Global Initiative for West and Central Africa (GI WACAF)

# Mission Report

## National workshop for the testing and updating of the National Oil Spill Contingency Plan

**and**

## National workshop on the development of national Oil Spill Sensitivity maps

Walvis Bay, Republic of Namibia
6 - 9 December 2010

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## SUMMARY SHEET

**Title of the Workshop**: National workshop for the testing and updating of the National Oil Spill Contingency Plan and the development of national Oil Spill Sensitivity maps

**Hosted by:** The Ministry of Works and Transport (Directorate of Maritime Affairs), Republic of Namibia.

**Venue and date:** Casa Mia Hotel**,** Walvis Bay, Namibia: 6 – 9 December, 2010

**Type of event**: National

**Organised by:** Ministry of Works and Transport (Directorate of Maritime Affairs), Republic of Namibia

**Supported by:** The International Maritime Organisation (IMO) and the International Petroleum Industry Conservation Association (IPIECA)

**Number of participants**: 47 participants were registered for the Workshop, all except one from Namibia. The additional person is a national of Madagascar currently the Regional Coordinator for Shell based in South Africa. A List of Participants is attached as Annex 1 to this Report.

**Summary of the Workshop**:

The primary objectives of the workshop were to review the National Oil Spill Contingency Plan through a table top exercise and to train national experts to develop sensitivity maps. The workshop therefore included plenary sessions as well as separate parallel sessions for two groups, Group 1 on the NOSCP and Group 2 on the sensitivity maps. There was active participation in both groups and it is anticipated that the workshop will give significant impetus to continued work within the country to update and refine the NOSCP and related documents, including the sensitivity maps. Group 1 produced an Action Plan comprising some 15 different groups of activities while Group 2 made detailed technical and process recommendations for the finalisation of the sensitivity maps. It was also recommended that the Action Plan be submitted to the relevant Permanent Secretaries for official endorsement.

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## 1. INTRODUCTION

The development of a National Oil Spill Contingency Plan (NOSCP) for Namibia was initiated at the first national workshop on contingency planning held in Windhoek in 1998. A number of subsequent workshops and training courses were then hosted by the Ministry of Works and Transport (formerly the Ministry of Works, Transport and Communications) the designated authority for Marine Oil Pollution in Namibia. These activities were supported by the IMO and resulted in the official adoption of the NOSCP by the Cabinet at a workshop in 2007.

Just prior to the 2007 Workshop Namibia became a Party to the International Convention on Oil Pollution Preparedness, Response and Co-operation, 1990. It is also Party to many of the other relevant conventions, including MARPOL 73/78, the Intervention Convention, the 1992 CLC Protocol and the 1992 FUND Protocol, although the latter have not yet been enacted into national legislation. It is also in the process of ratifying the Bunker Convention, but regards ratification of the Abidjan Convention and its Emergency Protocol to be of low priority.

The NOSCP as adopted in 2007 provided a sound basis for the development of an oil spill response capacity in Namibia. However, as identified in the workshops in 2004 and 2007, there are a number of aspects which need to be further elaborated to make the plan operational. These included the development of local and sectoral operational plans, sensitivity maps, and a policy on dispersant use, a comprehensive and up-to-date risk assessment and the identification of Control Centres amongst others. While considerable progress has been made on a number of these aspects, the IMO and IPIECA were invited, under the “Global Initiative for West and Central Africa” (GI WACAF) to assist in the review and testing of the NOSCP, the development of sensitivity maps and the development of an Action Plan.

The workshop team comprised Dr. Lynn Jackson (IMO Consultant) and Mr. Christophe Carrie (IPIECA Consultant). Dr. Jackson was primarily responsible for the reviewing and testing of the NOSCP, while Mr. Carrie was responsible for the sensitivity mapping. Arrangements for the workshop were coordinated by the GI WACAF Focal Point, Ms. Lelly Uukule of the DMA, Ministry of Works and Transport.

## 2. OBJECTIVES

The Global Initiative for Western and Central Africa (GI WACAF) aims to catalyse and encourage effective oil spill preparedness in the region. In this context, the aims of the workshop were to:

- Review and test the national oil spill contingency plan of the Republic of Namibia through a table top exercise and develop an Action Plan for its updating and refinement;
- Discuss the need for and development of a national dispersant policy;
- Increase the understanding of the participants of the compensation regime following oil spill from vessels;
- Train a team of in country experts on oil spill sensitivity mapping, and develop preliminary maps and an Action Plan for their finalisation.

To this end, the workshop was divided into two Working Groups, with the following more specific objectives:

### 2.1 Group 1 (NOSCP)

**Objectives of Group 1**

- To assess oil spill preparedness in Namibia
- To review the draft National Oil Spill Contingency Plan (NOSCP) developed by Namibia
- To test the provisions of the NOSCP through a table top exercise
- To review the main conventions (dedicated to the oil spill preparedness and related to compensation) and their integration into the NOSCP.
- To discuss the need for and development of a national policy concerning the use of dispersants
- To review the operational plans, other supporting documents and appendices of the NOSCP
- To identify Control Centres
- To develop an Action Plan to improve preparedness and to update and refine the NOSCP and its supporting documents, including continue the sensitivity maps.

### 2.2 Group 2 (Sensitivity Maps)

**Objectives of Group 2**

- To participate in training on the principles and methods of coastal sensitivity mapping
- To provide available data to the workshop, and to assess and use this data for the development of the sensitivity maps
- To develop examples of coastal sensitivity maps in GIS format
- To identify the most sensitive sites from sensitivity maps developed
- To develop an Action Plan for the finalisation of the maps.

## 3. VENUE, DATES, ROLES AND PARTICIPANTS

3.1 The National Workshop was held at the Casa Mia Hotel, Sam Nujoma Avenue in Walvis Bay, Namibia from 6 – 9 December, 2010.

3.2 The National Workshop was organised by the Directorate of Maritime Affairs of the Ministry of Works and Transport and supported by the IMO and IPIECA under the Global Initiative for West and Central Africa.

3.3 The representatives of IMO and IPIECA were the consultants, Dr. Lynn Jackson and Mr. Christophe Carrie respectively. They provided specialist input to the workshop and facilitated discussions and the development of an Action Plan.

3.4 There were 47 participants representing national (27) and local (6) government, governmental agencies (8), and the private sector (6). Of these, all were from Namibia with the exception of the Regional Coordinator for Shell, who is based in South Africa. A List of Participants is provided in Annex 10.1.

## 4. COSTS

The funding for the participation of the IMO consultant was provided from the IMO TC Fund under project number: TC/0212-39-2000. The costs of the IPIECA Consultant were covered by IPIECA.

The local costs for the venue and catering were provided by the Ministry of Works and Transport.

## 5. ACTIVITIES AND PROCEEDINGS

### 5.1 Pre-Workshop Activities

The Programme was prepared by IMO and IPIECA in consultation with the GI WACAF Focal Point in Namibia. Specific requirements for the data and equipment for the sensitivity mapping component being provided by the IPIECA consultant. A copy of the Final Programme is attached as Annex 10.2.

### 5.2 Opening Ceremony

The Opening Ceremony commenced at 09:15 am on Monday, 6th December, 2010.

The workshop was officially opened by the Deputy Permanent Secretary of the Ministry of Works and Transport, Ms B Pienaar. She expressed the commitment of the Ministry to continue to improving the NOSCP adopted in 2007 through training and exercises and recognised the value of the partnerships with IMO, IPIECA and the neighbouring states of South Africa and Angola in addressing marine pollution. The full text of the Opening Address is attached as Annex 10.4.

This was followed by an Opening Address by Mr. Faly Ravoahangy, the Regional Coordinator of Shell, on behalf of the oil industry. Mr. Ravoahangy reviewed some recent international spills, and presented a summary of oil spills in Namibia over the past ten years. He also provided an overview of training provided by Shell in Namibia between 2008 and 2010 and identified a number of items in the NOSCP to be considered for review including risk assessment, the adoption of risk-based response strategies, and local equipment stockpiles. He also recommended the development of a Mutual Assistance Agreement between government and industry.

Dr. Lynn Jackson gave an Opening Address on behalf of the IMO, a copy of which is attached as Annex 10.5.

### 5.3 Introductory Session

At the outset of this session, participants were invited to introduce themselves and indicate which of the two groups they would be attending.

#### 5.3.1 Review of the GI WACAF

The IPIECA Consultant presented an overview of the GI WACAF project objectives, activities and results, emphasising the fact that it is a partnership between government and industry. The programme covers 22 countries and has a budget of $ 5 million between 2006 and 2013. Its objectives are to increase preparedness for oil spill response by promoting the development of appropriate legislative frameworks, oil spill contingency plans and trans-boundary agreements, and encouraging the

designation of competent authorities, implementation of training and exercises, and investment in national resources. Since 2006, there have been more than 30 workshops involving some 1500 participants. By November, 2009, nearly 60% of WACAF countries had designated competent authorities and ratified OPRC; nearly 70% had a NOSCP in place; almost 80% were party to regional agreements and around 90% had participated in training and/or exercises. Participants were also referred to the GI WACAF website: www.giwacaf.org

### 5.3.2 Workshop Objectives

The IMO and IPIECA Consultants then jointly presented the Workshop Objectives, including the more detailed objectives of each Working Group as outlined in Section 2 above.

### 5.3.3 Overview of the NOSCP of Namibia

The GI WACAF Focal Point for Namibia, Ms Lelly Uukule, then gave a verbal presentation on the NOSCP of Namibia covering the history of its development and current status.

## 5.4 Parallel Sessions of Group 1 and Group 2

The Workshop then split into the two Working Group sessions, with 34 participants in Group 1 and 13 in Group 2.

