



Reduction of Environmental Impact from Tropical Shrimp Trawling, through the introduction of By-catch Reduction Technologies and Change of Management

Report of the Inaugural Meeting of National Coordinators Guaymas, Mexico, 16 to 20 September 2002

Opening Ceremony

The Inaugural Meeting of National Coordinators was held at the Hotel Armida, Guaymas, at the kind invitation of the Government of Mexico, from 16 to 20 September 2002.

The Chairman of the opening ceremony Mr. Daniel Aguilar (Mexico), welcomed the participants to Guaymas and advised them that a short demonstration cruise had also been planned in the last two days of the Meeting, and expressed the wish that participants would enjoy their stay in Mexico.

Dr. Guillermo Compeán, President of the Instituto Nacional de Pesca (Mexico), welcomed the participants on behalf of his Government. He referred to the 'Reduction of by-catch and discards' as important factors in the development of fisheries, and in the Code of Conduct for Responsible Fisheries. He referred to the research being conducted in Mexico on the development of prototype trawl gear for the reduction of the environmental impact of tropical shrimp fisheries, and offered to share this technology, through the Project, with the other participating countries. He emphasized the need for the participation in the implementation of the Project of: the fishing industry, the state agencies involved in surveillance and enforcement, as well as other stake-holders.

Dr. Compeán also mentioned that the Instituto Nacional de Pesca was celebrating its 40th Anniversary this year and that it was undergoing a process of re-organization to make it more efficient in addressing the needs of the fisheries sector.

Mr. Salvador Lizárraga, Sub-Secretary of Fisheries for the State of Sonora, welcomed the participants to Guaymas and hoped that they would take some time from their meeting to see the town, especially the fishing industry which is a major contributor to the economy of Sonora. He mentioned that among the Mexican States, Sonora is the one with the largest fish production, especially shrimp production, and he hoped that this Project would contribute to reducing to a minimum, the by-catch in this fishery.

Dr. Wilfried Thiele, Coordinator of the Project, welcomed the participants on behalf of the FAO and noted that the Mexican Government had a history of hosting fisheries meetings of international significance, including the 1992 Conference on Responsible Fisheries that led to the elaboration and acceptance of the Code of Conduct for Responsible Fisheries. He gave a brief overview of the Project, mentioning the main objectives and the expected outputs of both the Inaugural Meeting and the Project.

Dr. Thiele emphasized that the successful outcome of this Project depended very much on how the participating countries perceive the problems associated with the exploitation of their shrimp resources, and their willingness to commit themselves to implementing Articles 7 and 8 of the Code of Conduct pertaining to Fisheries Management and Fishing Operations respectively. In closing, he wished all the participants a successful Meeting.

Agenda

The meeting elected as its Chairman Mr. Ignacio Méndez Gómez-Humarán, (Director General de Investigación y Desarrollo Tecnológico, del INP, México).

The Agenda (attached as Annex 1) was adopted by the meeting.

Participants from Cameroon, Costa Rica, Cuba, Mexico, Indonesia, Philippines, Trinidad and Tobago, Venezuela, plus industry representatives from Colombia and Mexico, and the intergovernmental organisation SEAFDEC attended the Meeting. The full list of participants is attached as Annex 2.

Purpose of the Meeting

The Coordinator of the Project, outlined the purpose of the meeting and highlighted the following topics:

- The formal inauguration of the Project;
- Update on advances and activities in participating countries related to the Project;
- Discussion of technical and administrative issues related the Project and its implementation;
- First Meeting of the International Steering Committee.

International Steering Committee

The Project Coordinator advised the Meeting that an International Steering Committee would be established and would be comprised of: two country representatives from Latin America and the Caribbean and one each from Africa, the Gulf region and Southeast Asia, plus a representative from UNEP/GEF and a representative from FAO. The Project Coordinator will attend all the International Steering Committee Meetings in his *ex-officio* capacity.

