

FISHCODE

MCS/LEGAL

REPORT OF THE NATIONAL WORKSHOP ON FISHERIES MONITORING CONTROL AND SURVEILLANCE IN SUPPORT OF FISHERIES MANAGEMENT

Goa, India, 12 to 17 February, 2001



FOOD AND AGRICULTURE ORGANIZATION OF THE
UNITED NATIONS

ROME, MAY 2001

FISHCODE

MCS/LEGAL

**FAO/NORWAY PROGRAMME OF ASSISTANCE TO DEVELOPING COUNTRIES
FOR THE IMPLEMENTATION OF THE CODE OF CONDUCT FOR RESPONSIBLE
FISHERIES**

**SUB-PROGRAMME C: ASSISTANCE TO DEVELOPING COUNTRIES FOR
UPGRADING THEIR CAPABILITIES IN MONITORING, CONTROL AND
SURVEILLANCE**

**REPORT OF THE NATIONAL WORKSHOP ON FISHERIES
MONITORING CONTROL AND SURVEILLANCE IN SUPPORT OF
FISHERIES MANAGEMENT**

Goa, India, 12 to 17 February, 2001

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

ROME, MAY 2001

PREPARATION OF THIS DOCUMENT

This document consists of the proceedings of the Workshop held in Goa and a number of papers that were presented at the workshop by the authors or used as background material. It does not contain papers presented by representatives of the different maritime States of India nor the results of practical exercises, such as the preparation of Fisheries Management Plans. It is expected that the Fisheries Survey of India, the host organisation, will publish an additional report.

It is the intention of the FISHCODE project to compile lecture material on Fisheries Management and in particular on MCS. This report is a step in that direction. It is intended as a record of the Workshop held in Goa and as a handy compilation of most of the information used and provided.

In the near future all lecture material used in workshops held in 2000 in Songkhla, Thailand and in 2001 in Goa, India will be compiled on a CD ROM, including "Powerpoint" presentations, coloured pictures etc.

This document was compiled and edited by Siebren Venema. It is hoped that the changes made will be acceptable to the authors, since time constraints did not allow a consultation with them after the editing process was finished.

FAO/FISHCODE

Report of the national workshop on fisheries monitoring control and surveillance in support of fisheries management held in Goa, India, 12-17 February, 2001.

FAO/Norway programme of assistance to developing countries for the implementation of the code of conduct for responsible fisheries. Sub-programme C: Assistance to developing countries for upgrading their capabilities in Monitoring, Control and Surveillance. (FISHCODE). FI: GCP/INT/648/NOR: Field Report C-7 (En): 148p.

ABSTRACT

This document contains the proceedings of a Workshop on fisheries Monitoring, Control and Surveillance held at Goa, India from 12 to 17 February 2001 and most of the papers presented at the Workshop. Two papers describe the situation on MCS and the implementation of the Code of Conduct for Responsible Fisheries in India, one paper describes the MCS situation in Namibia, another that in Malaysia and a third paper reviews the situation in the northern Indian Ocean.

The other papers are more technical and cover an introduction to fisheries management, technical, operational, legal and personnel aspects of MCS, Vessel Monitoring Systems and mesh size measurements and regulations. One paper introduces aspects of observer and on-board sampling programmes. Finally an example is given of a SWOT analysis.