### 5.4.1 Group 1

Monday, 6th December, 2010:

The first session of the Group 1 discussions included:

i) A presentation by the IMO Consultant on the elements of preparedness for oil spill response and the components of an effective NOSCP, following which the participants were provided with a copy of the Matrix of preparedness for completion.
ii) An overview of items identified for improvement in previous workshops (2004 and 2007).
iii) A presentation by Tim Eiman on the NAMPORT Oil Spill Contingency Plan for Walvis Bay.
iv) A presentation by Elias Gabriel on Shell Namibia's Oil Spill Contingency plan.

The session culminated with a discussion on the arrangements for the table top exercise the following day. For purposes of the exercise the group was again sub-divided into two: the National Response Team (NRT), and a group of Observers. It should be noted that during these discussions it emerged that:

- The NOSCP does not at present identify specific individuals as members of the NRT.
- Not all likely members were present at the workshop.
- The telephone list in the NOSCP was out of date.

An NRT was therefore nominated for purposes of the exercise – broadly representative of the organisations listed in the relevant organogram in the NOSCP -

and a list of their telephone numbers compiled. This group then played the central role in the implementation of the exercise.

The group of Observers collectively assisted the IMO Consultant in assessing the exercise according to a set of criteria, while some individuals were also called on to play other roles eg. the Weather Office, members of an NGO, and the media.

Tuesday, 7th December 2010

*Exercise:*

The exercise was based on a scenario involving a passing ship in the vicinity of Walvis Bay. It involved 3 main phases:

- Call-out procedures
- A meeting of the National Response Team to develop and implement a response strategy
- A press briefing.

Details of the exercise scenario and related documents are provided in Annex 10.6.

*Debriefing and assessment*:

The debriefing and assessment was conducted over two sessions: after the coffee break on the afternoon of the 7th, and before coffee break on the morning of the 8th December, 2010.

Wednesday, 8th December, 2010

*Continuation of debriefing and assessment*

The main objectives of the exercise were to:

- to test the provisions of the National Oil Spill Contingency Plan – particularly the reporting and call-out procedures – in terms of their currency and adequacy in dealing with a Tier 2 spill
- to evaluate the familiarity of the roleplayers with the plan and their ability to develop and initiate a response plan
- to identify areas of the plan which need to be updated and/or improved
- to identify training needs
- to strengthen relationships between key roleplayers.

As indicated above, the NOSCP does not currently list individuals for the various roles. Nor are the contact details in the plan up to date. Therefore, although the exercise was initiated through a reporting and call-out procedure, it was not a realistic test of the situation.

The debriefing and assessment therefore focussed on the other objectives and, in particular, the development of an Action Plan. Notes on the debriefing were provided by one of the Observers and can be found in Annex 10.6, while the Action Plan can be found in Annex 10.7.

*Presentation on compensation and claims*

At the request of participants, the IMO Consultant then gave a presentation on the compensation regime both for tankers and non-tankers, as well as providing some pointers with regard to the submission of claims.

*Dispersant policy*

The situation with regard to dispersant policy in Namibia is unclear. Prior to the workshop, the IMO consultant was advised that the Ministry of Health and Social Services had a policy on dispersants. However, although a copy was not forthcoming it seems likely that this deals with the use of industrial detergents rather than oil spill dispersants. Moreover, the NOSCP does in fact include limited guidance on dispersants. At the same time, Namibia does not have a dispersant capability.

A discussion was therefore held on dispersants and it was generally agreed that at this stage (pending the completion of a risk assessment) it seems that it would not be worthwhile for Namibia to invest in building a dispersant capability. Nevertheless, it was agreed that a more comprehensive policy should be put in place in case dispersants were proposed for use during an emergency situation involving international assistance. The DMA were provided with a copy of the South African policy on dispersants.

*Discussion on preparedness and compilation of Action Plan*

A discussion on the status of Namibia with respect to the 6 elements of preparedness (as outlined in the Matrix) was then held. The outcome of these discussions together with the debriefing and assessment of the NOSCP based on the exercise was then used to compile an Action Plan. The completed Matrix and Action Plan are attached in Annex 10.7.

### 5.4.2 Group 2

Monday, 6th December, 2010:

Monday was dedicated to the presentation of the sensitivity mapping principles and the definition of the geographic coverage for the sensitivity mapping project.

The IPIECA Consultant made a number of presentations covering the following:

- the roles of the maps in the development of oil spill preparedness and oil spill response emphasising the need to include the maps in the National oil Spill Contingency Plan;
- the three categories of oil spill impacts and their linkages to the three thematic areas of the coastal sensitivity maps: (1) shoreline type (geomorphology) which provides the basis for the Environmental Sensitivity Index; (2) sensitive ecosystems and biological resources; and (3) socio-economic use of the coast and its resources. He also mentioned the need to identify logistical and operational resources and underlined the importance of producing simple, functional maps focused on the needs of the users;
- the steps required to produce the maps;
- the advantages of using GIS tools to produce the maps;
- the methodology for determining the geographic coverage of the maps;

- an overview of the data collected prior to the workshop. This presentation provided the basis of the data analysis and selection during the working session of day 2.

The participants were then provided with a questionnaire (see 10.8) related to the available data in their respective organizations. The responses to the questionnaire were then presented and integrated into a preliminary action plan.

Tuesday, 7th December, 2010:

Tuesday was a working session dedicated to the development of the first set of sensitivity maps based on the available data.

Wednesday, 8th December, 2010:

The IPIECA consultant presented two general methods for the identification of the most sensitive sites displayed on the strategic maps. The first method is based on the development of a global index grouping the three aspects of sensitivity; the second method is the cartographic method which consists of displaying each of the three aspects of sensitivity individually on the same map. Based on the advantages and disadvantages of the two methods, the participants selected the cartographic method for the development of the Namibian strategic map.

Based on the work completed and the responses to the questionnaire (Annex 10.8), the participants then developed a detailed Action Plan aimed at finalising the sensitivity mapping project.

### 5.5 Final Plenary Session

On the final day, a plenary session was held during which the findings and recommendations of both groups were presented. These are outlined in more detail in Section 9.

### 5.6 Closing Ceremony

Participants were presented with certificates as well as USB keys by Mr. M. Nangolo – Director of the DMA. The keys contain the main presentations from the workshop as well as extensive additional information.

Closing remarks were then made by Ms Lelly Uukule, the outgoing GI WACAF Focal Point, and the IMO Consultant, and the workshop closed at 11:30.

## 6. ASSESSMENT AND ANTICIPATED OUTCOME

### 6.1 General Assessment

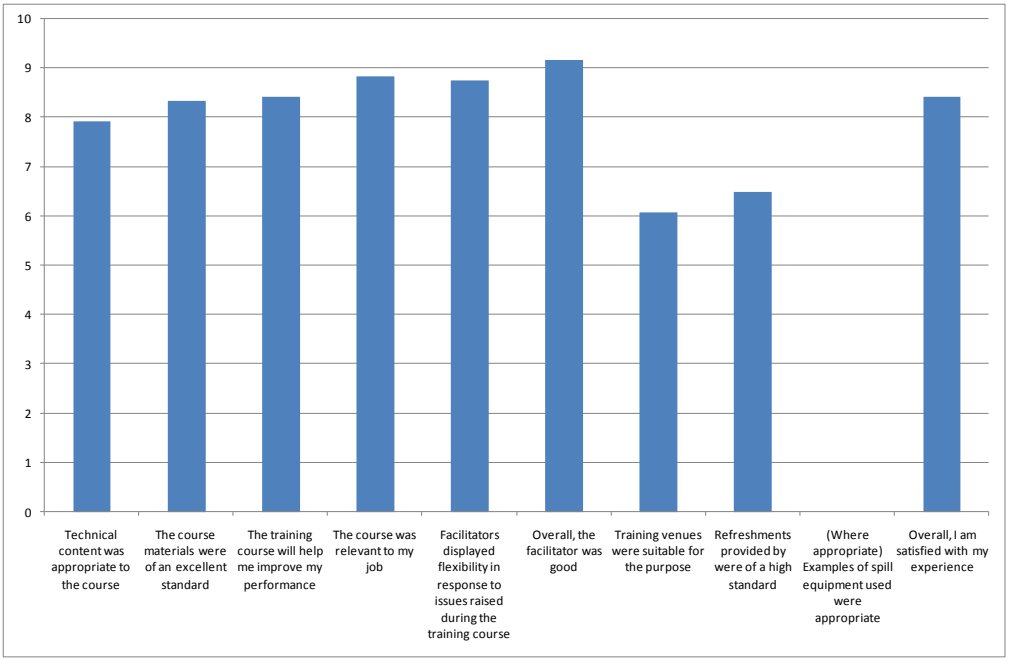
The Workshop was well attended and participants engaged actively in the discussions and other activities. At the outset there was some concern over the fact that many of the actions recommended at the 2004 and 2007 workshops had not been implemented. However, it appeared that this was primarily due to the departure in 2008 (following promotion) of Mr. Japhet Iitenge who had been the driving force behind the development of the NOSCP. Shortly before this Workshop (from 1st December), Mr. P.N. Auene was appointed as the Deputy Director: Marine Pollution

in DMA, and he will now take over this responsibility. Despite his short time in the new post, Mr. Auene played an active role in the exercise as the Chair of the National Response Team, and his ability and enthusiasm suggest that the new Action Plan has a high chance of successful implementation.