The International Steering Committee will be charged with reviewing and advising on how the Project should be implemented. The Committee will also be requested to approve any significant changes proposed to the original Work Programme and Budget of the Project.

Country Presentations

The National Coordinators presented reports on the current situation of shrimp fisheries in their respective countries, with emphasis on the Project. These presentations included an overview of: the shrimp fisheries; technological developments; social and economic aspects; management of the fisheries; plus their workplans for Project activities, and the inputs expected through FAO to implement these activities.

Mexico

Dr. Miguel Cisneros made a presentation on the shrimp fishery of the Pacific coast of Mexico and emphasized:

- The importance and efficiency of the gear used in artisanal shrimp fisheries;
- The conflicts between artisanal and industrial shrimp fishing;
- The importance of by-catch as a part of the income to the industrial fleet;
- Closed seasons and closed areas already established as management tools;
- Fixed sampling stations established to monitor the fishery and determine the start of the fishery.

With respect to management of the fisheries the following measures were suggested:

- A vessel monitoring and surveillance system;
- Limiting fishing effort;
- Determination of the efficiency and impact of small-scale shrimp fisheries;
- Coastal lagoons as reserve areas, restricted to traditional fishing gear (e.g. cast-nets).

Mr. Daniel Aguillar made a presentation on the Mexican programme for the reduction of by-catch in the trawl fishery:

- describing the trawl gear that is currently being developed in Mexico that aims at improving the efficiency of the gear in both biological and economic terms, and at minimizing damage to the seabed;
- The higher cost of the prototype gear should be partly compensated by a reduction in fuel consumption and the increased life-span and durability of the gear based on the materials used, as well as the improved quality of the catch.

Costa Rica

Mr. Antonio Porras, in his presentation highlighted the following:

- By-catch contributed to covering the cost of the fishing operations;
- The shrimp fishery is characterized by very low catch-rates and the problem of marine debris;
- The high rates of discards from the fishery;
- Artisanal fisheries operate in the Gulfs of Nicoya and Dulce using gillnets.

Cuba

Mr. Luis Font highlighted the following aspects of the fishery:

- The shrimp fishing grounds are well demarcated for reporting and management;
- A management system that integrates the production sector, research, and a formalized system of collection and utilization of the entire catch;
- Closed areas and other regulations for controlling fishing effort;
- Nursery areas for the protection of juveniles;

- The Cuban programme emphasized ecosystem-management, with the aim of optimizing the social and economic benefits from the fishery.

Colombia

In the absence of the National Coordinator, Mr. Fernando Ochoa and Mr. Philippe Thiriez gave a verbal presentation on the fishing industry's perspective of the Project:

- The artisanal and industrial shrimp fishery in the Pacific and the industrial fishery in the Caribbean were described;
- The by-catch in Colombia was divided into two categories: with or without commercial value.
- At first sight the proposed Mexican prototype trawl did appear to adequately comply with the objectives of protecting juveniles and conserving the current catches of shrimp;
- They felt that under the Project, research should focus on the improvement of the fishing gears that are presently used in Colombia. This will help in gaining the interest and acceptance by captains of shrimp trawlers.

Trinidad and Tobago

Ms. Sita Kuruvilla presented an outline of the trawl fisheries of Trinidad and Tobago and the activities proposed under the Project:

- The by-catch landed has an ex-vessel value that is 25% of the value of the shrimp catch;
- Resource assessments and bio-economic analyses of the trawl fisheries recommend a reduction in fishing effort on shrimp and the major by-catch species;
- Further studies are needed to determine the importance of by-catch to the economic viability of the trawl fishery;
- The need for awareness/information-material on results from research on the trawl fishery was emphasized in support of constructive consultation with the fishing industry;
- Direct collaboration with Venezuela is required for management of the shared-stocks.