MAP OF INDIA

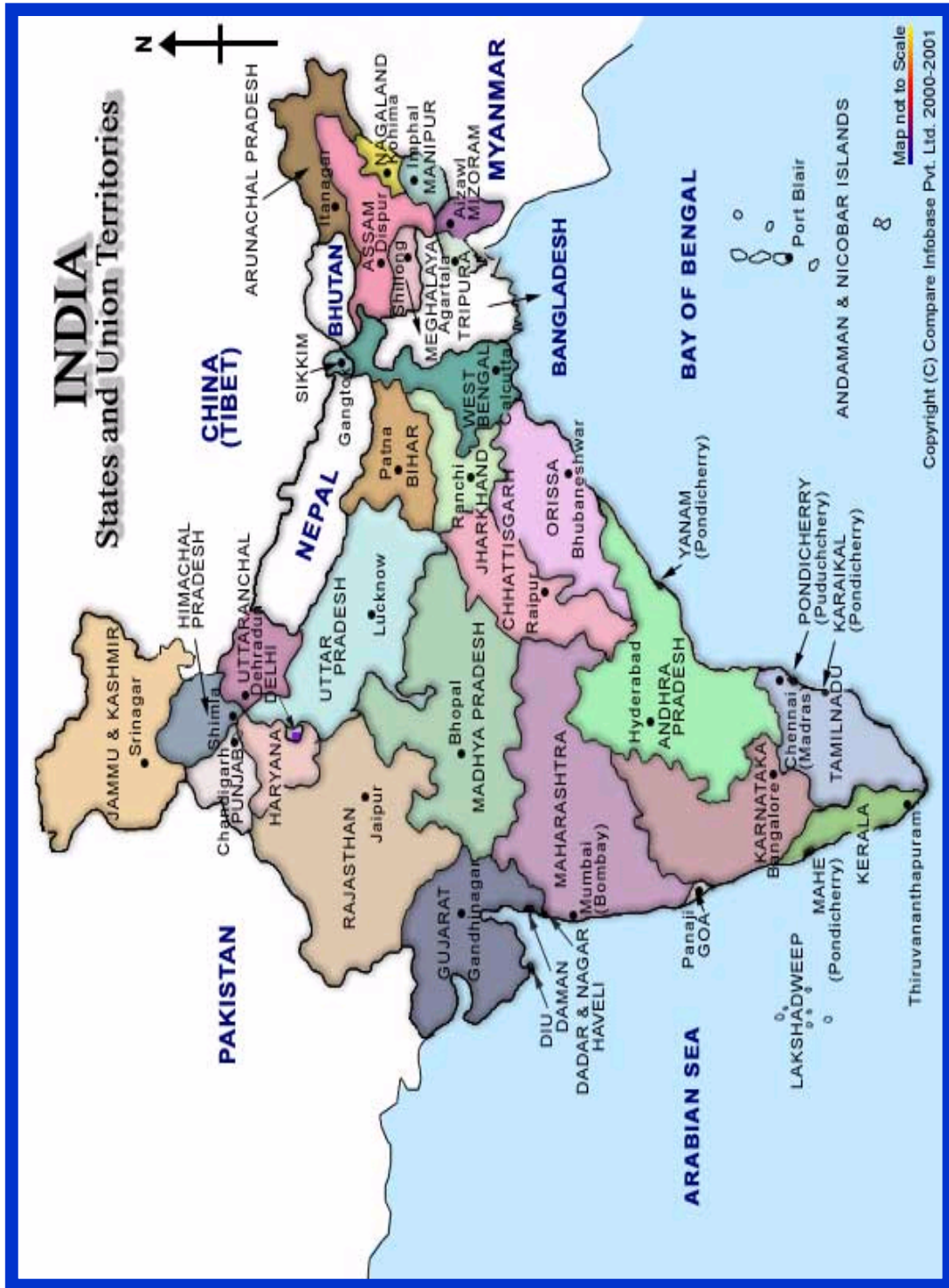


TABLE OF CONTENTS

AUTHOR	TITLE	PAGE
	Definitions and Acronyms	vi
FAO/FISHCODE	WORKSHOP PROCEEDINGS	1
	Annex I List of Participants	5
	Annex II Programme	8
	Annex III Recommendations	10
	Annex IV Papers presented at the workshop	11
S. Davies	Fisheries management	11
V.S. Somvanshi	Issues concerning marine fisheries and fisheries management in India	21
Y. S. Yadava	The Code of Conduct for Responsible Fisheries – Its application to the management and development of marine fisheries in India	33
G.V. Everett	Overview of issues of concern to fisheries Monitoring Control and Surveillance in the Northern Indian Ocean	42
P.E. Bergh	MCS Namibia	57
Salehan Bin Lamin	Situation of MCS in Malaysia	68
P.E. Bergh	Platforms for MCS	78
P.E. Bergh	MCS operations	87
P.E. Bergh	Human resources	95
A. Smith	Vessel Monitoring Systems	98
A. Smith	Factors to be taken into account in the decision on minimum mesh sizes and the measurement of mesh size	107
P.E. Bergh	Resource rent	114
S. Davies	Observer and landing site programmes	119
A. Van Houtte	Legal aspects and monitoring control and surveillance	126
T. Gardner	Notes on legal issues and enforcement	133
S. Davies and P.E. Bergh	SWOT analysis	143