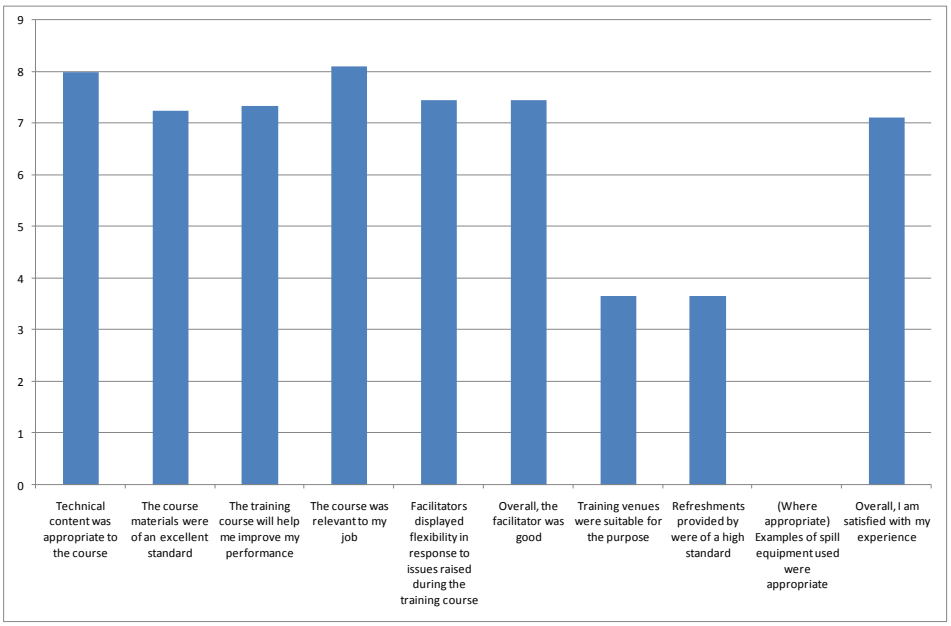
### 6.2 Evaluation Questionnaires

Twenty-one of the participants returned their completed questionnaires, 12 from Group 1 and 9 from Group 2. The results are summarised in the charts below. Rating categories range from 0 – 10, with 0 indicating strong dissatisfaction, and 10 strong satisfaction.

**Group 1**




**Group 2**



In general the feedback from participants of both groups was very positive, and there were requests for a follow-up workshop within two years. There were, however, concerns regarding language in Group 2 and both groups – and the facilitators – were dissatisfied with the venue which was noisy, did not allow for proper separation of the two groups, and generally was lacking in facilities.

It is noted that the evaluation form refers to oil spill equipment, which was not used in the workshop. It is assumed that the participants in Group 2 who rated this had the IT equipment in mind.

## 7. ACHIEVEMENTS AND CONCLUSIONS

The National Workshop achieved all the objectives as set out in Section 2 above. This is evidenced in the comprehensive Action Plan (Annex 10.7) which was endorsed on the final day and which includes numerous proposals from the participants themselves covering both the updating and refinements of the NOSCP and the development of sensitivity maps.

In general it can be concluded that:

- The NOSCP provides a sound basis for oil spill response in Namibia, but needs to be made operational. This will be achieved through the implementation of the Action Plan.
- The regulatory framework related to oil spill contingency planning is adequate but could be improved in some respects.
- There is a need for further training and exercises, particularly for the members of the National Response Team once they have been officially designated.
- The preparations and logistics around the workshop worked reasonably well although the venue was not that satisfactory and there were too many participants for this type of workshop.

## 8. RESOLUTIONS/RECOMMENDATIONS

### 8.1 Group 1

The recommendations of Group 1 covered a range of topics from the re-activation of the Steering Committee, to a risk assessment and the editing of the NOSCP. In addition, it was recommended that the Action Plan be submitted to the Permanent Secretary of the MWT, and through him to other relevant Ministries and agencies, for official endorsement. These recommendations are incorporated into the Action Plan (Annex 10.7).

### 8.2 Group 2

While the general recommendations of Group 2 were included into the Action Plan, the participants of Group 2 also made a number of more specific recommendations as follows:

- The Ministry of Works and Transport should ensure that this project receives national priority.
- Adoption of the coastal sensitivity maps methodology discussed during the workshop. The methodology is presented in Annex 10.9;

- Recommended the integration of the completed coastal sensitivity maps into the National Oil Spill Contingency Plan and that the response strategy of the NOSCP be updated in line with the maps if necessary;
- Developed and agreed on the structure of a project for the finalisation of the coastal sensitivity maps as outlined below and in Annex 10.10:
    - Steering committee lead by the Ministry of Works and Transport and composed of MLR, MFMR, MET, MME, and coastal local authorities (municipalities);
    - Technical committee composed by different organizations : DSM, GSN, NACOMA, LMR (fisheries), NATMIRC, WBM, SWKM, HBM, OTC, LM, KRC, NAMPORT.
- Agreed that the project should be conducted in four geographic phases:
    - Phase 1: Erongo
    - Phase 2: Hardap
    - Phase 3: Karas
    - Phase 4: Kunene
- Recommended that all necessary data to develop the coastal sensitivity maps will be shared among all stakeholders with sharing conventions
- Recommended a national workshop for inputs on the priorities for protection of most sensitive areas for the political level after completion of the phases.
- Recommended a national budget dedicated to this project for a timeframe which has to be defined.

The following steps were recommended:

- The Ministry of Works and Transport should appoint the steering committee and call for a debriefing meeting
- The Ministry of Works and Transport should appoint a technical committee
- A Budget should be in place with a timeframe to conduct the development of the project
- Implementation of the project.

### 8.3 General recommendations

Exercises should be run as discrete events rather than being embedded into a broader workshop and more attention should be given to the planning process. Where possible, they should be conducted at the relevant Control Centre where proper facilities are available. This would make them more realistic in terms of the experience.

While exercises are a useful component of training, they cannot compare with the experience of an actual incident and opportunities and mechanisms should be sought to enable NRT members to be observers during real incidents.

## 9. FOLLOW-UP ACTIONS

The MWT should initiate the implementation of the Action Plan as early as possible in 2011.

The MWT should invite the IMO and IPIECA to continue their support for the ongoing development and implementation of the NOSCP and in particular to facilitate the organisation of a Level Three training course for members of the National Response

Team and the provision of further technical support for the sensitivity mapping process should this be required.

It is suggested that IMO and IPIECA consider providing further assistance provided that there is official commitment to the implementation of the Action Plan.

## 10. ANNEXES

**1. List of Participants**
**2. Programme**
**3. List of Acronyms**
**4. Opening speech of the Deputy Permanent Secretary: MWT**
**5. Opening speech of the IMO Representative**
**6. Summary of information related to the exercise**
**7. Matrix of Preparedness and Action Plan**
**8. Questionnaire for sensitivity mapping**
**9. Methodology for Sensitivity Mapping**
**10. Project Structure**
**11. Detailed Action Plan for Sensitivity Mapping**

## 10.1 List of Participants

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| | | | | | |
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| | | | | | |

## 10.2 Programme

| **Day 1** | |
|---|---|
| | **Opening Ceremony** |
| 08h00 | Registration of participant |
| 09h30 | **Opening Ceremony :**<br>- Opening speech of the Deputy Permanent Secretary: Ministry of Works and Transport<br>- Speech on behalf of Oil Industry (Shell Marine Technical Advisor)<br>- Speech of the IMO representative |
| 10h15 | **Coffee break** |
| | **Introduction** |
| 10h45 | **Introduction of the lecturers and course participants** |
| 11h00 | **General review of the GI WACAF project activities and Results of the Biennium 2008-2009**<br>Christophe Carrié, IPIECA Consultant |
| 11h30 | **Presentation of the workshop objectives**<br>Lynn Jackson, IMO Consultant and Christophe Carrié, IPIECA Consultant<br>- Discussion |
| 12h00 | **Overview of the National Oil Spill Contingency Plan of Namibia**<br>Lelly Uukule, GI WACAF Government Focal Point<br>- **Discussion** |
| 12h45 | **Organisation of Group 1 (NOSCP Review) & Group 2 (Coastal Sensitivity Mapping)** |
| 13h00 | **Lunch break** |
| | Group 1 : NOSCP Review experts / Group 2 : Sensitivity Mapping experts |
| 14h00 | **Presentation on the elements of preparedness (GI WACAF) for oil spill response and the components of an effective National Oil Spill Contingency Plan**<br>Lynn Jackson, IMO Consultant<br>**Coastal sensitivity mapping**<br>Christophe Carrié, IPIECA Consultant<br>- ESI Methodology<br>- Identification of the most sensitive sites |
| 14h30 | **Presentation on regulatory framework in Namibia**<br>**Mr. M.Nangolo, DMA**<br>**Followed by preliminary discussion on preparedness in Namibia**<br>- Regulatory Framework<br>- **Contingency Plans (NOSCP + others)** |
| 15h00 | **Coffee Break** |
| 15h30 | Review of items from 2004 and 2007 Action Plans: IMO Consultant<br>**Definition of the geographic coverage of the project**<br>**Discussion & questions**<br>Christophe Carrié, IPIECA Consultant |
| 16h00 | Presentations on operational contingency plans:<br>NAMPORT<br>Shell<br>**Presentation & Assessment of the GIS data collected by participants for this project: tools, software data & personnel**<br>Christophe Carrié, IPIECA Consultant<br>*Note. The data will have to be collected prior to the workshop and available in GIS format during the workshop to be assessed and used with a GIS software and to be correctly assess*<br>*These data will be used for the development of the sensitivity maps the following day.* |

| | | |
|---|---|---|
| | | |
| **Day 2** | | |
| | Group 1 : NOSCP Review experts | Group 2 : Sensitivity Mapping experts |
| 09h00 | **Implementation of the exercise to test the NOSCP**<br>Lynn Jackson, IMO Consultant<br><br>**Participants:**<br>- National Authorities<br>- Navy and Army<br>- Local Authority<br>- Port<br>- Oil Industry<br>- Other<br><br>**Coffee break included into the session** | **Overview of the action plan to develop the sensitivity maps, attended results and integration into the NOSCP**<br>Christophe Carrié, IPIECA Consultant<br><br>Discussion & questions<br><br>**Presentation of the GIS structure** according to the needs and available data<br>Christophe Carrié, IPIECA Consultant<br><br>**Organisation of the session in 3 groups for the development of sensitivity maps:**<br>- type of coast and general environmental sensitivity<br>- biological resources<br>- human use, logistics & operational resources (including potential sources of pollution)<br><br>**Coffee break included into the session** |
| 12h30 | **Lunch Break** | |
| 13h30 | **Continuation of the exercise** | **Working session in 3 groups for the development of sensitivity maps:**<br>- type of coast and general environmental sensitivity<br>- biological resources<br>- human use, logistics & operational resources (including potential sources of pollution)<br><br>*Note. Each group will be made up of 2 to 3 experts and one GIS expert with a computer equipped with a GIS software.* |
| 15h00 | **Coffee break** | |
| 15h30 to 17h00 | **Debrief and assessment of contingency plan**<br>Lynn Jackson, IMO Consultant<br><br>- Reporting / call-out procedures<br>- Roles and responsibilities / response structure<br>- Links to operational plans<br>- Risk assessment<br>- Oil spill response strategies<br>- Resources<br>- Communications<br>- Co-operation between government and industry<br>- Financial aspects<br>- Regional and international co-operation | **Working Session in 3 groups for the development of sensitivity maps** (continuation of the session) |

