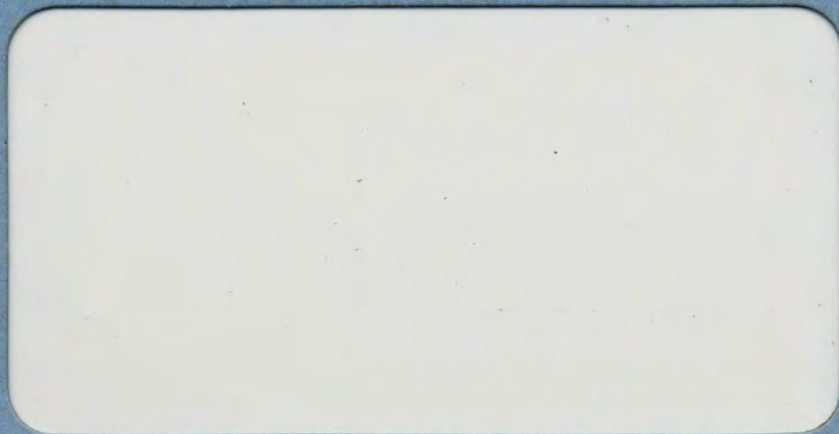
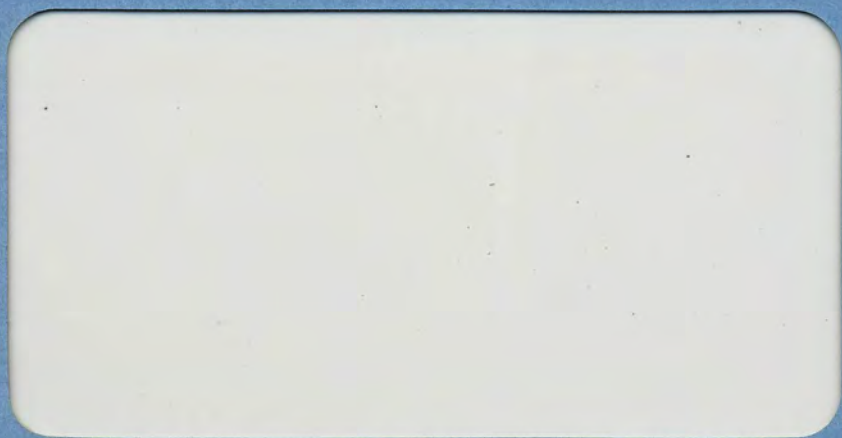


INTERNATIONAL MARITIME
ORGANIZATION



UNITED NATIONS
ENVIRONMENT PROGRAMME





MISSION TO DEVELOP AN OPERATIONAL
REGIONAL CONTINGENCY PLAN FOR
RESPONDING TO MARINE POLLUTION
EMERGENCIES FOR THE SOUTH ASIA
REGION

PROJECT NUMBER FP/5102-87-05 (2782)



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UNITED NATIONS ENVIRONMENT PROGRAMME

PROJECT DOCUMENT NUMBER:
FP/5102-87-05 (2782)

PROJECT TITLE:
Development of an Operational Regional Contingency Plan
for Responding to Marine Pollution Emergencies for the
South Asian Region. (SAS-5).

COUNTRIES OF ASSIGNMENT:
Bangladesh, India, Maldives,
Pakistan and Sri Lanka

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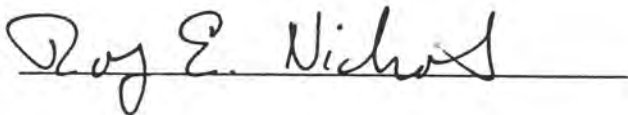
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NOTE: The views expressed in this report are those of the Consultant and are not attributable in any way to the United Nations or the International Maritime Organization.

SIGNATURE OF CONSULTANT:

DATE: 28 December 1988



(i)

ACKNOWLEDGEMENTS

The consultant wishes to express his gratitude to the governments of the People's Republic of Bangladesh, the Republic of India, the Republic of Maldives, The Islamic Republic of Pakistan and the Democratic Socialist Republic of Sri Lanka and to all the persons who gave of their time to assist in the gathering of information to complete the first draft of the South Asia Marine Pollution Emergency Action Plan.

A special thanks to the UNDP offices in the South Asian region for the numerous times they assisted in rearranging the consultant's schedule due to the disastrous flood in Bangladesh.

Through the excellent cooperation of all the South Asian governments, the mission was completed as scheduled.

(ii)

TERMS OF REFERENCE

To visit each of the South Asian Regional States (Bangladesh, India, Maldives, Pakistan and Sri Lanka) for advisory and data gathering purposes, and likewise to perform the following assignment:

- (a) Prepare an updated review of national contingency plans;
- (b) Prepare an outline of a draft regional contingency plan and technical background information documents from data available; and
- (c) Identify further technical assistance requirements in the field of marine pollution combatting for each country visited.

PREFACE

The first draft of the South Asia Marine Emergency Action Plan is considered as a starting point in the development of a plan of mutual assistance between member countries during times of major marine emergencies as envisioned by UNEP's Regional Seas Programme.

It is recognized that the plan will be modified and expanded as changes in response capabilities, risk assessments and organizational structures occur.

With each change, a stronger and more effective South Asia Marine Emergency Action Plan will emerge.

CHAPTER I

INTRODUCTION

1.1 Historical Background

1.1.1 In May 1982, the UNEP Governing Council adopted decision 10/20 requesting the Executive Director of UNEP "to enter into consultations with the concerned States of the South Asian Cooperative Environment Programme (SACEP) to ascertain their views regarding the conduct of a regional seas programme in the South Asian Seas".