Distribution:

Participants and participating Institutes and States and Authors
 Norway
 FAO Representative in India and FAO Regional Office
 FAO Fisheries Department and FAO Legal Department
 Other interested agencies

DEFINITIONS

Fisheries management:

The integrated process of information gathering, analysis, planning, consultation, decision-making, allocation of resources and formulation and implementation, with enforcement as necessary, of regulations or rules which govern fisheries activities in order to ensure the continued productivity of the resources and accomplishment of other fisheries objectives.

MCS:

Monitoring:

Involves the collection, measurement and analysis of fishing activity on catch, species composition, effort, discards, area of operations, etc., which is to assist fishery managers to arrive at management decisions.

Control:

Involves the specifications of the terms and conditions under which resources can be harvested, normally contained in national legislation and provides a basis on which management arrangements are enforced.

Surveillance:

Involves checking and supervision of fishing activity to ensure national legislation and terms of access and management measures are observed. This activity is crucial to ensure that the resources are not overexploited, poaching is minimized and management arrangements are implemented.

LIST OF ACRONYMS

ALD	Automatic Location Devices
BCLME	Benguela Large Marine Ecosystem
BENEFIT	Benguela Environment Fisheries Interaction and Training Programme
BRD	By-catch Reducing Device
BOBP	Bay of Bengal Programme (FAO)
CCAMLR	Commission for the Conservation of Antarctic Marine Living Resources
CCRF	Code of Conduct for Responsible Fisheries (FAO)
CFP	Common Fisheries Policy (EU)
CMC	Central Monitoring Centre (FFA, Solomon Islands)
CMFRI	Central Marine Fisheries Research Institute (India)
DOF	Department of Fisheries, Thailand
EPIRB	Emergency Position Indicating Radio Beacon
EU	European Union
FAO	Food and Agriculture Organization of the United Nations
FCLP	Fisheries Comprehensive Licensing Policy (Malaysia)

FFA	Forum Fisheries Agency (Pacific)
FLIR	Forward Looking Infrared
FMP	Fisheries Management Plan
FSI	Fisheries Survey of India (India)
GDP	Gross Domestic Product
GMDSS	Global Maritime Distress Safety System
GOI	Government of India
GPS	Global Positioning System
GRT	Gross Registered Ton
HP/hp	Horse power
ICCAT	International Commission for the Conservation of Atlantic Tunas
IMO	International Maritime Organisation
INMARSAT	International Maritime Satellite Organisation
IT	Information Technology
MAF	Ministry of Agriculture and Fisheries (UK)
MCS	Monitoring, Control and Surveillance
MEY	Maximum Economic Yield
MFRA	Marine Fisheries Regulation Act (India)
MOA	Ministry of Agriculture (India)
MOFA	Ministry of Fisheries and Agriculture (Maldives)
MPEDA	Marine Products Export Development Authority (India)
MRS	Marine Research Station (Maldives)
MSY	Maximum Sustainable Yield
MScY	Maximum Social Yield
MTI	Ministry of Trade and Industry (Maldives)
NEAFC	North Atlantic Fisheries Commission
NMFS	National Marine Fisheries Service (USA)
NOAA	National Oceanic and Atmospheric Administration (USA)
NRSA	National Remote Sensing Agency (India)
NSS	National Security Service (Maldives)
OAL	Overall Length
OCM	Ocean Colour Monitor
PCS	Position, Course and Speed data
PFZ	Potential Fishing Zone (India)
SADC	Southern African Development Community
SEAFO	South East Atlantic Fisheries Organisation
SOLAS	Safety Of Life At Sea
SSB	Spawning Stock Biomass