## Day 3

| | Group 1 : NOSCP Review experts | Group 2 : Sensitivity mapping experts |
|---|---|---|
| 09h00 | **Continuation of debrief and assessment of contingency plan**<br>Lynn Jackson, IMO Consultant<br><br>- Risk assessment<br>- Oil spill response strategies (inc. dispersant use)<br>- Resources<br>- Communications<br>- Co-operation between government and industry<br>- Financial aspects<br>- Regional and international co-operation | **Presentation of sensitivity maps developed by the 3 groups**<br>Christophe Carrié, IPIECA Consultant & Participants |
| 10h30 | **Presentations and discussion on**<br><br>• **Compensation and claims**<br>• **Dispersant policy** | |
| 12h30 | **Lunch break** | |
| 13h30 | **Further discussion on preparedness in Namibia and development of recommendations on:**<br><br>- NOSCP (operational tools and appendices)<br>- Dispersant policy<br>- National Command Post<br>- Other elements of preparedness | **Session in 3 groups to simplify data layers for the identification of most sensitive sites (cond't)**<br><br>*Note. Each group, so each thematic, will be made up of 2 to 3 experts and one GIS expert with a computer equipped with a GIS software*<br><br>**Suggestion of the most sensitive sites & possible complementary information from experts knowledge** (plenary session)<br>**Christophe Carrié, IPIECA Consultant et Participants** )<br><br>**General Action Plan** to continue the development and the finalisation of the coastal sensitivity maps, the identification of the most sensitive sites, the integration of the maps into the National oils spill contingency and the interest of the map for the use of dispersant policy |
| 15h00 | **Coffee break** | |
| 15h30 | **Consolidation of recommendations and Action Plan for presentation to Joint Session on Day 4** | **General Action Plan** to continue the development and the finalisation of the coastal sensitivity maps, the identification of the most sensitive sites, the integration of the maps into the National oils spill contingency and the interest of the map for the use of dispersant policy<br><br>**Recommendation of the workshop**<br>Development of the recommendations by participants (in working group session and next in plenary session) |
| 17h00 | **Distribution of workshop evaluation questionnaires** | |

| Day 4 | |
|---|---|
| 09h00 | **Presentation of the progress for the development coastal sensitivity maps and identification of the most sensitive sites (Group 2)**<br>Reporter of group 2 |
| 09h30 | **Discussion on the coastal sensitivity maps and on the most sensitive sites**<br><br>**Technical validation of the coastal sensitivity maps and the most sensitive sites identified**<br><br>**Presentation of the General Action Plan to finalize the coastal sensitivity maps** |
| 10h30 | **Coffee break** |
| 11h00 | **Presentation & adoption of the recommendations and Action Plan for the refinement and updating of the NOSCP and other elements of preparedness.** |

## Closing ceremony

| | |
|---|---|
| 12h00 | **Closing ceremony**<br>- Provision of certificates and USB keys with training material<br>- Lecture of the recommendations<br>- Closing speech |
| 12h30 | **Lunch** |

### 10.3 List of Acronyms

BP ..... British Petroleum
CLC..... International Convention on Civil Liability for Oil Pollution Damage
DMA..... Directorate maritime of the Ministry of Works and Transport
DSM..... Directorate of Survey and Mapping
ESI ..... Environmental Sensitivity Index
GI WACAF ..... Global Initiative for West and Central Africa
GIS..... Geographic Information System
GSN ..... Geological Survey of Namibia
IMO ..... International Maritime Organization
IPIECA ..... International Petroleum Industry Environmental Conservation Association
KRC ..... Kavango Regional Council
LMR ..... Land Management & Registration
MET ..... Ministry of Environment and Tourism
MFMR ..... Ministry of Fisheries and Marine Resources
MLR ..... Ministry of Lands and Resettlement
MHSS..... Ministry of Health and Social Services
MME ..... Ministry of Mines and Energy
MWT ..... Ministry of Works and Transport
NACOMA ..... Namibian Coast Conservation and Management Project
NAMPORT ..... National Port Authority
NATMIRC..... National Marine Information and Research Centre
NGO..... Non Government Organization
NOSCP ..... National Oil Spill Contingency Plan
NRT ..... National Response Team
OPM/DPRM .... Office of the Prime Minister
OTC ..... Ounongo Technology Centre
RCC ..... Road Construction and Maintenance of the Roads Authority
SWKM..... Swakopmund Municipality
WBM..... Walvis Bay Municipality

## 10.4 Opening Speech of Deputy Permanent Secretary

**OPENING REMARKS BY THE DEPUTY PERMANENT SECRETARY OF THE MINISTRY OF WORKS AND TRANSPORT, Ms B PIENAAR, AT THE NATIONAL WORKSHOP ON THE DEVELOPMENT OF THE SENSITIVITY MAPS AS WELL AS TEST AND UPDATE OF THE NOSCP – 06TH DECEMBER 2010, WALVIS BAY.**

→ Distinguished Representatives of the International Maritime Organization (IMO)
→ Distinguished Representatives of the International Petroleum Industry Environmental Conservation Association (IPIECA)
→ Distinguished Delegates from the Oil Industry
→ Respected participants of this workshop
All protocol observed.
→ Ladies and gentlemen

I am deeply honoured to be here and to officially open this very important workshop on the testing of National Oil Spill Contingency Plan (NOSCP) as well as the development of the sensitivity maps along side the Namibian coast. We in the Ministry of Works and Transport have been committed to have the National Oil Spill Contingency Plan (NOSCP) finalized and approved by the Government of the Republic of Namibia. This was done in September 2007, after a wider consultation with all the stakeholders.

Ladies and gentlemen,
Namibia recognizes the threats such as habitat loss and pollution the ecosystem faced in case of oil spills. It is also recognized that oil and gas exploration, mining activities, transportation of heavy fuels at sea can cause harm to marine environment, hence measures to minimize these threats should be undertaken in an environmentally safe manner.

I am informed that the objectives of this workshop , organized within the frameworks of the IMO/IPIECA through Global Initiative for Western and Central Africa (GI-WACAF) program which aims at catalysing and encouraging effective oil spill preparedness in the region, are to;

- Review, test and update our national oil spill contingency plan, including compensation mechanisms.
- Discuss the development of national dispersants policy (if not yet already done)
- Increase the knowledge of the participants about the oil Spill Preparedness, Response and cooperation (OPRC) of 1990 Convention and convention related to the compensation following Oil spill from tanker vessels, as well as;
- Train a team of in country experts on oil spill sensitivity mapping and support the team to continue the development of sensitivity maps during the workshop.

Namibia is a party to most of the relevant International maritime conventions including the International Convention on Oil Pollution Preparedness, Response and Cooperation (OPRC) and the International Convention on Oil Prevention and Pollution control from Ships (MARPOL). Against that background, our Ministry has invited representatives from various backgrounds, but having in common concern on the matter to attend this workshop and share with us their experiences. It should be

very clear in our mind that a plan on paper alone may not achieve its intended purpose unless it is tested and executed. We must therefore get committed to the testing of our NOSCP through training and exercise. This task will require dedication and sacrifices in terms of resources. Our Ministry is therefore making this clarion call to all stakeholders to continue participating in training, testing and improvement of this plan.

Ladies and gentlemen

We are all aware that marine pollution by oil does not know boundaries, hence the need for proper planning and quick decision making. Where more than one state is affected, both parties have to work together for the common purpose. I have no doubt that Namibia, Angola and South Africa have a political will to deal with oil spill emergencies in our waters. I also hope and believe that partnership between our three coastal neighbouring states, IMO and IPIECA will go a long way in addressing marine pollution problems in this region.

Finally, ladies and gentlemen, allow me therefore this opportunity to wish you all a productive workshop and fruitful deliberations during this Workshop, with view to test and update our national oil spill contingency plan (NOSCP) as well as to develop National Oil Spill Sensitivity Maps – all equally important in addressing prevention and combating of oil pollution along our coastal areas.

I thank you.

### 10.5 Opening speech of IMO Representative

LADIES AND GENTLEMEN,

On behalf of, His Excellency, Mr E. Mitropoulos, the Secretary-General of the International Maritime Organization, I would like to welcome all of you to this national Workshop for the Testing and Updating of the National Oil Spill Contingency Plan and Development of Oil Spill Sensitivity Maps for Namibia.