1.1.2 In response to the request, the Executive Director appointed a high level consultant to undertake a mission to the coastal states of SACEP in 1982 and 1983. The report of the consultant was transmitted by UNEP to the Governments of the South Asian Seas Region in May of 1983 and the recommendations of the Executive Director were submitted to the Governing Council at its eleventh session.

1.1.3 By decision 11/7 of 24 May 1983, the UNEP Governing Council voted "the consultations carried out in accordance with Council Decision 10/20 of 31 May 1982" and requested "the Executive Director to designate the South Asian Seas as a region to be included in the Regional Seas Programme in close collaboration with the South Asian Cooperative Environment Programme and Governments in the region and to assist in the formation of a plan of action for the environmental protection of the South Asian Seas".

1.1.4 In December of 1986, a meeting of experts in the South Asian Seas Regional Programme was held in Bangkok, Thailand. During the meeting, the representative of the South Asian Environment Programme (SACEP) suggested, and the meeting took note, that SACEP, being an existing regional intergovernmental organization of South Asian countries dealing with environmental matters, could be considered as a suitable existing organization insofar as administrative and secretariat functions are concerned. The meeting agreed upon a number of priorities to which the governments should give their early consideration and made the following recommendations for consideration by the Governments:

1.1.4.1 that countries of the region which still do not have a national contingency plan should initiate action to do so at the earliest possible time, giving such action the necessary legal and administrative backing required;

1.1.4.2 that respective governments should designate a person, body or authority in such national contingency plans who will, as the need arises, participate and act as Lead Agency in the regional programme of action;

1.1.4.3 that governments shall advise others of their Lead Agency contact and agree to establish direct contact/communication in case of major spill/pollution;

1.1.4.4 that governments shall exchange data/information relating to existing legislation, administrative and other arrangements especially relating to resources, both in respect of training and of equipment;

1.1.4.5 that any sighting or detection of spillage on the high seas should immediately be communicated to all such countries of the region which are likely to be affected;

1.1.4.6 that governments should, with proper and prior arrangement with respective immigration and customs authorities, ensure fast passage of men and equipment for combatting pollution;

1.1.4.7 that governments should, through prior consultation, arrange for meetings from time to time and should, at a later stage, review the need for any institutional set-up or secretariat;

1.1.4.8 that donor countries and other international agencies may be approached for technical and financial assistance, both in respect to national as well as regional programmes; and

1.1.4.9 that, in the event that governments eventually agree to cooperate on the development of regional antipollution arrangements, training of personnel at the regional level should be given high priority.

1.2 Mutual Assistance and Cooperation

1.2.1 The essence of all the regional agreements is the commitment to cooperate with other States in combatting marine pollution incidents and to render assistance to other Contracting Parties which request assistance to deal with such incidents. The obligation to render assistance is, in general, qualified to mean that a State will "use it's best endeavours", "do it's utmost" or will render assistance "within it's capabilities". This latter phrase is of particular relevance to the majority of regions composed of

Contracting States which have only very limited national pollution response capability. Most agreements require a State responding to a marine pollution incident to make a preliminary assessment of the situation, promptly determine its ability to deal with it, request any assistance that may be required and consult with other Contracting Parties concerned in the process of determining the necessary response.

1.3 National Response Capability:

1.3.1 It is widely recognized that a nationally based capability to respond to a marine pollution incident is of fundamental importance and provides the necessary underpinning of regional agreements. Regional agreements should therefore be considered as a "supplement to" rather than a "substitute for" a national response capability. The existence of national contingency plans is a prerequisite for the development of a regional agreement or action plan. In several regions, the development of regional agreements and action plans has served to encourage a more rapid development of national contingency plans by focussing on the problems of marine pollution combatting at high governmental level. Many of the regional agreements have encouraged Contracting States, within their capability, to establish and maintain the means of responding to marine pollution incidents.

1.4 Objective of the South Asia Marine Pollution Emergency Action Plan

1.4.1 The South Asia Marine Pollution Emergency Action Plan is designed as a tiered response procedure to enhance the ability of a country to respond to a spill which may be beyond that country's national capability. The individual country's National Contingency Plan will continue to be the guiding doctrine and is in no way diminished by the formation of the South Asian Action Plan. The objective of the South Asian Action Plan is, therefore, "to provide a plan for mutual assistance from member states and organizations in the event of a major oil spill incident which exceeds the response capability of the national government or oil industry".

CHAPTER II

UPDATED REVIEW OF NATIONAL CONTINGENCY PLANS

2.1 Overview of Regional National Contingency Plans

2.1.1 Progress has been made in national contingency planning by member states in the South Asian Region, partially as a result of various IMO missions to the countries. Each country in the region has a plan in draft form of a completed National Contingency Plan. Where necessary, each country should review its plan to enhance its effectiveness and bring the plan into compliance with its current organization.

2.1.1.1 Bangladesh has adopted the draft National Contingency Plan prepared in 1980 by the Director General of Shipping on behalf of the Minister. Responsibilities of the Lead and Support Agencies have been realigned; however, they have not updated the organizational changes in the National Contingency Plan. The government of Bangladesh has not promulgated the plan but it is included in the South Asian Action Plan in its draft form.

2.1.1.2 India has a comprehensive National Contingency Plan which has been in effect for a number of years. The copy included in the South Asian Plan is incomplete since some information is outdated. India is prepared to revise their National Plan based on the general review being offered in the consultant's mission report.