Venezuela

The report was presented by Mr. Luis Marcano and Mr. Jose Alio:

- Approximately 70% of the landings of the industrial trawl fleet consist of by-catch;
- There is a high incidence of discards, with 50 - 80% of the by-catch discarded;
- Industry has noted a detrimental impact on the commercial catch through the use of TED's.
- The profitability of industrial fisheries has declined;
- A two-month closed-season instituted for the industrial fleet has caused social and economic problems for this fishery;
- The Nordmøre Grid was tested on artisanal gear, but operations are affected by high output of debris from the Orinoco Delta.

SEAFDEC

Mr. Bundit Chokesanguan gave an overview of the programme of SEAFDEC for the introduction of sustainable shrimp fishing technology in southeast Asia:

- The main objective of the programme is to introduce JTEDs (juvenile and trash-fish excluder devices);
- Sea-trials using JTEDs in the Gulf of Thailand resulted in a reduction of the juvenile fish by-catch of 50%.
- Generally in the southeast Asian region all by-catch is utilized either as food fish or as fishmeal.
- A video-clip on Selective Fishing Devices made for a Regional Practical Workshop in Thailand was shown to the Meeting.

Philippines

Mr. Jonathan Dickson presented a report on the shrimp fishery of the Philippines:

- Shrimp trawling contributes 33% to total shrimp production, of which artisanal trawling (baby-trawl) produces 26%, and the industrial sector contributes 7%;
- The majority of shrimp is produced from aquaculture;
- Two project activities were outlined: the first in support of studies on by-catch in the trawl fishery, and the second on the development of by-catch reduction technology.

Indonesia

Mr. Gomal Tampubolon presented a report on the shrimp fishery of Indonesia:

- Trawling for shrimp is permitted only in the Arafura Sea;
- The ratio of shrimp to by-catch is 1 to 8-15;
- All trawlers target shrimp, so all fish landed is considered by-catch, whilst discards at sea are still unrecorded.

Cameroon

Mr. Oumarou Njifonjou presented a report on the shrimp fishery of Cameroon:

- 75% of the fish landing are considered juveniles that are caught before their maturity;
- The extent of discards at sea is not known;
- The majority of the by-catch is collected at sea by collector-vessels, some of which use ice to maintain the quality;
- The by-catch goes through informal channels and most of it is sold in the fresh fish market.

Recommendations

The main recommendations that arose from the discussions that followed the presentations were:

- A better assessment of discards and the use of by-catch in participating countries.
- A need for more efficient and selective shrimp trawls adapted to particular regions and countries.
- Investigation of the possibility of standardization of shrimp trawl gear for the Latin American and Caribbean countries involved.
- The promotion of technical exchange and cooperation among the countries involved.
- Sharing and dissemination of information through a project web-page.
- By-catch reduction devices to be simple and easy to operate, in order to minimize loss of fishing time.

- More attention to be paid to social and economic aspects of both industrial and artisanal shrimp fisheries.
- Caution should be emphasized in the promotion of the utilization of all by-catch, so as to avoid creating an industry that depends entirely upon the by-catch as raw material.
- Review and standardization of the definitions of terminologies used.
- The participation of all stakeholders in the research and development aspects of the project.
- The establishment of regional and national networks for the sharing of information and technical expertise on this specialized subject.

By-Catch Utilization

Mr Frans Teutscher of FAO referred to:

- Concerns expressed about possible negative impact of BRDs and management upon incomes;
- Suggestions for studies to monitor the socio-economic impact of BRDs and management, which would also allow the comparison of different BRDs and management options from a socio-economic point of view;
- The suggestion to keep all data in a database;
- Improved utilization and marketing of catch and (unavoidable) by-catch could be desirable, but participants were reminded that the GEF project does not include practical post-harvest activities. Such activities would need to be funded from other resources;
- Arguments in favour and arguments against by-catch utilization, giving a series of examples and references on by-catch utilization.

