted by BFAR, is an excellent action and should assist national programmes in appreciating the potential benefits of GIFT implementation in their respective countries.

The development of the GIFT Manual of Procedures Volume I, a training manual of GIFT project techniques, is progressing well and is based on the TRAIN-X methodology. However, final preparation will require financial assistance in the validation and distribution phases. The preparation of GIFT Manual of Procedures Volume II has been delayed causing concern that the GIFT scientific methodologies may not be in a form useful for distribution among INGA member countries. The EAP does not find sufficient resources, from those remaining for the final year of the project, to allow completion of Volume II as originally planned.

Recommendation: GIFT should concentrate on completion of the six scientific publication (see item 7: Publications) as rapidly as possible. These six publication, plus any completed scientific reports, should be incorporated into a compendium of scientific methodologies as an interim replacement of Volume II of the GIFT Manual. This compendium can be distributed to INGA members and as well as serve as the core text material for translation into the TRAIN-X format by either INGA or ICLARM.

7. Publications

Little progress has been achieved in reducing the significant backlog of scientific publications noted by EAP in 1994 and 1995. A book on aquacultural genetic initiatives by INGA member countries has progressed slowly and currently is in the editing stage. Unfortunately, this activity appears to have diverted time and effort away for completion of scientific publications by GIFT and should have been undertaken only as direct responsibility of INGA. The only progress in the preparation of scientific publications for 1996 was the preparation of near final drafts of papers derived from data collected during GIFT Phase I.

The EAP wishes to emphasize that the final success of GIFT will be judged by the international community on the basis of successful scientific publication of results, not the existence of project reports. This may be a unique aspect of the implementation of animal breeding technology since the findings of research in this area are not generally accepted unless there is evidence of

survival through peer review and acceptance by the broader animal breeding scientific community.

Recommendation: EAP re-emphasizes the severe importance of the completion of the maximum number of scientific publications possible during the final year of the project. The primary focus of the project leader, and the collaboration with AKVAFORSK, should be on the completion of the six papers outlined in the 1996 work plan, along with any other material to the maximum possible. In addition, the manuscript material from this effort should serve as the core text material for the GIFT Manual of Procedures, Volume II.

Response to 1995 EAP Recommendations

In general, the recommendations of the 1995 EAP review have been implemented by the project staff. The project leader and the GIFT partners have developed a much improved management system which has allowed a timely and positive reaction to the EAP recommendations. For example, the draft 1997 budget listings by activity and institution and the provision of this material in advance of the EAP visit has significantly improved the ability of the EAP to provide focused comments on the programme as it moves into its final year.

EAP does note three items from the 1995 review that either received no or at best, limited attention. These were:

- a) **Germplasm Activities:** Although the live fish holdings in the germplasm collection have been reduced, the degree of reduction has not been as rapid as the EAP had hoped. The maintenance of the collection continues to be a significant drain on the limited resources of the project. The EAP reiterates its concern about this issue with a specific recommendation (see Work Plan and Budget Section).
- b) **Publications:** A significant backlog of data still remains to be analyzed and written up for scientific journal publication. This appears to have resulted from a lack of success in re-allocating of the project leader's time within the project, almost no reduction in responsibilities of the project leader within ICLARM, and lack of a clearly defined plan for data analysis and manuscript preparation in cooperation with AKVAFORSK as suggested by EAP.
- c) **Available Expertise:** The EAP has indicated explicitly, in each annual review, its concerns regarding the over dependence of the GIFT project and ICLARM on the time and background of the project leader. The position has served as the sole source of quantitative genetics expertise for project guidance, analysis and paper writing as well as the sole source of such expertise within ICLARM. This continues to be one to the main constraints to project progress and the EAP can only repeat its concern. Successful completion of project objectives during the final year of the project will require the undivided attention of the project leader.

1997 Work Plan and Budget

The recommendations of EAP regarding the proposed 1997 work plan and budget address issues of greatest importance in identifying the most efficient utilization of funds available for this, the final, year of funding. The EAP appreciated the high quality of the draft planning documents provided by project management for review by the panel. The detail provided by the documents was of special benefit to EAP as it tried to assess the prospects for completion of the project and develop recommendations for an orderly termination of the project.

The EAP is concerned about the proposed October 1997 termination date for project activities rather than a year end or later completion date. The proposed work plan drafted for 1997 has a strategy of simply continuing the full range of project activities undertaken in previous years. The proposed budget appears to have been drafted based on the number of days existing funds could accommodate the continuation of these activities. EAP believes that project activities should have been prioritized prior to budgeting to ensure maximum benefit from project funds remaining for 1997.

The concerns of the EAP arise because: 1) of the extreme importance of the completion of scientific publication of project findings; 2) the lack of certainty regarding the secure transfer of the GIFT programme to another entity; and 3) the essential requirement that the next generation of selection be initiated during 1997.