I would also like to thank the Government of Namibia and in particular the Ministry of Works, Transport and Communication for organizing this Workshop and for inviting IMO and IPIECA to participate in it. The IMO has been involved with the development of your contingency plan from the first workshop in 1998 right through to its adoption in 2007 and has been happy to see the progress made under the leadership of the Ministry of Works, Transport and Communication not only with the plan itself, but with preparedness for oil spill response in general.

Contingency plans are only effective if they clearly delineate how and what needs to be done in an emergency, and by whom, and, amongst other things must be continually kept up to date. Moreover, those responsible for implementing the plan – from government to the private sector and NGO's - need to be familiar with their roles, and should have the authority, knowledge and resources available to do so. Exercises play an important role in ensuring that this is so. The IMO thus views this workshop – which for Group 1 will include a table-top exercise and an intensive assessment of the plan – as playing a critical role in maintaining Namibia's preparedness for oil spill response.

Likewise, the development of sensitivity maps by Group 2 will significantly enhance the ability of the National Response Team to make appropriate decisions with regard to the selection of response strategies and deployment of equipment, materials and manpower during a spill. Everything seems set, therefore for us to make significant strides this week in the fine-tuning of the NOSCP of Namibia.

At the same time, it is anticipated that the events over the next few days will enable us to identify additional aspects of the plan – and related documents – which are either still missing or which could be further improved. It is therefore the hope of IMO that by the end of the Workshop we can agree on a Plan of Action to address the gaps identified over the next few years.

Ladies and Gentlemen, once again welcome to this National Workshop and my best wishes for a successful outcome.

Thank you

## 10.6 Summary of information related to the exercise

**Exercise scenario**

*Initiation*: "At 07:47 on the 7th December, 2010, NAMPORT was contacted by the Master of the "Southern Pride" – an iron ore carrier which has just taken on a cargo at the Port of Saldanha. The vessel was en route to Europe and has suffered an engine failure and is currently drifting towards the coast. She is at a point approximately 10 km due west of the Swakop River Mouth and is requesting assistance.

The Southern Pride is 120,000 DWT and has about 2,400 tonnes of a heavy fuel oil on board.

*Update 1*: At 09:03, NAMPORT has received a second message from the vessel to say that they appear to have hit a submerged object and although it does not seem to be in any danger of sinking, it has clearly suffered some damage as there is an oil slick on the surrounding water.

*Update 2*: At 10:15, NAMPORT receives a message from an incoming light aircraft that there appears to be an oil slick stretching from the vessel – which has now drifted to a point about 8 km offshore – towards the coast and in a southerly direction. At its closest point it is about 3 km offshore. At 10:30, MET reports that a member of the Friends of the Swakop has reported seeing oiled birds (possibly Damara Terns) on the beach.

*Time-out and fast forward*: It is now 11:30 on Wednesday the 8th December and in the past 24 hours, the following has happened:

- The vessel has been secured.
- Oil has started washing ashore in the Longstrand/Dolphin Park area
- There is still an extensive slick moving south towards Pelican Point.

*Termination of the NRT meeting and notification of a request from the "Minister" for a Press Briefing at 14:00.*

**Exercise activities**

As indicated earlier, the call-out procedure for the exercise could not be regarded as being realistic as it was based on a list compiled on the first day. The first "realistic" activity of the exercise was therefore the meeting of the National Response Team (NRT) from 9am in the meeting venue. The NRT considered the scenario (and subsequent updates) and initiated a variety of responses, from dispatching harbour tugs to assist the stricken vessel, to deploying booms to protect sensitive resources. While in broad terms the response could be considered appropriate, there were many details which reflected the inexperience of the majority of the participants in dealing with events of this nature, including a completely unrealistic perception of the time required for the response actions. These are largely captured in the notes on the debriefing which are summarised below.

**Notes on Debriefing**

The notes below were compiled by one of the Observers during the exercise.

| | |
|---|---|
| **1** | No additional info sought on product. No determination of oil fate in water. |
| **2** | Information on weather requested late in the exercise and not properly used to determine slick direction and speed (in plan page 46) to determine how long to reach shore. Result is unrealistic timelines in some of the response actions.<br>No clear info obtained on current though info in plan would have helped.<br>But also mentioned that sea swell is 2.5m hampering use of sea booms.<br>Wrong conclusion on wind speed as 10 Knots is not high wind and not hampering boom operation |
| **3** | Current scenario is similar to the one in NOSCP page 51, yet info in NOSCP not used and process described in there not followed |
| **4** | No clear role call at beginning of NRT meeting to determine who is present. No clear task assignment within the team, thus some with no defined role.<br>Also each member of NRT should have taken out their relevant section of the NOSCP and ticked as actions were taken |
| **5** | No one in the team was clearly assigned responsibility of logistics (funds, claims, PPE, transport, etc…) and waste management. Recovery has been discussed but not waste management. |
| **6** | Note taking didn't start at beginning of exercise and was not consistent through out. No timeline kept of events and no clear record of time info received and decision taken |
| **7** | No clear identification/list of all resources at risk from the spill (area between Swakop river and Walvis Bay lagoon) |
| **8** | All external parties (not present in the NRT) not properly informed at the beginning of exercise, eg envionmental specialists, ship's agent and insurance company . |
| **9** | Decision to deploy boom at beginning of exercise was taken without consideration of spill direction/speed and speed of deployment. Boom use without clear determination of quantity of boom needed as slick size not determined |
| **10** | Too much information given out to media on first call and too much time spent on the phone with the media deflecting attention of assessment team member |
| **11** | Use of dispersant / water depth not considered as a response strategy? If it could have been deployed rapidly, it could have been a good solution. |
| **12** | No plotting done on the map of slick movement with clear timeline |
| **13** | Existing sensitivity maps not used as team was mainly working out of personal knowledge. Some elements may have been missed eg specific birds in the area. |
| **14** | No one appointed to prepare media brief |
| **15** | When scenario was felt under control, team relaxed instead of assigning tasks to team members for continual monitoring of the response |
| **16** | It was mentioned that oil stays the same after 24 hours which is incorrect, as oil would have emulsified and oxidation would have happened |
| **17** | Press conference:<br>* No designated spokes person, minister was dispatching questions randomly<br>* No introduction of members of panel<br>* Lack of empathy for people/livelihood impacted<br>+ good mention of good cooperation<br>* contradicting themselves in the panel<br>* No timeline set for duration of press conference<br>* No set time for next media brief |

### 10.7 Matrix of Preparedness and Action Plan

# Matrix of preparedness

## 1. Legislation

To adapt the legal and institutional national framework and ensure sustainability of the NOSCP

| **1. Legislation** | | **Implemented** √ | **Low Priority** √ | **Medium Priority** √ | **High Priority** √ |
|---|---|---|---|---|---|
| **Ratification** | Ratification of the Convention of Abidjan and of the Emergency Protocol | ? | | | |
| | Ratification of the OPRC 90 Convention | √ | | | |
| | Ratification of the Protocol OPRC-HNS 2000 | | √ | | |
| | Ratification of the Convention CLC 92 | √ | | | |
| | Ratification of the Convention Fund 92 | √ | | | |
| | Ratification of the Convention Bunker 2001 | | | | √ |
| | Ratification of the Convention HNS 96 | | √ | | |
| **Implementation** | Implementation of the Abidjan Convention and its emergency protocol | N/A | | | |
| | Implementation of the Convention OPRC 90 | √ | | | |
| | Implementation of the Protocol OPRC-HNS 2000 | N/A | | | |
| | Implementation of the Convention CLC 92 | | | | √ |
| | Implementation of the Convention Fund 92 | | | | √ |
| | Implementation of the Convention Bunker 2001 | | | | |
| | Implementation of the Convention HNS 96 | | | | |
| **Approval** | Approval of the NOSCP | √ | | | |
| | Approval of the National Policy for the Use of Dispersant | | | √ | |
| | Approval of the National policy for waste management | √ | | | |
| **Others** | Implementation of the National Policy on Disaster Risk Management | | | | √ |
| | | | | | |

## 2. National Oil Spill Contingency Plan

To have a standardised oil spill preparedness and response system in place

| 2. National Oil Spill Contingency Plan | | Implemented √ | Low Priority √ | Medium Priority √ | High Priority √ |
|---|---|---|---|---|---|
| **Management system** | Setup of a national working group/ coordinator for the development of the National Oil Spill Contingency Plan | √ | | | |
| | Development of the National Oil Spill Contingency Plan | √ | | | |
| | Crisis management system | √ | | | |
| | Reporting & Alerting systems | √ | | | |
| | Dedicated crisis management communication system | | √ | | |
| | Information of the Public / Public Relation Officer / Communication advisor | | | √ | |
| **Policy** | National Dispersant use policy: (List of Approved Dispersants; Pre-approved area of use; Conditions of Use) | | | √ | |
| | National policy for waste management | √ | | | |
| | Policy for in-situ burning | | √ | | |
| **Risk assessment and sensitivity mapping** | Coastal oil spill sensitivity maps and identification of most sensitive sites | | | | √ |
| | Trajectory Modelling | | √ | | |
| | Risk Assessment (probability/ consequence) | | | | √ |
| | Spill risk and scenarios | | | | √ |
| **Coordination with local plans** | Integration of local contingency plan (port, terminals) | | | | √ |
| | Integration of oil industry contingency plan | | | | √ |
| **Finance** | Compensation system and claims management system | | | | √ |
| | Financial commitment/ Compensation claims / Claims follow-up | | | | √ |
| | Procedures for samples and evidence | √ | | | |
| **Others** | Procedures to source funds from the National Emergency Fund (via Secretary to Cabinet). | | | | √ |
| | | | | | |

## 3. Designation of authority

To ensure that all requested authorities (in regard of national/ international laws and NOSCP) are officially designated.

| 3. Designation of authority | | Implemented √ | Low Priority √ | Medium Priority √ | High Priority √ |
|---|---|---|---|---|---|
| **Designation** | Competent National Authority with responsibility for oil pollution preparedness and response officially designated | √ | | | |
| | National operational contact point(s) responsible for the reception and transmission of oil pollution reports | | | | √ |
| | National organisation(s) in charge of oil pollution preparedness and response | √ | | | |
| | Authority which is entitled to act on behalf of the State to request or provide assistance | | | | √ |
| **Others ?...** | | | | | |
| | | | | | |
| | | | | | |

## 4. Trans-boundary and mutual assistance agreement

To ensure that cooperation and assistance at bi-lateral/ regional level is developed.

| 4. Trans-boundary and mutual assistance agreement | | Implemented √ | Low Priority √ | Medium Priority √ | High Priority √ |
|---|---|---|---|---|---|
| **Agreements** | Regional agreement | | | √ | |
| | Sub-regional agreement | | | √ | |
| | Bilateral agreements | | | | √ |
| | Government industry mutual assistance and equipment exchanges | | | | √ |
| **Access to external assistance** | Mechanisms to access and mobilize external (sub-regional) assistance in place and tested? | √/x[1] | | | |
| | Mechanisms to access and mobilize external international assistance in place and tested? (not tested) | √/x | | | |
| | Mechanisms of management of the assistance in place? Customs and Immigration procedures? Logistics support for storage, transport and deployment of assistance? | √/x | | | |
| **Others ?...** | | | | | |
| | | | | | |

[1] Mechanisms in place but not tested.