Method for sorting of by-catch on board

The Secretariat of the meeting was approached by Mr. Jorge Romano (a Mexican fisheries entrepreneur) who has been working on the development of a simple methodology for improving the handling of the catches on board of shrimp trawlers. The Secretariat, together with the technicians of INP, reviewed the material and considered it appropriate for presentation to the meeting.

Mr. de la Rocha (FAO) then made a presentation of this material provided by Mr. Romano:

- The methodology consists of a holding container with sufficient capacity to receive the catches from one normal haul;
- The container is filled with iced seawater and holds a set of three concentric metal rings fitted with netting bags of different mesh-sizes, with the largest mesh on the inside, and the smallest mesh outside;
- The codend of the trawl is opened so that all the catch falls into the set of bags lying ready in the container. Then using the boat's winch, the first (innermost) ring and its bag are hoisted-up, thus filtering-out the largest shrimp, and leaving the smaller individuals in the next bag. In its turn this medium-mesh bag is also hoisted, thus sorting the catches again, and leaving the smallest individuals in the outermost small-mesh bag;
- This methodology permits: a more rational handling of the catches; improvements in the working conditions, and consequently also in the quality of the products.

Administrative and Management aspects of the Project.

Mr. Thiele gave a brief explanation on:

- The structure of the project and its process of implementation.

Mr. de la Rocha provided:

- Information on the budgetary aspects;
- The format for a Letter of Agreement - that will be the most common administrative instrument for allocating funds for project activities in the participating countries, as well as a brief explanation on the use of the Letter of Agreement;
- The different formats to be used for project reporting, together with explanations on their use.
- The format for a Travel Expense Claim, with an explanation of its purpose and use.

Field trips

Two demonstration cruises were organized on 19 and 20 September from the port of Yavaros, Sonora, onboard the commercial shrimp-trawler Delly IV. The objective was to demonstrate and compare the use of the traditional shrimp trawl against the prototype Mexican RS-INP shrimp trawl rigged port and starboard and fished simultaneously. The catches on the first day showed clearly a significant reduction of by-catch (approx. 30-40%) in favour of the prototype, although the following day the results were less clear (a technical problem with entanglement of the trawl) but were enough to justify further experiments.

Closing ceremony

Dr. Thiele thanked the Mexican Government for the organization of the meeting, as well as all the other persons who had contributed to its success. The next meeting of all National Coordinators was envisaged in two years or so, probably in Asia.

List of Annexes

- Annex 1 Agenda of the Inaugural Meeting
- Annex 2 List of Participants at the Inaugural Meeting

Note: It is envisaged that a compendium of the individual national presentations will be made available on the Project's website.

ANNEX 1 – Agenda of the Inaugural Meeting

<p style="text-align: center;">PROYECTO EP/GLO/201/GEF</p>	<p style="text-align: center;">PROJECT EP/GLO/201/GEF</p>
<p style="text-align: center;">REDUCCIÓN DEL IMPACTO AMBIENTAL DE LA PESCA DE ARRASTRE DE CAMARÓN TROPICAL A TRAVÉS DE LA INTRODUCCIÓN DE TECNOLOGÍAS PARA LA REDUCCIÓN DE CAPTURAS INCIDENTALES Y CAMBIOS EN EL MANEJO</p>	<p style="text-align: center;">REDUCTION OF ENVIRONMENTAL IMPACT FROM TROPICAL SHRIMP TRAWLING THROUGH THE INTRODUCTION OF BY-CATCH REDUCTION TECHNOLOGIES AND CHANGES OF MANAGEMENT</p>
<p>REUNIÓN INAUGURAL DE COORDINADORES NACIONALES</p>	<p>INAUGURATION MEETING OF NATIONAL COORDINATORS</p>
<p>Fecha: 16 al 20 de Septiembre de 2002</p>	<p>Date: 16 - 20 September 2002</p>
<p>Sede: Guaymas, Sonora, México</p>	<p>Place: Guaymas, Sonora, Mexico</p>
<p>Duración: 5 días; (3 días de reuniones y 2 días de crucero demostrativo con trabajos de sistema de arrastre camarero tradicional y nuevo prototipo RS-INP.)</p>	<p>Duration: 5 days (3 days meetings and 2 days practical demonstrations of traditional shrimp trawls and of the prototype RS-INP.)</p>
<p>Lenguaje: Ingles; Español</p>	<p>Language: English; Spanish</p>
<p>Participantes: Coordinadores Nacionales y representantes de la Industria Pesquera de los países participantes; personal de FAO; personal de UNEP; Servidores Públicos e invitados especiales del Gobierno de México.</p>	<p>Participants: National Coordinators and Fishery Industry Representatives of participating countries; staff of FAO; staff of UNEP; government staff and special guests of the Government of Mexico.</p>