SST	Sea Surface Temperature
TAC	Total Allowable Catch
TED	Turtle Excluder Device
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea
UK	United Kingdom
USA	United States of America
UT	Union Territories
VHF	Very High Frequency (radio)
VMS	Vessel Monitoring Systems

WORKSHOP PROCEEDINGS

INTRODUCTION

The national workshop on fisheries monitoring, control and surveillance in support of fisheries management took place in the International Centre, Goa, India from 12 to 17 February. The workshop was funded by Sub programme C: Assistance to Developing Countries for Upgrading their Capabilities in Monitoring, Control and Surveillance of the FAO/Norway Inter-regional Programme of Assistance to Developing Countries for the Implementation of the Code of Conduct on Responsible Fisheries (FISHCODE). The Fishery Survey of India received funds from FISHCODE, under an LOA, for arranging invitations, selection and travel arrangements. FAO staff and FISHCODE consultants arranged the technical content.

Thirty participants attended from all maritime States and Union Territories and a number of additional participants from Goa also joined in certain sessions. A list of participants and resource persons is given as Annex 1.

OBJECTIVES OF THE WORKSHOP

To train selected staff, mainly fishery officers from maritime States and Union Territories, by:

- Reviewing MCS procedures in the context of fisheries management and fisheries law and to relate this to the situation in India, where States have a preponderant role in management;
- Undertaking practical experiences in inspection (at-sea and onshore), reporting and prosecution (e.g. detection of violations);
- Examining case studies that can help participants have a deeper appreciation of MCS and contribute to finding viable solutions (considering such features as closed seasons, areas and restricted gears and access).

PROGRAMME

The programme is presented in Annex II.

Guests, Speakers and Instructors included:

The Right Honourable Shri Monohar Parrikar, Chief Minister of Goa

Prof. B.S. Sonde, Vice Chancellor of Goa University

Mr P. Rosenegger, FAO Representative in India

Dr V.S. Somvanshi, Director General, Fishery Survey of India

The Right Honorable Shri Pratsh Velip, Minister for Fisheries of the Government of Goa

Mr K. Vijayakumaran, Deputy Director General, Fishery Survey of India

Admiral P. Paleri, Deputy Inspector General (DIG)

Mr G.V. Everett, Senior Fisheries Planning Officer, FAO

Captain P. E. Bergh, Adviser, Ministry of Fisheries and Marine Resources of Namibia

Mr Salehan Bin Lamin, Chief MCS, Department of Fisheries, Malaysia

Mr A. Smith, Fishery Industries Officer, FAO
Mrs A. VanHoutte, Legal Officer, FAO
Dr Y.S. Yadava, Interim Coordinator, BOBP
Dr M.E. John, Zonal Director Mormugao base of FSI
Commandant H.C. Birah of the Coast Guard

OPENING CEREMONY

The opening ceremony took place at the International Centre, Goa, in the evening of Monday 12 February 2001. The address of welcome was given by Dr V.S. Somvanshi, Director General of the Fishery Survey of India. The Chief Minister of Goa, Honourable Shri Monohar Parrikar, made a presentation and inaugurated the Workshop. Prof. B.S. Sonde, Vice Chancellor of Goa University gave a presidential address. Mr. G.V. Everett, Senior Fisheries Planning Officer, FAO, made introductory remarks and Mr Peter Rosenegger, FAO Representative in India, talked of the Code of Conduct for Responsible Fisheries and the Workshop on the Code of Conduct for Responsible Fisheries, organized by the Bay of Bengal Programme in September 2000 in Chennai. A vote of thanks was given by Dr M.E. John, Zonal Director, Fishery Survey of India.