Therefore, EAP offers recommendations for the reallocation of budget among activities that would potentially extend the life of the project through 1997 and preferably into early 1998. The EAP further recommends that budget reallocation be made on a continuing basis through 1997 to enhance completion of the indicated high priority activities (i.e., utilize adaptive management).

Recommendations:

Relative to the proposed draft budgets, EAP recommends reductions in budget allocations to four activities:

- 1) Reduction to database management by limiting activity to work required to prepare data for analysis as required for the completion of scientific publications;
- 2) Reduction to germplasm collections with the exception of cryopreserved GIFT material as explained under item 3 of this report, "Documentation and Collection of Germ-plasm;"
- 3) Reduction to GIFT Manual of Procedures preparation by limiting activities to completing Volume I and limiting work on volume II to the preparation of core text based on scientific publications; translation of Volume II material to the TRAIN-X format would need to be transferred to another entity; and
- 4) Reduction to international travel except for the travel to Norway by the project leader.

The EAP recommends that the budget saving achieved by the recommended reductions be reallocated to project management and core research by:

- 1) Assignment of personnel time to support preparation of scientific publications and final reports, and
- 2) Assignment of operating funds to support the culture and maintenance of the GIFT stock, including the initiation of the next generation of selection scheduled for late 1997.

Planning for the Future

The EAP offers the following with regard to planning for the future of GIFT:

EAP appreciates the effort and commitment of ICLARM and its partners to identify mechanisms to continue the GIFT programme after completion of the project, and its support of INGA in this regard. The draft work plan for 1997 implies that, in actuality, the core activities of GIFT will be transferred to the proposed private non-profit GIFT Foundation by mid-1997 for continuation of the effort as a Philippines national programme. However, with the information available at the time of this review, EAP cannot conclude that the mechanism of a non-profit foundation will be successful.

One weakness of current planning is that the scientific and technical capacity of the foundation is not clear. Nor is it clear the foundation will have sufficient cash flow to support all essential GIFT programme activities. The only evidence of strength and potential of the foundation idea is the total and unwavering dedication of the core staff.

Thus, EAP finds that ICLARM and its partners accept responsibility for the continuation of GIFT in the event the foundation is not the final mechanism, most appropriately, through operation of the Center for Applied Fish Breeding and Genetic Research.

Recommendations:

In light of the present uncertainty of the foundation, ICLARM must assume there will be need for a continuing financial commitment to guarantee the immediate short-term survival of GIFT and should plan accordingly at least through 1998.

To ensure a timely assessment of the potential of a private, non-profit foundation as a long-term caretaker of GIFT, EAP recommends:

1. Foundation planning proceed rapidly and be completed on schedule;
2. The foundation plan be submitted to an international accounting firm for review and analysis;
3. The results of this review and analysis be submitted to EAP, along with the detailed foundation plan, in March 1997.
4. EAP make its final recommendations to UNDP under a set of terms of reference to be established by UNDP.

Finally, assuming a positive review of foundation plans, EAP recommends that ICLARM and its partners assume continued responsibility for the financial and technical stability, viability and

credibility of the foundations activities.

APPENDIX I

Advisory Panel Members

1996

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Appendix II

Agenda

External Advisory Panel Review

Genetic Improvement of Farmed Tilapia (Project GLO/90/016)

NFFTRC/BFAR Training Hall, Muñoz, Nueva Ecija

16-17 November 1996

ICLARM Headquarters, Manila

18-19 November 1996

16 November

9:00

9:30

Welcome and Introductions

Presentation of Progress Report

Summary of Progress

Highlights of Core Research Completed

FAC/CLSU Complementary Research

P. Gardiner

A. Eknath

H. Bentsen

T. Abella

1:00

Lunch and visit to facilities

2:00

4:00

GIFT Manual of Procedures, Vol. I

Database Management and GIFT STAT

General Discussion of Progress Reports

B. Acosta

F. Rius

Panel

17 November

8:00

8:45

9:45

11:00

Meet with BFAR and FAC leaders

Meet with AKVAFORSK representatives

Meet with GIFT Core Staff

DIGITA Project Progress Report

Panel

Panel

Panel

Madon Dey

12:00

Lunch

1:30

2:30

5:00

Presentation of Work Plan

Discussion of work plan and budget

Informal meeting with GIFT Core Staff

A. Eknath

Panel

18 November

8:30

9:15

10:00

10:30

11:00

Meet with P. Gardiner, Deputy D.G. ICLARM
GIFT Foundation Work Plan
INGA planning
Forward planning
Meet with A. Eknath, Project Leader

Panel
B. Rodriguez
M. Gupta
A. Eknath
Panel

1:00

3:00

Discussions with ICLARM and Partners
Preparation of draft report
Panel

19 November

8:30

9:00

Briefing on draft report to ICLARM and Partners
Final preparation of draft report

Panel

1:30

UNDP/SEED Tripartite Review Meeting
S. Timpson