AGENDA**16 de Septiembre de 2002**

- 09:00 Mensaje de bienvenida a todos los participantes (representante del Gobierno Mexicano).
- 09:30 Propósito del Reunión inaugural y arreglos administrativos para la reunión.
- 10:30 Propósito del Comité Directivo Internacional
- 11:30 Receso
- 11:45 Breve resumen del estado actual y actividades de investigación de los países participantes, bajo el esquema siguiente:
- Estado de la industria de la pesquería de camarón.
 - Desarrollos tecnológicos generados (Nuevos diseños de redes, excluidores de peces, etc.
 - Aspectos socioeconómicos.
 - Manejo de la pesquería de camarón y aspectos legales.
 - Programa de trabajo y apoyos esperados de FAO
- 12:00 MEXICO
- 14:00 Receso para comida
- 16:00 COSTA RICA
- 17:00 CUBA.
- 18:00 Receso
- 18:15 COLOMBIA
- 19:15 TRINIDAD & TOBAGO

17 de Septiembre de 2002

- 09:00 VENEZUELA
- 10:00 Discusión sobre problemas regionales
- 11:00 IRAN
- 12:00 Receso.

AGENDA**16 September 2002**

- 09:00 Words of welcome to all participants (by a representative of the Mexican Government).
- 09:30 Purpose of the Inaugural Meeting and administrative arrangements.
- 10:30 Purpose of the International Steering Committee.
- 11:30 Coffee break.
- 11:45 Short country statements of the actual situation and research activities in the participating countries, including:
- Overview of shrimp fisheries
 - Technological developments generated in the country (new gear design, reduction devices, etc.
 - Socio-economic aspects
 - Management of the shrimp fisheries and legal aspects.
 - Workplan and support expected from FAO.
- 12:00 MEXICO
- 14:00 Lunch break.
- 16:00 COSTA RICA
- 17:00 CUBA
- 18:00 Coffee break
- 18:15 COLOMBIA
- 19:15 TRINIDAD & TOBAGO

17 September 2002

- 09:00 VENEZUELA
- 10:00 Discussion on regional problems
- 11:00 IRAN
- 12:00 Coffee break