## 5. Training and exercise developed by the country

To develop expertise and competence in the country.

| 5. Training and exercise developed by the country | | **Implemented** √ | **Low Priority** √ | **Medium Priority** √ | **High Priority** √ |
|---|---|---|---|---|---|
| **Sustainability** | Policy to sustain the implementation of the NOSCP? | | | | |
| | Policy for the re-enforcement of the national response capabilities in place? | | | | |
| | Policy for the regular audit and update of the NOSCP? | | | | √ |
| **Training** | Policy for the training of the nationals in place? Yearly training program for all personnel involved at all level? (consistent with international standards and customized to the needs of the country) | | | | √ |
| | Introductory level | | | | |
| | OPRC level 1 | | | | |
| | OPRC level 2 | | | | |
| | OPRC level 3 | | | | √[2] |
| | Train the trainers | | | | |
| | Other seminar and workshop developed by the country | √ | | | |
| **Exercise** | National exercise program, including local operators and the oil industry | | | | √ |
| | Crisis management exercise (Table top) | | | | |
| | Notification exercise | | | | |
| | Mobilisation exercise | | | | |
| | Government deployment exercise | | | | |
| | Industry deployment exercise | | | | |
| | Joint Industry government exercise | √ | | | |
| **Others ?...** | | | | | |
| | | | | | |

[2] For National Response Team.

# 6. National resources

To ensure that sufficient and appropriate equipment is available in the country to:
- Deal with oil spill incidents up to a certain level (i.e. minimum Tier 1 equipment)
- Enable prompt alerting procedures as well as operational communications (i.e. communications equipment and infrastructure)

| 6. National resources | | **Implemented** √ | **Low Priority** √ | **Medium Priority** √ | **High Priority** √ |
|---|---|---|---|---|---|
| **Response equipment** | Storage facilities and maintenance of equipment | √ | | | |
| | Oil spill response equipment acquisition | | | | √ |
| | Communication equipment acquisition | | √ | | |
| | Equipment Inventories | √ | | | |
| **Logistical support** | Organisation of the logistical support in place for offshore and onshore operations? Realistic? Rapid to mobilize? | | | | √ |
| | System for the sharing of public and private response resources in place? | | | | √ |
| **Centre** | Response Centre (Communications, Meeting Rooms) [3] | √/x | | | |
| | Training centre ( documentation – resource centre for oil spill response and preparedness) | | √ | | |
| **Others ?...** | | | | | |
| | | | | | |

[3] Primary Control Centres already exist at the ports. Those in more remote areas still need to be identified following the risk assessment.

# NOSCP Action plan: 2011 - 2012

| N° | Actions | Coordinator in charge | Deadline |
|---|---|---|---|
| 1 | **OFFICIAL ENDORSEMENT OF ACTION PLAN:** The Director: DMA to submit the Action Plan to the PS for distribution to all relevant Ministries/agencies with a request for official endorsement. | Director: DMA: MWT | Feb 2011 |
| 2 | **NATIONAL STEERING COMMITTEE:** The National Steering Committee established in 2007/08 should be re-activated to drive the implementation of the Action Plan and ongoing maintenance of oil spill response preparedness. | Deputy Director: Marine Pollution: DMA: MWT | April 2011 |
| 3 | **NATIONAL RESPONSE TEAM:**<br>• The MWT should send out a formal request to the other relevant Ministries and agencies to nominate individuals and alternates as members of the NRT. The full contact details of the NRT members should then be included in the NOSCP emergency contact list.<br>• Nominees to the NRT must ensure that they have the authority to fulfil their responsibilities (once nominations have been made, the nominees should look at their responsibilities & assess the type of authority required and & put procedures in place to facilitate this if necessary).<br>• List of NRT supporting Ministries to include MFA (to facilitate requests for external assistance) | Deputy Director: Marine Pollution: DMA: MWT<br><br>NRT Members | Feb 2011<br><br>June 2011 |
| 4 | **OPERATIONAL PLANS**:<br>• NRT to review all operational plans to ensure compatibility with the NOSCP<br>• Links with existing NAMPORT and oil industry operational plans to be included in NOSCP, with those plans available on the MWT's website.<br>• Discussions should be held with the Regional Councils regarding the responsibility for the development of contingency plan for coastal areas outside Walvis Bay and Luderitz municipalities. In the case of Oranjemund, discussions should be held with Namdeb to find | NRT | April 2011 for list<br><br>In place by 2012 |

| N° | Actions | Coordinator in charge | Deadline |
|---|---|---|---|
| | out if they have an oil spill plan which could dovetail with the NOSCP<br>• An operational plan dealing with shipping/salvage aspects should be developed<br>• MWT should then ensure that all key stakeholders have an operational plan which is aligned with NOSCP (by introducing a regulation if necessary). | | |
| **5** | **NAMPORT PLANS:**<br>• Namport needs to develop a contingency plan for Luderitz in consultation with stakeholders.<br>• The Walvis Bay and Luderitz Plans should include sensitivity maps as well as maps detailing the proposed protection measures for each sensitive area + should include contact details of , for example, the salt works and aquaculture farms in Walvis Bay so that they can be alerted when a spill has occurred. .<br>• The Walvis Bay plan will need to be re-visited once the port limits are extended. | NAMPORT | Mar 2011<br><br>2012 |
| **6** | **RISK ASSESSMENT:** A more detailed risk assessment should be undertaken based on an analysis of shipping traffic – both passing ships and those entering Namibian ports – the petroleum products imported/exported, offshore exploration & exploitation activities, and the sensitivity of natural and socio-economic resources. This should include an assessment of the risk posed by mining vessels including the bunkering operations both in "approved" areas and illegal ones. It is also noted that there is a need to monitor bunkering operations. | Deputy Director: Marine Pollution: DMA: MWT | Proposal by mid-2011 |
| **7** | **STUDY OF THE CURRENTS:** The available information on currents (from studies undertaken by BCC, NAMPORT, etc) needs to be assessed & if further information is required, options for funding to be investigated & a proposal developed. | Deputy Director: Marine Pollution: DMA: MWT (with NAMPORT, MME, MFMR etc) | July 2011 |
| **8** | **SENSITIVITY MAPPING:**<br>• Steering Committee to confirm MLR as Lead Agency for finalisation of sensitivity maps and agreement on process.<br>• Establishment of Technical Committee.<br>• Identification of funds.<br>• Finalisation of maps. | Steering Committee/NRT<br><br><br><br>MLR | April 2011<br><br><br><br>Mid-2010 |

| N° | Actions | Coordinator in charge | Deadline |
|---|---|---|---|
| 9 | **ASSESSMENT OF EQUIPMENT AND FACILITIES:**<br>• Re-assess the adequacy of existing equipment stockpiles (eg. Booms, skimmers etc) based on the risk assessment and development of detailed operational plans.<br>• Assess compatibility of various equipment types.<br>• Investigate options with Telecom for telephone arrangements should be made so that key personnel can be contacted at all times (cell phone/diversion from 0800 numbers)<br>• Based on the risk assessment additional potential Control Centres to be identified (eg. In Hentjies Bay, Oranjemund etc. | NAMPORT (DMA)<br><br>DMA | Mid-2011<br><br>Feb 2011 |
| 10 | **REGULATORY FRAMEWORK:**<br>• Ratification of the Bunker Convention<br>• Incorporation of CLC and the FUND into national legislation<br>• Formal adoption of dispersant policy<br>• Introduce regulatory requirement for operational plans | DMA | <br>2012<br>2011<br>2012<br>2012 |
| 11 | **DISPERSANT POLICY**: Dispersant policy to be reviewed, taking into consideration dispersant deployment methods, dispersant use, cost | DMA in consultation with MET, MFMR, MHSS | 2012 |
| 12 | **CO-OPERATION AND ASSISTANCE AGREEMENTS:**<br>• Bilateral agreements to be concluded with South Africa and Angola<br>• Mutual assistance agreements to be concluded with the oil industry<br>• An agreement with the salvage company should be in place and included in NOSCP | Deputy Director: Marine Pollution: DMA: MWT + NRT | June, 2011 |
| 13 | **FINANCING AND CLAIMS PROCEDURES:**<br>• Procedures for use of National Emergency Fund to be incorporated into NOSCP<br>• Procedures for claims against insurers/shipowners/CLC/FUND to be incorporated into NOSCP | NRT | June, 2011 |