2.1.1.3 Maldives has adopted the draft National Contingency Plan prepared by the IMO Consultant in 1986. Maldives, because of its geographic configuration and limited resources will require special consideration when developing a national response plan. Because of the complexities of the atoll geography, there will always be an intrinsic risk to the ecology from a major spill incident. Future planning should accept this peril and prepare a response in keeping with the national capabilities, concentrating on the protection of inhabited islands wherever possible.

2.1.1.4 Pakistan has recently reorganized their national response organization and the more recent changes are reflected in the draft National Contingency Plan prepared by the IMO consultant in February 1988. For the purposes of the South Asian Action Plan, Pakistan's draft contingency plan is included even though some additional realignment of national responsibilities is envisioned.

2.1.1.5 Sri Lanka has completed a draft National Contingency Plan which, at

the time of the consultant's visit, was being circulated to various governmental departments for their acceptance and/or comment and was not available for publication in the South Asian Action Plan. cursory review indicates that considerable planning has gone into the Sri Lanka National Contingency Plan, including the designation of a new Lead Agency. The South Asian Action Plan organization reflects the proposed organizational structure of the national plan currently under review.

2.2 General Comments Germain to National Contingency Plans in South Asia

2.2.1 Different countries will have various solutions to preparation of a national contingency plan. Each country has its own unique geographical conditions or response techniques that will influence the structure of the plan. Each plan will be tailored to the needs of the country and will likely have different agencies or organizations responsible for different aspects of their plan. For this reason, there is no right or wrong national contingency plan, since each plan will fit the individual needs of the country.

2.2.2 Certain disciplines are germane to effective national and local contingency plans with more detail expected to be found in the related local plans. A national contingency plan should be reasonably complete in itself and should not entail reference to a number of other publications. The plan should be considered an emergency "how to cope with the situation" handbook incorporating useful information and operational guidance. A loose-leaf format facilitates regular updating which is essential to a viable plan. Plans that bog down in governmental approvals are subject to becoming obsolete and will often fall into disuse.

2.3 Essential Elements of a National Contingency Plan

2.3.1 Geographic Area of Responsibility

The national contingency plan should define the area of national responsibility by delineating geographic boundaries. Because of varying agency responsibilities, there may be different agencies responsible for inland spills, harbour spills or spills at sea which could encroach on coastal areas. In some cases, more than one agency or an overlap of agency authority can exist. The plan should resolve these differences to ensure positive responsibility and reduce any confusion during an emergency.

2.4 Designation of National Lead Agency

2.4.1 The Lead Agency will normally perform an administrative function in connection with the National Contingency Plan while one or more Support Agencies will be responsible for actual spill abatement activities. Different countries have various solutions to the alignment of responsibilities but the designation of a single agency to perform the duties of Lead Agency is paramount. During the consultant's visit to South Asia, there was apparent

confusion amongst some agencies as to who was the Lead Agency and who was the Support Agency for the country. Some of the confusion resulted from the Lead Agency and the Support Agency being responsible to two different ministries.

2.4.2 For the purposes of national contingency planning, an organizational chart should be prepared with "line" and "staff" functions illustrated. The contingency plan organization will be in effect only during an oil spill emergency and will cease when the spill emergency is over.

2.5 Identification of Potential Risk Locations and Sensitive Areas

2.5.1 Risk locations: The expected frequency and size of spills and the type of oil likely to be involved should be addressed in this section. If records have been kept at marine terminals of spills resulting from ship accidents or operational errors, this can be a basis for establishing a risk assessment. Offshore operations such as ship-to-ship lightening, single point mooring buoy systems with their related submersible pipelines and offshore oil wells, are all pertinent to a country's risk analysis. For oil ports, the number of calls made by tank vessels is relevant in establishing a relationship to probable spill occurrence. General cargo ports where bunkering takes place can be evaluated based on the amount of bunker fuel delivered and whether it is transported by vessel or by pipeline. A range of possible spill scenarios can be developed from an analysis of oil related activities and types of oil handled in the area or carried through it.

2.5.2 Sensitive areas: In preplanning response to possible oil spills, knowledge of coast and offshore sensitive areas will enable the response teams to make the best use of available pollution abatement resources, particularly when it is impossible to protect all the coastline and priorities have to be decided. It should also be kept in mind that very rarely, if ever, can all the sensitive areas of a given shoreline be protected, even with adequate equipment and timely response efforts by the On-Scene-Commander. In many spills, it may be impossible to prevent oil from coming ashore and, in some circumstances, it may be advantageous to allow oil to come ashore where it can be removed more efficiently.

2.5.3 Coastal sensitivity mapping is a function of each South Asian country and sensitivity maps should be included in each national contingency plan. The scope of information needed for a national response plan should be limited to realistic data which will be of value to the Support Agency. Preplanning, especially in the use of chemical dispersants in offshore and coastal fishing grounds, is an example of valuable information expected to be found on a sensitive area map. Information about agreed priorities must be readily available and sufficiently published. The priorities must be listed and cross-referenced to any coastal sensitivity maps. Such an order of priorities can reduce the risk of disagreement and indecision when faced with difficult choices during an oil spill emergency.

2.6 Clean-up Strategy

2.6.1 The elimination of spilled oil from the surface of the water or shoreline can employ a number of different strategies, depending upon many factors. The On-Scene-Commander is responsible for making the decisions as to the most efficient methods of performing the task with the resources available to him. The national contingency plan can offer guidance in the selection of a prescribed strategy. A simple strategy flow chart should be included to assist in a course of action to follow.