12:15 BAHREIN	12:15 BAHRAIN
13:15 KUWAIT (?)	13:15 KUWAIT (?)
14:15 Receso para comida (Lunch break).	14:15 Lunch break
16:00 Discusión sobre problemas regionales	16:00 Discussion on regional problems
17:00 NIGERIA	17:00 NIGERIA
18:00 CAMERÚN	18:00 CAMEROON
19:00 Receso	19:00 Coffee break
19:15 Discusión sobre problemas regionales	19:15 Discussion on regional problems
18 de Septiembre de 2002	18 September 2002
09:00 INDONESIA	09:00 INDONESIA
10:00 FILIPINAS	10:00 PHILIPPINES
11:00 SEAFDEC	11:00 SEAFDEC
12:00 Receso	12:00 Coffee break
12:15 Discusión sobre problemas regionales	12:15 Discussion on regional problems
13:00 Sumario de la Coordinación de FAO y aspectos administrativos del proyecto.	13:00 Overview of Coordination by FAO and administrative aspects of the project
- Publicaciones sobre artes y métodos de pesca para camarón.	- Publications about shrimp fishing gear and fishing methods
- Inventario y antecedentes de Dispositivos Excluidores de Peces (BRD's).	- Inventory and background of Bycatch Reduction Devices (BRDs).
14:00 Receso para comida	14:00 Lunch break
16:00 Sumario de la Coordinación de FAO y aspectos administrativos del proyecto.	16:00 Overview of Coordination by FAO and administrative aspects of the project (continued)
- Inventario y antecedentes de aspectos legales y políticas pesqueras.	- Inventory and background of legal aspects and fishery policies.
- Aspectos de aprovechamiento de la FACA	- Bycatch utilization aspects
- Directorio de expertos e instituciones con experiencia en la investigación con redes de arrastre camaroneras.	- Directory of experts and institutions with experience in shrimp gear research.
- Cartas de Acuerdo	- Letters of Agreement
- Reportes periódicos a FAO, UNEP y GEF.	- Periodic reports to FAO, UNEP and GEF.
18:00 Asuntos generales.	18:00 General subjects.
19 de Septiembre de 2002	19 September 2002
06:00 Salida al puerto de Yavaros, Sonora de primer grupo de 10 participantes para abordar embarcación DELLY IV.	06:00 Departure to the port of Yavaros, Sonora of the first group of 10 participants to board the vessel DELLY IV.

<p>10:00 Zarpe de Yavaros del buque camaronero DELLY IV para crucero demostrativo.</p> <ul style="list-style-type: none"> - Pruebas de pesca con el sistema de arrastre de camarón tradicional. - Prueba del prototipo Mexicano RS-INP. <p>16:00 Retorno al puerto de Guaymas.</p> <p>NOTA: Los alimentos de la mañana (Breakfast) y medio día (Lunch) se realizarán a bordo de la embarcación.</p> <p>20 de Septiembre de 2002</p> <p>06:00 Salida al puerto de Yavaros, Sonora de segundo grupo de 10 participantes para abordar embarcación DELLY IV.</p> <p>10:00 Zarpe de Yavaros del buque camaronero DELLY IV para crucero demostrativo.</p> <ul style="list-style-type: none"> - Pruebas de pesca con el sistema de arrastre de camarón tradicional. - Prueba del prototipo Mexicano RS-INP. <p>16:00 Retorno al puerto de Guaymas.</p> <p>NOTA: Los alimentos de la mañana (Breakfast) y medio día (Lunch) se realizarán a bordo de la embarcación.</p> <p>19.00 Lectura de acuerdos y compromisos derivados de la reunión.</p> <p>20:00 Clausura del taller.</p>	<p>10:00 Sailing from Yavaros of shrimp trawler DELLY IV for demonstration cruise</p> <ul style="list-style-type: none"> - Fishing tests with the traditional shrimp trawl. - Fishing tests with the prototype Mexican RS-INP. <p>16:00 Return to the port of Guaymas.</p> <p>NOTE: Breakfast and lunch will be served on board.</p> <p>20 September 2002</p> <p>06:00 Departure to the port of Yavaros, Sonora of the second group of 10 participants to board the vessel DELLY IV.</p> <p>10:00 Sailing from Yavaros of shrimp trawler DELLY IV for demonstration trip</p> <ul style="list-style-type: none"> - Fishing tests with the traditional shrimp trawl. - Fishing tests with the prototype Mexican RS-INP. <p>16:00 Return to the port of Guaymas.</p> <p>NOTE: Breakfast and lunch will be served on board.</p> <p>19.00 Reading of agreements and commitments as outcome of the meeting.</p> <p>20:00 Closing of the workshop.</p>
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ANNEX 2

LIST OF PARTICIPANTS

**GEF/UNEP/FAO PROJECT: INAUGURAL MEETING
GUAYMAS, SONORA, MÉXICO
SEPTEMBER 16-20, 2002**

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