SUMMARY OF PRESENTATIONS AND FIELD ACTIVITIES

Tuesday 13 February

Dr Somvanshi, Director General, Fishery Survey of India, gave the first presentation and outlined the situation of marine fisheries resources. He described the inshore coastal stocks as being fully or overfished, whilst stocks in deeper waters could withstand more intensive fishing pressure. Abundance of fisheries varied with environmental fluctuations and satellite photos were being used increasingly to give further information on oceanic conditions. In view of the focus of the Workshop he commented on management regulations in India pertaining to zonation, the varied time of closed fishing on the east and west coast and possibilities for improving vessel marking, introducing a colour code for vessels and minimum sizes of fish.

Dr Yadava, Interim Coordinator of the Bay of Bengal Programme, then spoke of the Code of Conduct for Responsible Fisheries, as well as the Workshop that BOBP organized at Chennai on 28 and 29 September 2000. Mr Smith made additional remarks on the importance of the Compliance Agreement and international plans of action. The international plan of action with regard to illegal, unregulated and unreported (IUU) fishing is of special interest because much of the content is of direct relevance to MCS. Further presentations in the morning session were given by Mr Everett on the background to MCS and the situation in neighbouring countries in the northern Indian Ocean, as well as by Mr. Bergh who described the MCS situation in Namibia. He discussed some of the experiences and a film was shown.

After lunch Mr Salehan gave a presentation on Malaysian MCS and details were given of progress with introducing VMS. Mr Bergh spoke on MCS platforms and Admiral Paleri, Deputy Inspector General (DIG) talked of the work of the Coast Guard. He particularly appreciated being able to talk to representatives of the fishery authorities of all maritime States. Prior to ending the day's proceedings there was an exposé on the situation in Orissa.

Wednesday 14 February

Mrs Van Houtte talked about MCS and legal issues and Mr Bergh discussed MCS operations. There was then a lengthy session on VMS by Mr Smith, with Messrs Bergh, Salehan and Yadava making follow-up comments. Mrs Van Houtte spoke on legal issues associated with VMS. Gear selectivity was then the topic of the next presentation by Mr Smith.

After lunch, Mr. Bergh talked about resource rent and cost-effectiveness in MCS. He also discussed the procedures for inspection at sea through boarding and showed a film made in Thailand on boarding, where a number of lessons could be learnt about the attention required in effecting such an operation. Participants then were given an introduction to chart work by Mr Smith and issues that might be raised if details on location of a vessel were to be addressed in court. On copies of a chart of the coast off Mumbai, the participants were asked to plot a position some ten nautical miles off the coast where there is a cliff. Participants were asked questions which included responses on error of method of measurement, depth and how it was measured, type of bottom, date when soundings for the chart were made, how soundings were made, distance between the soundings and other necessary evidence for a court case. Salehan then introduced participants to vessel marking. A film that was made in Thailand for the Songkhla MCS training course in 2000 on boarding vessels at sea for inspection was shown. Mr. Bergh highlighted items to look out for when boarding at sea. Fishery officers from Andhra Pradesh, Maharashtra, Karnataka and Kerala made presentations on the situation in their respective States¹.

Thursday 15 February

Thursday was scheduled as a field day. A visit was first made to Mormugao landing stage where a vessel targeting shark and a small purse seiner were unloading. The Coast Guard vessel "Vijaya" was visited. Participants then boarded the FSI research vessel, based in Goa and went some three nautical miles offshore. The Coast Guard mounted a survey and inspection exercise. First a Dornier plane was sent overhead for spotting. Then a helicopter and two fast interceptor craft approached and circled the fishing vessel. One interceptor vessel came alongside and crew came aboard the fishing vessel. The vessel was inspected. However, it turned out that the inspection mainly targeted illegal location and entry into a certain zone, rather than executing an inspection of fishing practices (log book, gear, catch, etc). After coming in to port the participants visited Andersons Marine where inflatable and interceptor craft are built for MCS work. Later a visit was made to the landing site near Panjim, where trawlers were unloading in the evening.