2.6.2. Response measures will include consideration of a number of factors and can include one or more of the following:

2.6.2.1 If possible, prevent or reduce outflow of oil from the source.

2.6.2.2 If marine or coastal resources are not threatened, monitor the movement of the oil slick.

2.6.2.3 Application of dispersants at sea.

2.6.2.4 Protection of key resources.

2.6.2.5 Shoreline clean-up.

2.6.2.6 Any combination of the above.

2.6.3 Whatever the response, action at sea must be prompt if it is to be effective. Dealing with oil on shorelines may be less urgent and there may be circumstances in which it will be appropriate to do nothing about oil that has come ashore, such as where natural cleaning can occur or where any clean-up will increase damage to the environment.

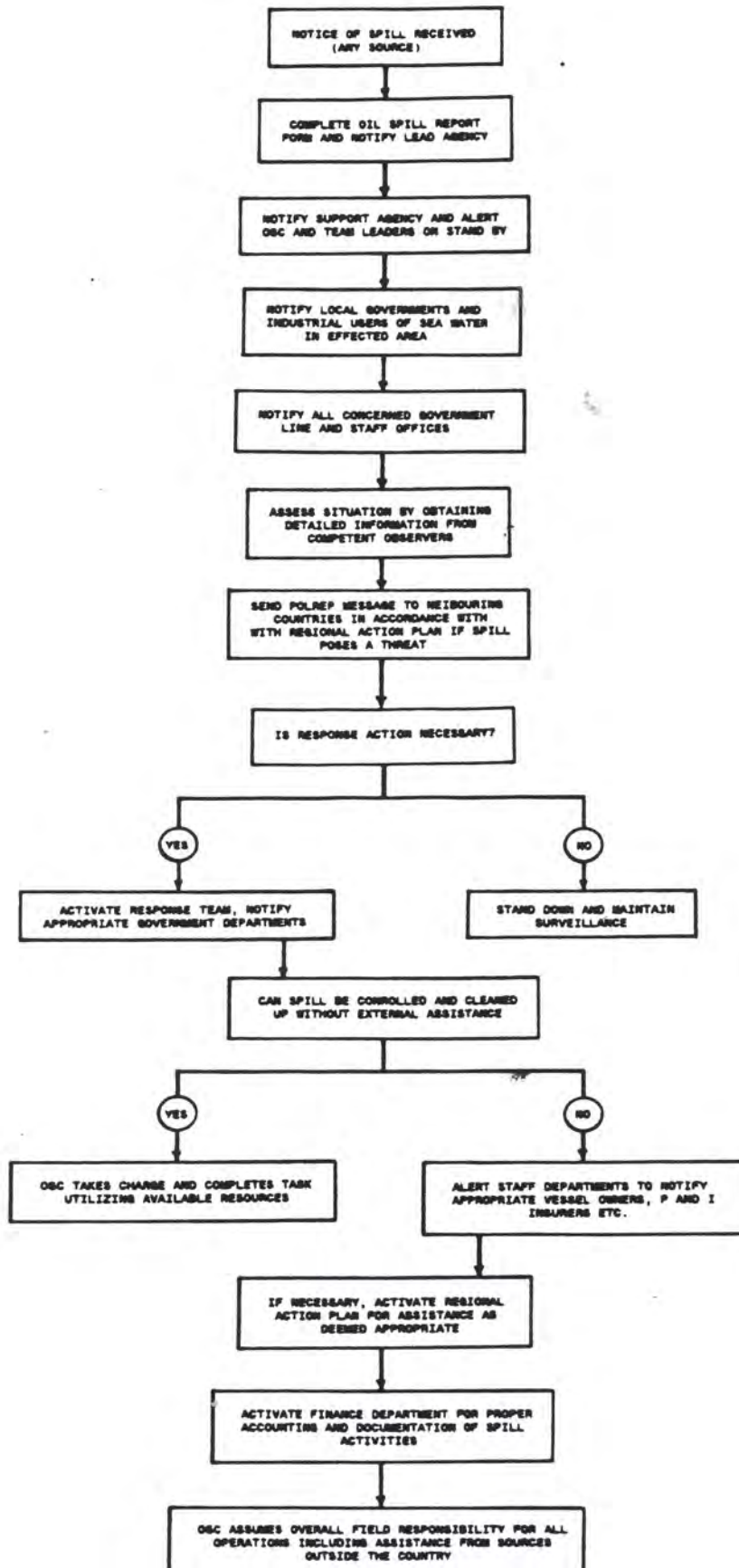
2.6.4 Oil spill response is not an exact science and there are different opinions as to the best techniques. The planners should try to keep their options open to permit the best combination of responses for any particular incident in the light of existing circumstances.

2.6.5 Additional factors that should be resolved in the national contingency plan.

2.6.5.1 The decision makers in the Support Agency organization must have sufficient authority to initiate action to deal promptly with a spill or with an incident which may lead to a spill. This is of particular importance if oil is to be dealt with while it is still at sea.

2.6.5.2 The Support Agency organization should be capable of coordinating the activities of other agencies, including the control of substantial numbers of personnel and a variety of equipment.

**MOBILIZATION PROCEDURE
STRATEGY PLAN CHART**



2.6.5.3 Suitable centres should be identified for effective command and control of operations. It may be decided that different centres will be used for different aspects of counterpollution operations but an overall command centre should be established.

2.6.5.4 Clear instructions should exist defining the responsibilities of different parts of the response organization.

2.7 Clean-up Operations

2.7.1 The plan should state which clean-up techniques should be used in what circumstances. Generally, containment and recovery of spilled oil is preferred but, in some instances, it may be necessary to use dispersant chemicals.

2.7.2 There are many chemical dispersant manufacturers throughout the world and the contingency plan should state the policy with regard to whether, where, when and what type of dispersants may be used. The plan should contain a list of manufacturers whose chemical dispersants are approved for use in the coastal waters of the country by brand name and product number.