| N° | Actions | Coordinator in charge | Deadline |
|---|---|---|---|
| 14 | **TRAINING AND EXERCISES:**<br>• Agreement on ongoing training needs (based on optimum number of trained personnel in the country)<br>• Level 3 Training Course required for NRT members<br>• An oil spill exercise program to be developed at the next NRT meeting | <br>NRT<br><br>NRT<br>NRT | <br>April 2011<br><br>2012<br>April 2011 |
| 15 | **EDITORIAL CHANGES TO THE NOSCP:**<br>• Organogram for NRT to be streamlined and distinguish between the core NRT team and those with advisory/support roles.<br>• There should be a flow diagram outlining steps from reporting to termination<br>• Standardised reporting form to be implemented for consistency of initial information request (revise existing one)<br>• Roles and responsibilities for each entity in NRT should be put in a more user friendly way, i.e. one page/checklist per entity<br>• The NOSCP should make it clear that weather information for offshore areas comes from the SA weather bureau or the internet and appropriate details included<br>• Tier definition should not have volumes but depending on response capacity and the location of the spill<br>• At least one map to be included in the NOSCP (possibly that in annexure A-1) and other maps should be made available on the Ministry's website (and website details included in the plan)<br>• Scenarios in section 6.7 of the NOSCP to be reviewed to take into consideration currents and type of products<br>• Clear instructions to be included in the NOSCP with regard to responsibility, timing, frequency etc of media briefings<br>• "Yellow pages" i.e list of contacts for oil spill ancillary equipment to be included in NOSCP list of contacts<br>• NOSCP should clearly list the Port Control facilities at Walvis Bay and Luderitz as the primary Control Centres for oil spill response operations.<br>• Products Material Safety Data Sheets (MSDS) to be made available by industry as supporting documents to the NOSCP (to go on website) | Deputy Director: Marine Pollution: DMA: MWT<br><br><br><br><br><br><br>DMA (in consultation with internal media experts)<br><br>DMA | Feb 2011<br><br><br><br><br><br><br>Mar 2011<br><br>Mid-2011 |

## 10.8 Questionnaire for sensitivity mapping

# Data Assessment Form

Thematic of the data

Name of the data

Status of the Data ☐ Complete (cover the theme) ☐ Partial (cover partially the theme)

Format of the Data ☐ GIS ☐ Paper ☐ Electronic

If yes: which GIS software?

Description

Owner (name/address)

Producer (name/address)

Year of the data

Geographic Coverage ☐ Cover entire the country ☐ Partial geographic coverage

More precision:

Scale of the data

Type of the Data ☐ Point ☐ Line ☐ Polygon

Availability ☐ Yes ☐ under data interchange convention ☐ No

Comments

## 10.9 Methodology of coastal sensitivity mapping

Methodology of coastal sensitivity mapping for Namibia use the Methodology recommended by international organizations (IMO, IPIECA).

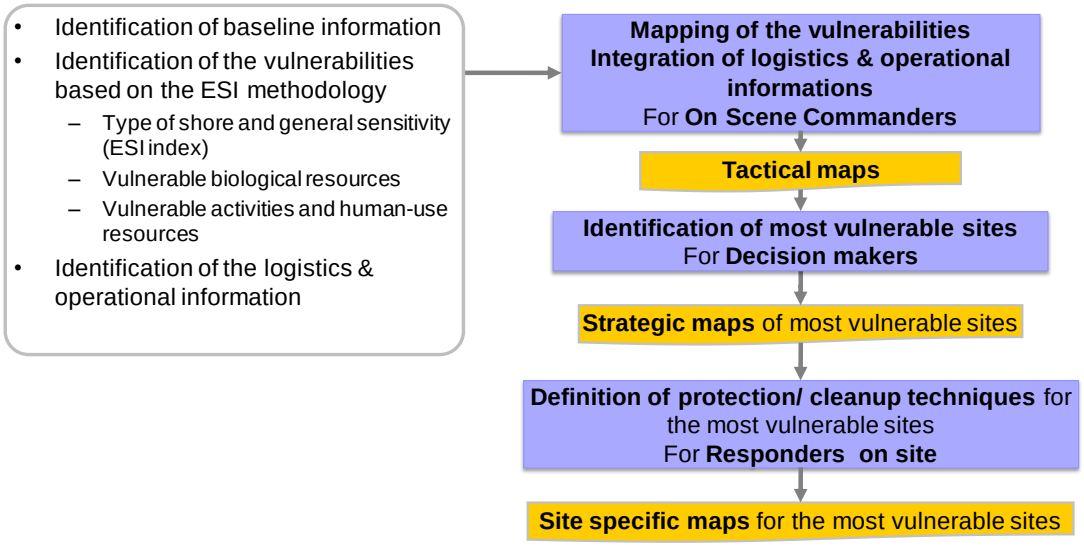
Methodology of coastal sensitivity mapping is based on the development of three types of coastal sensitivity maps in relation to the needs of the different users involved in the oil spill response.

- Strategic map for Decision maker
- Tactical maps for On Scene Commanders and Operations managers
- On site maps for the on-site responders

Mapping is carried out by considering three sensitivity themes and response features

- the shoreline type and its general environmental sensitivity to oil spill,
- the sensitive specific ecosystems and biological resources,
- the sensitive socio-economic features,
- the logistical and operational oil spill response features

The mapping project follows the following steps:




The geographic coverage of the coastal sensitivity maps is :

- The limit of Exclusive Economic Area for the high sea
- The northern and southern limit: the coastline of the Namibia
- All coastal islands
- From the coastline, 5 km of inland limit (could be adapted depending on the data)

The Coastal sensitivity mapping project will be updated every five years.

**Baseline information**

Each map must include a minimum set of information to locate the various features mapped, referred to as “baseline map information”:

- Coastline
- Land cover / land use along the coast
- Rivers and lakes,
- Roads,
- Railway,
- Coastal Cities,
- Place name,
- Main infrastructure (train station, port, airport, etc.),
- Terrestrial administrative boundaries (provinces, country),
- Maritime administrative boundaries,
- Depth contour (ex; 5,10,15,20,50,100m),
- Digitized topographic maps,
- Aerial photography,
- Satellite images.

**The sensitivity of the types of coast**

- Sensitivity will be based on the ESI classification
- Sensitivity have to take into account:
    - All the coastline which could be impacted: Sheltered and exposed shoreline
    - All inland water which could be impacted: salt marshes, swamp, etc
    - The seasonality (Outfalls closed / opened)
- Sensitivity have to be defined at the good scale (1/25.000 to 1/100.000) to allow:
    - The development of the response strategy
    - The implementation of the response operations.

**The sensitivity of the biological resources**

- Sensitivity will be based on the classification of NOAA (could be updated to be adapted to local situation). Sensitivity is not an exhaustive mapping of all species but group of species
- Sensitivity have to take into account:
    - All groups of vulnerable specifies which could be impacted
    - All vulnerable habitats which could be impacted (Subtidal , Intertidal, Land)
    - The seasonality
    - The protected area (international, national, provincial, local)
- Geographic coverage
    - High sea: limit of the Exclusive Economic Zone for the migratory routes
    - Subtidal, intertidal areas,
    - Land : around of 5 km inland – depend of the species / habitats / protected area)
- Sensitivity have to be defined at the good scale (1/100.000 or more smaller if necessary) to allow:
    - The development of the response strategy
    - The implementation of the response operations.

**The sensitivity of the human use resources and activities**

- Sensitivity will be based on the classification of NOAA (could be updated to be adapted to local situation): Sensitivity is not an exhaustive mapping of all activities/ facilities but groups of activities
- Sensitivity have to take into account:
    - All groups of sensitive human use resources & activities which could be impacted
    - The seasonality
- Geographic coverage
    - In high sea: limit of the Exclusive Economic Zone for the maritime routes, mining facilities
    - Coastal activities and human uses,
    - Land : around of 5 km inland – depend of the activities
- Sensitivity have to be defined at the good scale (1/100.000 or more smaller if necessary) to allow:
    - The development of the response strategy
    - The implementation of the response operations