Friday 16 February

The first session focussed on lessons learnt from the field day visit. It was followed by a SWOT (Strengths, Weaknesses, Opportunities, Threats) analysis undertaken by all participants on their work associated with fishery management. Then a theoretical management plan was formulated. This took the form of the successful exercise undertaken earlier in the Regional Training Course on MCS held in 2000 in Songkhla, Thailand. There was no time to go into much detail, but everyone seemed to appreciate the opportunity to attempt writing a plan. Background information was given on the species targeted, the number of vessels taking part

¹ It is expected that FSI will publish these papers.

and the tonnage caught. A yield/effort curve was drawn based on the data provided and this was also translated into a curve showing economic costs and benefits.

Participants were asked to describe the management plan with a title, the area of operation of the fishery (and map), description of a legal framework (under which jurisdiction the fishery falls, relevant legislation, etc.), history of fishing, management, involvement of interest groups, objectives for the fishery with regard to resource aspects, the environment, biodiversity and ecological issues, technological, social and economic considerations.

In addition, participants were asked to examine the biological information on the fishery, the outline of the fleet or fishing categories participating in the fishery and the outline status of the stocks as indicated by stock assessments.

Following this, it was necessary to give details of non-fishery users or activities which could impact on the fishery, details of access rights and the groups or individuals given them and then a description of the management (control) measures for the regulation of fishing in order to meet the objectives within a specified time frame (output or effort).

Final focus was on details of any critical environments or sources of concern and actions required to address them, marine parks, protected species, etc., particulars of arrangements and responsibilities for MCS and enforcement (e.g. Navy, Fisheries Department, Police, Coast Guard), sources of funding for fisheries management and then the date and nature of next review and audit of management plan.

RECOMMENDATIONS

Annex III contains a list of recommendations prepared by the participants.

CLOSING CEREMONY

Dr M.E. John, Zonal Director of the Mormugao base of FSI, welcomed the chief guest, the Minister for Fisheries of the Government of Goa, the Right Honorable Shri Pratsh Velip, who gave an address on the importance of the fisheries sector and the importance of issues addressed at the workshop. Dr V.S. Somvanshi read out recommendations of the workshop and Mr G.V. Everett highlighted some elements of the past few days. Commandant H.C. Birah of the Coast Guard outlined the participants' reactions to the workshop and a vote of thanks was offered by Shri K. Vijayakumaran, Deputy Director General of the FSI, Mumbai.

ACKNOWLEDGEMENTS

Special thanks are due to the staff of the Fishery Survey of India for their efforts to ensure that the Workshop was so successful.

DOCUMENTS AND LECTURE NOTES PRESENTED

Most of the material presented at the workshop is reproduced in full in Annex IV. The lecture notes produced by Ms S. Davies and Mr P.E. Bergh were issued during the course to the participants in the form of a booklet with many colour pictures. These notes have been reproduced here with only the most essential pictures. However, it is the intention to incorporate all lecture material used at the workshops held in Songkhla, Thailand in 2000 and Goa, India in 2001 in a single CD ROM, to be issued later in 2001.

ANNEX I

LIST OF PARTICIPANTS

Shri M.I. Patel
Deputy Director of Fisheries
State Fisheries Department
Dr Jivraj Mehta Bhavan
Government of Gujarat
Gandhi Nagar – 382 010

Shri B.N. Gawali
Assistant Director of Fisheries
Taraporewala Aquarium
Netaji Subhash Road
Churni Road
Government of Maharashtra
Mumbai – 400 003

Smt. Abhilasha R. Agarwal
Supdt. of Fisheries
Admn. of UT of Daman and Diu
Near Fishing Jetty
Daman – 396 210

Shri T. Venkateshappa
Deputy Director of Fisheries
Uttar Kamada Dist.
Government of Karnataka
Karwar – 581 301

Smt. Usha S. Desai
Supt. of Fisheries
Dayanand Bhandodkar Marg
Government of Goa
Panaji – 403 001

Shri T. Thankappan
Director of Fisheries
Vikas Bhavan
Government of Kerala
Trivandrum – 695 003

Shri C.G. Koya
Assistant Director of Fisheries
Administration of UT of Lakshadweep
Kavaratti Island – 682 555

Shri G. Venkataraju
Assitant Director of Fisheries
Government of Andhra Pradesh
M.J. Road, Nampally
Hyderabad – 500 001