2.7.3 In many cases, oil will reach the coastal areas and it will be necessary to remove oil and oily debris from shorelines and the water surfaces within bays, lagoons, etc. For shoreline clean-up, a large work force and civil engineering construction equipment are frequently required and the plan should identify their availability. The progress of the clean-up operation should be monitored, using inputs from aerial surveillance and site supervisors to reassess response decisions. Each area will require different standards of clean-up; for example, amenity beaches are normally cleaned to a higher standard than exposed rocky headlands. The decision to terminate clean-up operations must be made by the On-Scene-Commander in consultation with all other parties concerned. In general, this is done when further operations would be ineffective or the desired level of clean-up has been achieved.

2.8 Communications

2.8.1 The plan should establish systems and procedures for effective communication between the On-Scene-Commander, field sites, vessels and aircraft involved in the operations. A communications centre should be selected and equipped at least with radio communication systems and, if possible, a telephone. Consideration should be given to allocating an operating frequency or frequencies for radio communication.

2.9 Disposal of Recovered Oil and Oily Debris

2.9.1 The plan should identify available equipment and temporary storage sites which can be used for collection and reception of recovered oil and oil debris. Final disposal of the recovered oil will depend on its nature and degree of contamination.

2.9.2 Disposal of oily debris and oiled sand presents particular problems in handling due to the large quantities involved. It is recommended that suitable final disposal sites are identified in the plan in consultation with the relevant governmental agencies. A flow chart of various disposal methods should be included in the contingency plan. In addition, solutions should be resolved based on a "worse case" scenario prior to an emergency.

2.10 Restoration of Affected Areas and Post Spill Monitoring

2.10.1 On completion of the clean-up operations, some restoration may be necessary. The degree of restoration will be determined by the Lead Agency in consultation with other agencies such as environment, tourism, fishery, coastal industry and ports. Some examples of such restoration are replacing contaminated beach sand, replanting mangrove stands, marsh and sea grasses and restocking aquaculture projects.

2.10.2 In areas identified in the plan as having high environmental sensitivity, a monitoring programme may be established after the spill clean-up operation to determine the long term effects on flora and fauna. This should enable an assessment of the long term effects on the coastal environment, particularly the fishery.

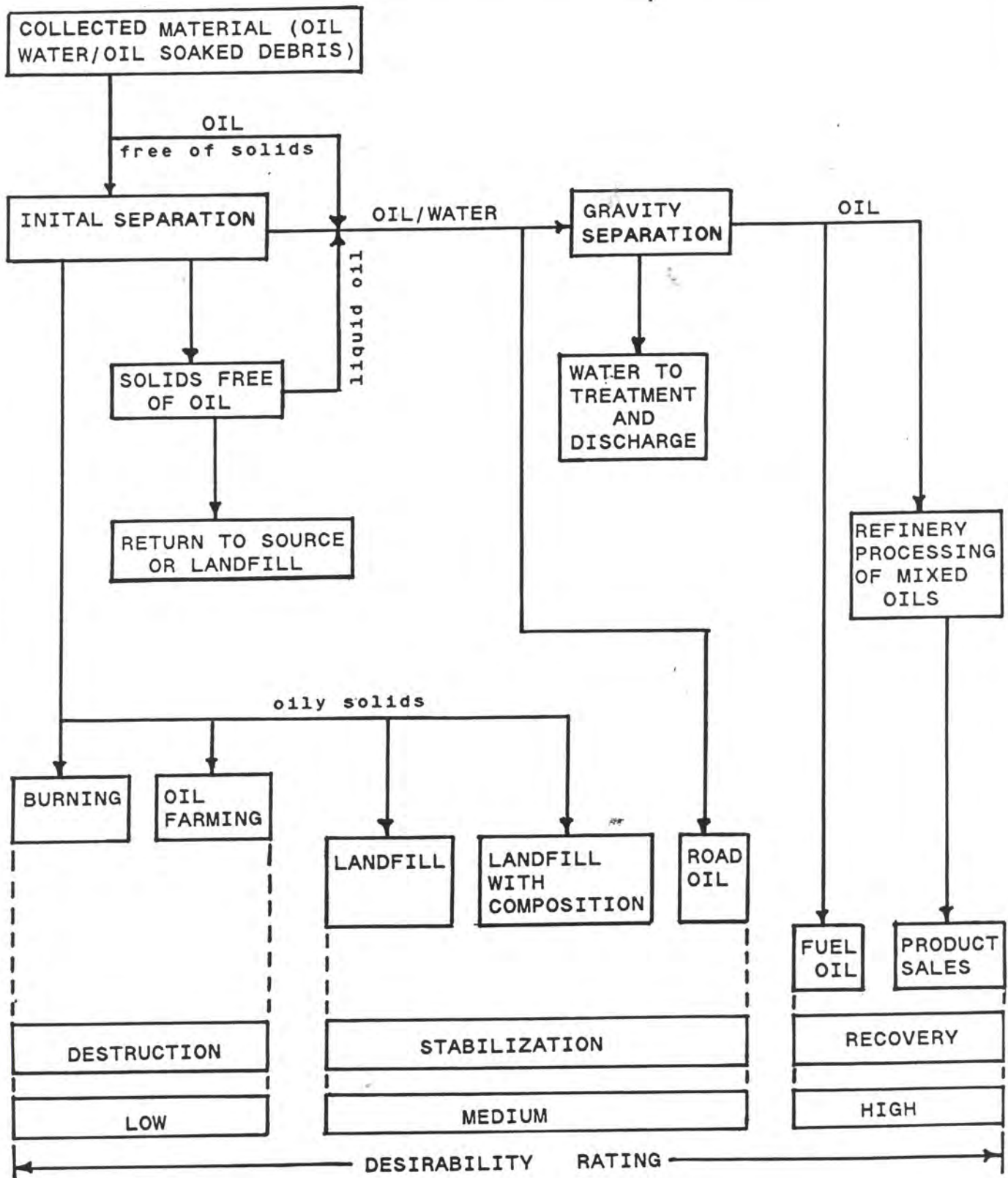
2.11 National Price List for Equipment Rental

2.11.1 The national contingency plan should contain a section on the cost for the use of dedicated pollution equipment, military vessels and aircraft, operating personnel and consumable supplies. Preplanning is essential to ensure that costs of the clean-up are recovered with minimal delay.