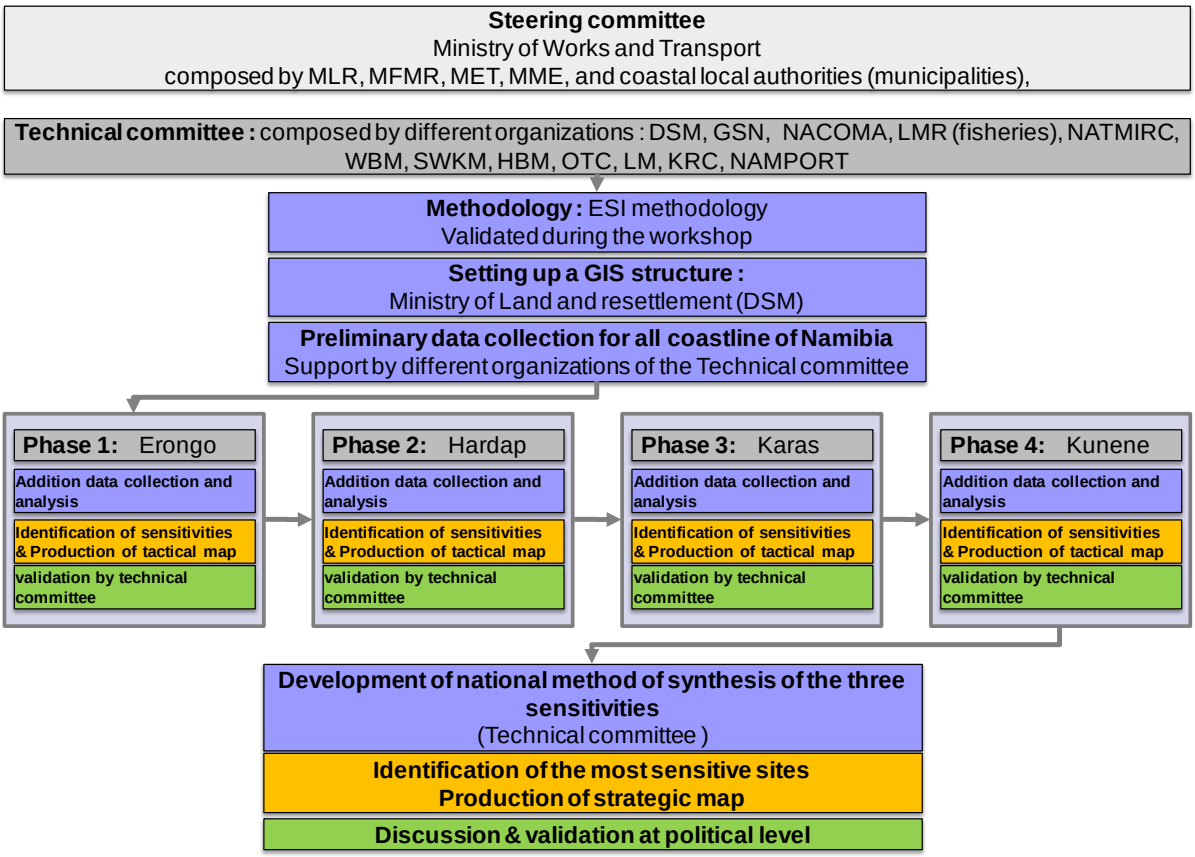
**Operational and logistical features**

- Operational & Logistical features will be based on the classification of NOAA (could be updated to be adapted to local situation)
- Operational and logistical features have to take into account mainly:
    - The different types of access to the coast (by foot, car, boat, etc)
- Geographic coverage
    - Shoreline,
    - Land : around of 5 km inland – depend of the access (road) for example
- At the good scale ( 1/5.000 -> 1/25.000) to allow:
    - The implementation of the response operations
    - For the most vulnerable sites, more information have to be defined (boom deployment, waste storage)

**The prioritization of the sensitivities** to identify and localize the most sensitive sites for the decision makers

- is developed accordingly to the cartographic method of synthesis of the three sensitivities: representation of three synthesis of sensitivities on one map (one synthesis per vulnerability)
- is discussed at political level
- Requires high level political approval in a simply understandable and usable format.

## 10.10 Project Structure




## 10.11 Detailed Action Plan for Sensitivity Mapping

**Detailed working plan to complete the sensitivity mapping**

| **Status and priority actions** | | |
|---|---|---|
| **Coastal vulnerability thematic** | **Status** | **Priority** |
| **GIS structure** | | 3 |
| **Base map** | IP | 3 |
| **Sensitivity of the type of coast** | To do | 3 |
| **Sensitivity biological resources & protected area** | To do | 3 |
| *Fauna* | To do / update | 3 |
| *Flora (seaweed)* | To do | 1 |
| *Protected areas (marine protected area)* | Done | 3 |
| **Sensitivity human use resources and activities** | | |
| *Tourism and recreation areas* | IP | 1 |
| *Fishing activities, aquaculture, etc..* | IP | 1 |
| *Cultural site* | IP | 3 |
| *Infrastructures related to oil exploration, production and transport activities* | IP | 2 |
| *Industrial & mining activities* | IP | 2 |
| *Port* | Complete done | / |
| **Logistical and operational resources** | | |
| **Methodology of the most vulnerable site** | To do | 3 |
| **Development of tactical, strategic and operational maps** | To do | 3 |

| | |
|---|---|
| **Personnel and resources required** | Ministry of Land and resettlement (DSM) will be in charge of the “development” of the GIS<br>Which Experts / organisms in the Cell<br>• Base map<br>– MLR (DSM), MME (GSN),<br>• Vulnerability of the type of coast<br>– MME (GSN), MFMR (NATMIRC & LMR)<br>• Biological resources |

| | |
|---|---|
| | – MFMR (NATMIRC & LMR), MET (NACOMA & DPW) ,<br>• Human-use resources<br>– MME, MMF, MFMR, MET (DEA),<br>• Logistics and operational resources<br>– Municipalities, NAMPORT, MWT, MFMR, RA, Oil companies, NAC<br>Recommendation to complete the map with the participation of “oil spill response expert” identified in the OSCP<br>Identification of one representative of each themes |
| **GIS structure** | Tasks :<br>• Develop a specific structure according to the thematic of the sensitivity mapping:<br>– Baseline maps<br>– Type of shore and ESI<br>– Sensitive biologic resources<br>– Sensitive socio-economic resources<br>– Logistic and operational resources<br>Personnel :<br>• Ministry of Land and resettlement (DSM) according to the technical committee recommendations |
| **Base Map** | Context and objectives<br>• Setup the baseline data in the GIS which will be used for the vulnerability mapping.<br>Tasks<br>• Get the latest roads & rail from Roads authority<br>• Categorise the road accessibility according to geomorphology & geology<br>• Get simplified geological information from MME<br>• Get the list of all Cities, towns & settlements from MLR, MLGH & NPC and compare<br>• Get the latest list of main infrastructure from NAC, Tran’Namib, Namport, coastal municipalities<br>• Verify administrative boundaries with MLR<br>• Acquire data on international & national & local protective areas, MET<br>• Acquire data on depth contour, MLR & MME<br>• Acquire latest topographic maps, aerial photography & satellite images, MLR, MME & WB Mun.<br>Personnel and resources<br>• MLR & MMR personnel<br>• Extension for Arcgis-Spatial Analyst<br>• Available softwares: Arc Cadastral, ArcGis10 Arc Global Maper, Ermapper, Envi & Geosoff<br>Prerequisites<br>• Authorization to use data from various institutions<br>• training |

| | |
|---|---|
| **Sensitivity of the type of coast** | Context and objectives<br>• Identification of the Sensitivity of the type of coast and integration into the GIS<br>• Modification of the existing coastal type data<br>Tasks<br>• Use the latest orthophotos to be acquired from MLR to delimitate the type of the coast<br>• Update the existing coastal type data<br>• Do the ground truthing / verification (with GPS coordinates)<br>• Consultation with relevant coastal stackholders<br>Personnel and resources<br>• MME<br>• Arcgis 10, Ermapper, Envi & Geosoff<br>• Prerequisites<br>• Authorization to obtain / use data from various institutions<br>• Transportation during the field validation<br>• Time & budget of staff |
| **Sensitive biological resources & protected areas** | Context and objectives<br>• Identification of the vulnerable biological resources & protected areas and integration into the GIS<br>Tasks<br>• Convert information on marine resources (below water) into mapping format (species, distribution + abundance exist but not in GIS format)<br>• Update fish stock distribution(commercial)<br>• Update fish spawning area + nursery areas<br>• Add interdital and shallow subtidal sensitive areas (seaweed distribution, other…)<br>• Add cetacean data<br>• Update non-commercial fish species data<br>• Update seal distribution<br>• Update turtle distribution<br>• Update sea birds data (try to develop a usable information)<br>• Appoint responsible persons (one for Central + north coast + one for south coast) to collect data in appropriate format for the purpose of the GIS layers<br>Personnel and resources<br>• Appoint dedicated staff from MFMR (one from NATMIRC, on from Lûderitz) to collect appropriate data<br>Prerequisites<br>• Time allocation of staff<br>• Training in GIS mapping (Basic) |

| | |
|---|---|
| **Vulnerable human use resources and activities** | Tourism and recreation areas → Highlights all tourism & recreationnal hotspot zones<br>Expected results<br>• One or more GIS layers for the vulnerable socio-economic features (specifying the seasonality if possible)<br>– Identification of all number of coastal tourism & recreationnal activities / sectors<br>– Classification of different tourims & recreationnal activities (zones)<br>Tasks<br>• Survey(s) to obtain all available information on all number coastal tourism & recreationnal activities & zones<br>– Identifies location, activity type & significance<br>• Group data by sectors (hotels, campsites, nature of activity → windsurfing, quad riking, etc.)<br>Personnel and resources<br>• Sources information from NTB (Namibian Tourism Board)<br>• GIS (mapping) expertise (for conversion of non-Gis compatible data info GIS mapping format)<br>• Field survey (data validation)<br>• Prerequisites<br>• Before mapping → validation of all relevant data<br>• TIME & Budget for Staff |
| | Fishing & aquaculture activities<br>Tasks<br>• Compile all available data (sources MFMR)<br>• classification of sectors & activity significances<br>Personnel and resources<br>• GIS expertise to map available data<br>• Resources: PC & GIS software (licenses) |
| | Cultural site<br>Tasks<br>• Collect data on all cultural & historical sites<br>• Prioritize significance & vulnerability to manage / loss<br>Personnel and resources<br>• GIS expertise to map available data and convert data into GIS format |
| | Industrial & mining activities (mining, saltworks, desalination)<br>Tasks<br>• Collect data info on mining sites & significant<br>• Identify all marine water intake sites<br>• Identify all marine water use industries & qualify vulnerability to oil pollution<br>Personnel and resources |

| | |
|---|---|
| | • Field personnel – verify collected data<br>• GIS expert – convert & map collected data<br>• Resources: transport facilities & association / equipment & facilities |
| **Oil spill response operational and logistical features** | Context and objectives<br>• Identification of the oil spill response operational and logistical features and integration into the GIS<br>Tasks<br>• Identify and collect relevant data<br>• Use ortho-photography to update information |
| **Development of tactical, strategic and operational maps** | Context and objectives<br>• Development of the coastal vulnerability atlas with tactical, strategic and operational maps<br>Expected results<br>• Development of maps from the thematic data detailed above<br>Tasks<br>• Define a national and detailed methodology for the identification of the most sensitive site |