Shri G. Sathiyamoorthy
Joint Director of Fisheries
Government of Tamil Nadu
Teynampet
Chennai – 600 006

Shri N. Chandra
Director of Fisheries
Government of Orissa
Jobra, Cuttack – 753 007

Shri P.K. Chatterjee
Assistant Director of Fisheries
Government of West Bengal
8B Lindsay Street
Calcutta – 700 016

Shri N. Chaturvedi
Principal Secretary (Fisheries)
Writers Building Near Gate 6
Government of West Bengal
Calcutta – 700 016

Shri Nagesh Ram
Director of Fisheries
Andaman and Nicobar Islands
Port Blair – 744 001

Smt. G. Ramalakshmi
Joint Director of Fisheries
Government of Pondicherry
Botanical Garden
Pondicherry – 605 001

Shri C. Haridas
Assistant Commissioner (Fisheries)
Room 479, Krishi Bhavan
Dept. of Animal Husbandry and Dairying
Ministry of Agriculture
New Delhi – 110 001

Shri Ramachandra Nair
Senior Technical Assistant Fisheries
Room 479, Krish Bhavan
Dept of Animal Husbandry and Dairying
Ministry of Agriculture
New Delhi – 110 001

Shri K. Venkateshwaran
Central Institute of Fisheries Education
Kakori Camp J.P. Road, Versova
Mumbai – 400 061

Shri P. Ramanujan
Central Institute of Fisheries Nautical and
Engineering Training
Dewan's Road
Cochin – 682 016

Dr V.S.R. Murthy
Head, Demersal
Central Marine Fisheries Research Institute
Post Box 1603, Ernakulam
Kochi – 682 014

Dr N.G.K. Pillai
Head, Pelagic
Central Marine Fisheries Research Institute
Post Box 1603, Ernakulam
Kochi – 682 014

Commandant R.K. Vishwakarma
Coast Guard
Worli
Mumbai – 400 025

Commandant H.C. Birah
Coast Guard
National Stadium Complex
New Delhi – 110 001

Dr K.P. Philip
FSI
P.B. 853, Kochangady
Kochi – 682 005

Shri K.N.V. Nair
FSI
Fishing Harbour Complex
Royapuram
Chennai – 600 013

Shri P. Sivraj
FSI
Post Box 46
Port Blair – 744 101

Shri S.K. Naik
FSI
Sitala Creek
Kasturba Gandhi Road
Porbandhar – 360 575

Shri L. Ramalingham
FSI
Fishing Harbour Road
Visakhapatnam – 530 001

Shri G.K. Avhad
FSI
Sassoon Dock
Colaba
Mumbai – 400 005

Dr A.K. Bhargava
FSI
Botawala Chambers
Sir P.M. Road
P.B. 10004
Mumbai – 400 001

Dr M. E. John
FSI
Bogdo
Mormugao – 403 803

Dr V.S. Somvanshi
Director General, FSI
Botawala Chambers
Sir P.M. Road
P.B. 10004
Mumbai – 400 001

Shri K. Vijayakumaran,
Deputy Director General, FSI
Botawala Chambers
Sir P.M. Road
P.B. 10004
Mumbai – 400 001

Captain Per Erik Bergh
Ministry of Fisheries and Marine Resources
Windhoek
Namibia

Mr Lamin Bin Salehan
Department of Fisheries
Ministry of Agriculture
Kuala Lumpur, Malaysia

Dr Y.S. Yadava
BOBP
91 St Mary's Road
Abhiramapuram
Chennai - 600 018

Mrs A. Van Houtte
Legal Officer
Legal Office (LEG)
FAO
00100 Rome, Italy

Mr A. Smith
Fishery Industry Officer
Fishery Technology Service (FIIT)
FAO
00100 Rome, Italy

Mr G.V. Everett
Senior Fishery Planning Officer
Fishery Policy and Planning Service (FIPP)
FAO
00100 Rome, Italy