2.11.2 Pricing for rental use of equipment should be based on an internationally acceptable schedule. If equipment rental rates appear arbitrary or excessive, payment of the entire claim may be delayed. On the other hand, if a well documented rental schedule is available for the insurance claims representative, payment of the claim will normally be more expedient.

2.11.3 A suggested formula for preparation of a price list is offered to assist in the development of a national price list.

DISPOSAL OF RECOVERED OIL AND DEBRIS



2.11.4 Equipment

- a) Pumps, skimmers, dispersant spray equipment and other dedicated pollution equipment shall be charged at actual cost divided by 30 days. (Example; a pump cost \$39,000 new, divided by 30 days would equal a daily rental rate of \$1,300. Standby rate when the equipment is brought to the spill site is one/half of the daily rate).
- b) Containment Boom: Actual cost divided by 10 days. (Example: 1500 ft. of containment boom cost \$32,000 new, divided by 1500 ft. would equal \$2.15 per foot per day).

2.11.5 Personnel

- a) Skilled government employees: (Limited to On-Scene-Commanders, Equipment Operators, Response Team Leaders, etc.) Actual monthly wage, including the cost of any fringe benefits, divided by 173 would equal the hourly rate plus 25% administrative overhead charge.
- b) Nonskilled labourers: Double the normal daily minimum rate because of the hardship of working in an oily environment to be paid weekly to the labour crews. Invoice charge shall include a 25% administrative overhead cost.

2.11.6 Commercial Subcontractors

- a) Commercial tug boats, work boats, supply vessels or land based equipment will normally have an established rental rate. If the government contracts for the services of the vessels or equipment directly with the owner/operator and pays for the use of the equipment, then the paid invoice shall be included in the final claim with a 20% charge for administrative overhead cost. This is normally the way subcontractors are paid as the owner/operator usually will not be willing or financially able to wait for settlement of the entire claim before being paid.
- b) If, on the other hand, the owner/operator contracts directly with the insurance carrier for the services of the vessels or equipment and he is paid directly by the insurance carrier, then the use of the vessel or equipment shall not be included in the government claim to the insurance carrier. An administrative overhead cost will only be included when the government pays the subcontractor's invoice directly.

2.11.7 Military Vessels, Aircraft and Equipment

- a) When military vessels, aircraft and equipment are used in response to a marine pollution incident, the government is entitled to recover it's operating cost. If a comparable commercial vessel or aircraft

rental schedule is available, then the commercial rates can be used. However, military equipment is generally more costly to operate and maintain and the rental schedule may differ because of the added operational cost. No set formula can be offered but a rate schedule should be calculated for each class of military vessel or aircraft that possibly will be used during a marine pollution emergency. Rental rates for military equipment should be based on logical calculations to ensure that the entire claim will be settled with minimal delay.

2.11.8 Supplies and Consumables

a) Supplies and consumable materials such as dispersant chemicals and absorbent materials are charged at actual cost plus a 20% administrative overhead charge. Transportation cost for consumables, such as drums of dispersant chemical which may be shipped to the spill site from outside the region and are paid for by the Lead Agency of the affected country, will be billed to the insurance carrier at actual cost plus a 20% administrative overhead charge.

2.12 Record Keeping and Claim Preparation

2.12.1 In order that claims may be processed with minimal delay, it is essential that accurate records are maintained for each clean-up location of all the actions taken, personnel and equipment deployed and consumable material used. It is recommended that sample Daily Work Reports should be provided as an annex to the plan and copied for use during a spill emergency.

2.12.2 At the conclusion of each work day, team leaders, foremen, skimmer operators or any other persons designated by the On-Scene-Commander shall complete a Daily Work Report for the activities he is responsible for. The Daily Work Report will show all the persons working by name, job description and hours worked. All equipment and consumable supplies will be recorded. At the end of the day, the Lead Person will forward his Daily Work Report to the command centre for accountability and review by the On-Scene-Commander.

2.12.3 Persons in charge of commercial or military vessels and aircraft should submit copies of the vessels or aircraft logs for each day's operation to the command centre as soon as is practical.

CHAPTER III

DRAFT, SOUTH ASIA MARINE POLLUTION EMERGENCY ACTION PLAN

3.1 Tiered Regional Response to Marine Pollution

3.1.1 The South Asia Marine Pollution Emergency Action Plan is formulated on a tiered response concept. The first tier of response is to combat a spill within the jurisdiction of a local contingency plan. If the spill exceeds the response capability of the local response organization or is beyond the jurisdiction of the local plan, then the national contingency plan will be activated. If the pollution incident is of such magnitude that the national response organization cannot cope with the spill or needs assistance, then the South Asia Marine Pollution Emergency Action Plan can be activated. It should be noted that the success of a regional action plan is predicated on each country having a comprehensive national oil spill contingency plan.