ANNEX II
PROGRAMME

Monday 12 February

1630 hours Opening Ceremony

Tuesday 13 February

0830 hours Issues concerning marine fisheries and fisheries management in India.
Dr V.S. Somvanshi

0930 hours The Code of Conduct for Responsible Fisheries, with special emphasis on its
application to the management and development of marine fisheries in India.
Dr Y.S. Yadava and A. Smith

1030 hours Overview of issues of concern to fisheries Monitoring, Control and
Surveillance in the Northern Indian Ocean.
G.V. Everett

1130 hours Legal aspects of MCS
A. Van Houtte

1400 hours Fisheries management and MCS in Namibia
P. E. Bergh

1445 hours Fisheries management and MCS in Malaysia
Salehan Bin Lamin

1530 hours Participants' contributions

Wednesday 14 February

0830 hours MCS platforms
P.E. Bergh

0930 hours Vessel Monitoring Systems
A. Smith

1030 hours Gear selectivity, measuring nets
A. Smith

1130 hours Vessel identification
Salehan bin Lamin

1400 hours Inspection procedures
P.E. Bergh

1445 hours Legal evidence and locations
A. Smith

1530 hours Resource rent
P.E. Bergh

1630 hours The Coast Guard of India
P. Paleri and participants

Thursday 15 February (Field day)

0630 hours Fish landing quay, Vasco da Gama

0800 hours Visit to Coast Guard vessel

0900 hours Boarding and inspection at sea

1130 hours FSI zonal base, Mormugao

1230 hours Visit to Andersons Marine shipyard

1430 hours Visit Old Goa then fish landing centre at Panaji/Betim

Friday 16 February

0900 hours Discussion re field exercises

0945 hours SWOT analysis

1030 hours Introduction to a fisheries management plan

1430 hours Discussion of management plan

1530 hours Discussion of recommendations

1600 hours Closing Ceremony

Saturday 17 February

Departure

ANNEX III

RECOMMENDATIONS

Recognising the importance of responsible development of fisheries as enshrined in the Code of Conduct for Responsible Fisheries and other global conventions, optimisation of fish production from the marine sector and the safety and security of small-scale fishermen, the national workshop on fisheries monitoring, control and surveillance recommended the following:

- The incorporation of MCS activities in the management plans of the coastal States/Union Territory governments should be reinforced/supported by an implementable legislation. Action: Coastal States/Union Territory Governments
- The Coastal States/Union Territories in association with the Central Government should develop harmonised management plans for sustainable exploitation of all species, including shared stocks. Action: Central Government/Coastal States/Union Territories
- The coastal States and Union Territory governments should take urgent steps for incorporation of MCS activities in the day-to-day management of marine fisheries. Action: Coastal States/Union Territory Governments
- To regulate fishing activities of Indian owned fishing vessels beyond territorial waters, the Central Government may take steps for the enactment of a comprehensive legislation at the earliest. Action: Ministry of Agriculture
- To reinforce the implementation of MCS programmes, a vessel monitoring system for all vessel fishing in the EEZ may be considered by the Central Government. Action: Ministry of Agriculture
- Considering the enormous response from the Coastal States/Union Territories and other agencies, more similar national workshops should be organised in the near future. Action: Ministry of Agriculture
- Considering the fact that the Marine Fisheries Regulation Acts (MFRA) promulgated by the Coastal States/Union Territories are based on a model bill circulated in the late seventies and that there have been significant global developments since then (e.g. UNCLOS Agreement on Straddling Stocks, Compliance Agreement, etc.) the Coastal States/Union Territories may consider reviewing their MFRAs to bring them into conformity with such developments. To ensure harmonisation and uniformity, the central government may consider assisting the Coastal States/Union Territories through model guidelines. Action: Ministry of Agriculture/FAO
- To bring in sub-regional/regional co-operation in implementation of MCS. Similar workshops may also be held on a sub-regional/regional level. Action: BOBP/FAO
- The Coastal States/Union Territories should create awareness amongst fisherfolk and cooperatives on the need for MCS through a community based participatory approach. Action: Coastal States/Union Territories/Ministry of Agriculture