3.2 Local Contingency Plans

3.2.1 As stated, the first tier in the tiered response concept is the drafting and implementation of local contingency plans for ports, marine oil terminals, offshore oil fields or other areas of high risk. Local contingency plans will be annexed to each country's national contingency plan. Spills within the jurisdiction and capability of the local authority will be controlled and cleaned up, utilizing the resources available to the local response organization.

3.3 National Contingency Plans:

3.3.1 In the event the local response organization is unable to control or mitigate the spill, then the local authority should yield to the national response authority. When control for the clean-up activities is relinquished to the national response team, the local response personnel will be under the operational control of the national On-Scene-Commander. The national contingency plan should clearly delineate responsibility for the operations response to an emergency where the spill response mechanism escalates from the local authority to the national authority.

3.4 Activation of the Regional Oil Spill Response Action Plan

3.4.1 If, during the assessment phase of the emergency, it is determined by the national lead agency that regional assistance will be required, then the next escalation in the tiered response can be activated. However, there is a major difference in the lines of authority between the national to regional tier as opposed to the local to national tier. When the regional oil spill response action plan is activated, the national authority remains in place and the regional plan only supports the national effort under the authority

of the affected country's national contingency plan. The support will be in the form of equipment and operating or technical personnel.

3.5 South Asian Regional Focal Point Agency

3.5.1 The Focal Point Agency is responsible for the administration of the regional action plan and will not have an operational role during an oil spill when the South Asia Marine Pollution Emergency Action Plan is activated. The Focal Point Agency will be responsible for the maintenance of the copies of the action plan held by the Official Holders of Record throughout the South Asian region. The Focal Point Agency will receive and distribute changes to the action plan as they are received. Each change will be assigned a change number and distributed to the Official Holders of Record. Each Holder of Record will enter the change in his copy of the Action Plan and log the change on the page entitled "Record of Change or Correction".

3.5.2 The Focal Point Agency will be responsible for initiating regional meetings of National Lead Agencies when meetings are deemed necessary to discuss any organizational or operational policies which affect the Action Plan. Unless decided otherwise, a representative of the Focal Point Agency will preside as chairman of the regional meeting and be responsible for its administration. UNEP/UNDP/IMO envisions that the Focal Point Agency will be responsible for the continuing longevity of the Action Plan once the draft plan has been adopted and a commitment of participation by the member countries has been agreed to. IMO will continue to offer technical assistance in the field of national contingency planning and related marine pollution guidance when requested.

3.6 Official Holder of Record

3.6.1 Each country will designate the agencies to be considered as Official Holders of Record. It is envisioned that the number of Official Holders of Record within the region will not exceed 20; therefore, each country will have four copies available. Smaller countries may need fewer copies while larger countries may need more. Internally, each country may wish to reproduce copies of the Action Plan for further distribution; however, the agency that produces copies will be responsible for the maintenance of the copies. The Focal Point Agency will only be responsible for maintaining the 20 copies issued to designated Official Holders of Record.

3.7 National Lead Agency

3.7.1 The National Lead Agency is designated in each country's national contingency plan. The Lead Agency will be the agency that initiates and receives oil spill information directly from National Lead Agencies of other member countries. The Lead Agency is responsible for the notification of member countries in the event a major oil spill occurs in that country's area of responsibility.

3.7.2 Notification routing will be direct between countries' Lead Agencies as shown in the Action Plan's organization chart. Internal dissemination of information will follow the protocol routing within the government and will be the responsibility of each National Lead Agency for proper routing. For purposes of the South Asian Action Plan, the Support Agency is shown as subordinate to the Lead Agency. The organizational relationship between the Lead and Support Agencies will be in effect only during the spill emergency.

3.8 National Support Agency

3.8.1 Each country's National Support Agency will be the organization that normally responds to an oil spill during times of emergency. The duties and responsibilities of the Support Agency are defined in each country's National Contingency Plan. The Support Agency is listed in the South Asian Action Plan as an alternate contact point within each country. Protocol for the South Asian Action Plan is for communications to be between Lead Agencies only. However, in the event communications can not be established directly between Lead Agencies, routing could be directed to the Support Agency, requesting that the Lead Agency establish communication.

3.8.2 If, at the direction of the Lead Agency, direct communications with a Support Agency is authorized, then subsequent messages may be routed directly to the Support Agency. The alternate routing systems, if authorized, will be on a case-by-case basis.

CHAPTER IV

MARINE POLLUTION RESPONSE RECOMMENDATIONS

4.1 South Asian National Response

4.1.1 The South Asia Marine Pollution Emergency Action Plan is designed to provide mutual assistance during major marine pollution incidents but it is not intended to be the sole means of response throughout the region. In keeping with the principle that each country will have the capability of responding to a 100 tonne spill with resources available at the national level, some dedicated pollution abatement equipment should be included in each country's national response plan.

4.1.2 India and Sri Lanka have the capability for responding to spill incidents; however, Maldives, Pakistan and Bangladesh do not. For the purpose of national response planning, it is recommended that consideration be given to the following suggestions:

4.2 Maldives

4.2.1 As discussed in 2.1.1.3, because of the remoteness and geographic configuration of the Maldives Islands, offshore recovery or dispersant spraying is considered impractical. Even if equipment for offshore abatement activities was readily available, it is inconceivable that units from Male could respond to remote offshore locations in a timely manner. Therefore, response to a spill incident in the Maldives Islands should be limited to beach clean-up activities. Clean-up crews, provided with hand tools and transported by the many small vessels available in the archipelago, should concentrate on cleaning beaches.

4.2.2 It is recommended that the government of Maldives give consideration to the purchase of 10,000 thirty-two gallon size, 6 mill weight, plastic bags; 100 square nose shovels and 50 steel tong rakes. As beach clean-up crews manually recover oil, it could be transported to larger vessels for further transportation to a disposal site.

4.2.3 Secondary consideration should be given to the purchase of chemical spray equipment for use in dispersing oil that may impact the Male port area from a marine casualty in the offshore approach to the harbour. Any use of chemical dispersants should be in compliance with the policy dictated by the National Contingency Plan.

4.3 Pakistan and Bangladesh

4.3.1 Both Pakistan and Bangladesh have marine terminals where large quantities of oil are received. In addition, both countries have deep water ports where large freight vessels load and discharge cargoes and take on bunker fuel. Some capability to protect the port areas is essential to achieve clean harbour waters and to meet the minimum 100 tonne response capability envisioned by the South Asian Action Plan. In reviewing the draft of the national contingency plan, both countries have indicated that they have support vessels available to respond to a marine pollution incident. However, on closer examination, it was determined that the harbour vessels listed would be available for pollution work on a limited basis, as these vessels are committed to ongoing harbour activities. Vessels available for sustained use offshore were in very limited supply.

4.3.2 A relatively small 100 tonne spill will take at least 30 days for recovery and the need for support vessels will require that designated vessels and equipment would be dedicated to pollution recovery activities for most of that time. In most cases, a very limited number of harbour vessels could be assigned to the spill clean-up activities and the purchase of any equipment should be guided by the available support equipment. On previous missions, IMO consultants have made recommendations to both Pakistan and Bangladesh as to the type and amount of pollution abatement equipment considered essential for the protection of the national waters. It is recommended that the Lead Agencies in both countries commence procurement of pollution abatement equipment to enable each country to respond to a 100 tonne spill.

CHAPTER V

PERSONS MET

5.1 Bangladesh

S. H. M. Abul Bashar	Dept. of Environment Control
MD. Abu Taleb Khandakar	Dept. of Environment Control
MD. Nurul Islam	Dept. of Environment Control
M. F. A. Siddiqui	Dept. of Ports and Harbours
Capt. Sufi Ashraful Islam	Dept. of Shipping
Capt. A. Hoque	Dept. of Shipping

5.2 India

Dr. S. Z. Oasim	Dept. of Ocean Development
M. M. K. Sardana	Dept. of Ocean Development
Dr. S. N. Dwivedi	Dept. of Ocean Development
Dr. L. U. Joshi	Dept. of Ocean Development
Dr. S. A. H. Abidi	Dept. of Ocean Development
Dr. B. R. Subramanian	Dept. of Ocean Development
Susmita Gongulee	Ministry of External Affairs
Admiral M. S. Ratra	Indian Coast Guard
Cdr. I. K. Jain	Indian Coast Guard
Yogendra Narain	Ministry of Petroleum
Capt. Vinod K. Chawla	Oil Coordination Committee

5.3 Maldives

Hussein Shihab	Director of Environmental Affairs
Ahmed Mujuthaba	Ministry of Transport and Shipping
Mohamed Ali	Ministry of Transport and Shipping
Ahmed Shareef	Ministry of Transport and Shipping
Abdulla Kamaaluddeen	Ports Authority
Lt. Hassan Naseer	Maldives Coast Guard

5.4 Pakistan

Rear Admiral Sajjad Akbar	Ports and Shipping Wing
Capt. I. M. Khan Samadani	Ports and Shipping Wing
Capt. Saifuddin A. Latif	Ports and Shipping Wing
S. H. Niaz Rizvi	National Institute of Oceanography
Muhammad Younus	Ministry of Housing and Works
Jameel Ahmad	Marine Fisheries
M. Yunus Khan	Marine Fisheries Development Project
Sahibdad Mengal	Korangi Fisheries Harbour Authority
M. Munir Chachar	Korangi Fisheries Harbour Authority
A. Hadi Khan	Karachi Shipyard and Engineering Works
Zaffar Zeberi	Karachi Shipyard and Engineering Works
Hamid Waheed	Karachi Shipyard and Engineering Works
Commodore S. N. A. Shah	Karachi Port Trust
Capt. A. Karim Bondrey	Karachi Port Trust
Capt. Habib Ali Al-Aidroos	Port Qasim Authority
M. G. Haider Beg	Mercantile Marine Dept.
Ayaz Jazil Faruqi	Pakistan National Shipping Corp.

5.5 Sri Lanka

K. H. J. Wijayadasa	Secretary to the Prime Minister and Central Environment Ministry
A. M. Shamsul Hoque	South Asia Cooperative Environment Programme (SACEP)
P.N. Dias Abeyegunawardene	South Asia Cooperative Environment Programme (SACEP)
S. Sivasundraam	Ceylon Petroleum Corp.
M. R. D. Avory	Ceylon Petroleum Corp.
C. Halpage	Ceylon Petroleum Corp.
Capt. S. F. Goonewardue	Ceylon Petroleum Corp.
S. R. Manawadn	Ceylon Petroleum Corp.
Wimal Amarasekera	Sri Lanka Ports Authority
Capt. G. O. Henricus	Sri Lanka Ports Authority
R. N. Jayaratne	Sri Lanka Ports Authority
K. G. D. Bandaratilaka	Central Environment Authority
Harsha Wickramasinghe	Ministry of Trade and Shipping
C. P. Jayasinghe	Director of Merchant Shipping
Group Capt. C. T. Goonewardene	Sri Lanka Air Force
S. R. Amarasinghe	Coast Conservation
Cdr. Wasantha Karannagoda	Sri Lanka Navy

