INTERGOVERNMENTAL OCEANOGRAPHIC COMMISSION
(of UNESCO)

Twenty-first Session of the IOC Committee on International Oceanographic Data and Information Exchange  (IODE-XXI)
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ODINAFRICA Progress Report
Mika Odido, IODE Regional Activities Coordinator

1. REPORT ON ACTIVITIES CARRIED OUT DURING THE INTER-SESSIONAL PERIOD

The implementation of the fourth phase of the Ocean Data and Information Network for Africa (ODINAFRICA-IV) commenced in August 2009. The project was initially planned for implementation in the period 1 January 2009 – 31 December 2012. The Steering Committee for the Flanders UNESCO Science Trust fund approved a request to extend the implementation of the project to 31 July 2013, to take into account the delays in commencement of the project.

The goal of ODINAFRICA-IV is to promote the sustainable management of marine and coastal sources, as well as reducing the risks of ocean related hazards, based on sound scientific knowledge. The primary objectives are:

- Expanding and strengthening the network of marine scientists and institutions in the region to foster the sharing of data and information.
- Developing high quality products and tools to support decision-making, management and conservation of the marine and coastal environment.
- Promoting the use of products and services developed by the project to all stakeholders.
- Fostering active south-south, intra-Africa, north-south and Africa-Flemish collaboration for marine training, research and technology transfer.

In addition, the ODINAFRICA IV programme strives to promote the involvement and participation of women and youth in marine science. The project combines a regional approach – building networks and generating economies of scale - with nationally driven identification of needs and priorities. The project aims to foster a ‘user-oriented’ approach to the management of data and information.

In this report we outline the progress that has been made in achieving the ODINAFRICA-IV objectives.
- **Objective 1: Expanding and strengthening the network of marine scientists and institutions in the region to foster the sharing of data and information.**

The number of country participating in the Ocean Data and Information Network for Africa had increased to 25 by the end of the third phase, with 40 institutions in these countries involved in various activities. It has been necessary to undertake a review of the status of the network in order to assess the capacities available in each of the countries to implement planned activities, and also to guide the expansion and strengthening of the network. The assessment is based on questionnaire responses, assessment missions, and national and regional meetings.

Questionnaire responses have been received from 46 institutions in 23 countries, including Democratic Republic of Congo, which has joined the network in the current phase. The responses are as follows: Angola (1), Benin (6), Cameroon (1), Comoros (1), Congo (1), Cote d'Ivoire (4), DR Congo (1), Egypt (1), Ghana (9), Guinea (1), Kenya (1), Madagascar (3), Mauritania (1), Mauritius (1), Mozambique (1), Namibia (1), Nigeria (1), Senegal (2), Seychelles (4), South Africa (2), Tanzania (1), Togo (1), and Tunisia (1). The questionnaire responses were analyzed by the Regional Coordinators and are the basis for the ongoing assessment missions and national and regional meetings. Regional meetings were held in GCLME (Kribi, Cameroon, 8 – February 2010) and in BCLME (Windhoek, Namibia, 17 – 18 August 2010). The Regional Coordinator for ASCLME has undertaken a mission to all countries in the region in an initiative sponsored by ODINAFRICA and the ASCLME project. The Project Manager undertook a mission to Ghana in December 2010. In the case of the CCLME and the Mediterranean Sea regions no assessment missions have been undertaken, and no regional meetings held.

Through these assessments we hope to identify and address specific challenges faced by the institutions in implementing planned activities. There have been no responses to the questionnaires from three countries that participated in the previous phase: Algeria, Gabon and Morocco. The participation of these countries in the current phase will be reviewed, together with other potential partners (Cape Verde, Eritrea, The Gambia, Guinea Bissau).

In addition to the capacity assessments, two experts from ODINAFRICA institutions were seconded to the UNESCO/IoC Project Office for IODE from March – June 2010 to assist with reviewing the state of the products and services, which were developed in the previous phase of ODINAFRICA. Mr James Macharia (from KMFRI, Kenya) focused on Marine Information Management, while Mr Emmanuel Dovlo (MFRD, Ghana) focused on Data Management. Marine Information products reviewed included: Library catalogues, Catalogue of marine related publications from/about the country, Electronic Repository of relevant national/institutional publications, Directory of marine and freshwater professionals from the country, and Database of ongoing/completed marine related projects. For data management the progress in development of catalogues of data sets, extraction of data from WOD2009, and processing of the data into GIS layers was reviewed. The two experts also provided training and support during their stay in Belgium. Their work provides baseline information which will enable us assess the progress made in each of the countries in subsequent years.

Training continues to be a major element of the networks activities. Though ODINAFRICA is not organizing basic training courses in data management, the staff of institutions in the network can participate in both basic training and continuous professional development programmes organized within the framework of the Ocean Teacher Academy programme. The topics covered include: Preservation and Archiving of Digital Media; Literature and databases of the Marine Sciences; Introduction to Marine GIS; Disaster Planning and Recovery for Marine Librarians; Introduction to Marine Data for Young Scientists; Basic Marine Data Management; and Writing for Professional Publications.
Objective 2: Developing high quality products and tools to support decision-making, management and conservation of the marine and coastal environment.

Catalogue of data sets: The development of the metadata records using GeoNetwork commenced after the training workshop held in Mombasa, Kenya in August 2010. The metadata will be used to describe the datasets that are found in the Marine Atlases. The metadata will also supply an OGC compliant catalogue service that can be harvested by the Ocean Data Portals (both national and regional), which will be developed during ODINAFRICA-IV. The metadata have been uploaded to the central GeoNetwork server at http://geonetwork.iode.org/geonetworkAMA.

Coastal and Marine Atlases: One of the key deliverables of ODINAFRICA-III was the African Marine Atlas (AMA). This first version focused on continental scale data and the utility for the management purposes is limited. In the current phase, it becomes urgent to provide maps, images, data and information to users who include scientists, students, coastal resources managers, planners, and decision-makers from administrative institutions and specialized agencies in Africa. Major activities have been organized since May 2010 for the African Marine Atlas development: (i) Ocean Teacher Academy for Data Manager in Marine GIS course took place in Oostende (17-21 May 2010). Topics covered include the introduction to Marine GIS. Participants were introduced to three different GIS software (SAGA, GEBCO an ArcGIS); (ii) the first ODINAFRICA-IV Coastal and Marine Atlas development workshop was held in Mombasa, Kenya from 26 July – 6 August 2010. Participants were trained to use GeoNetwork to create metadata for atlas, and introduced to marine GIS; and (iii) the second Atlas workshop took place from 22-26 November 2010 at UNESCO/IOC Project Office for IODE in Oostende, Belgium. The workshop focused on the installation of Marine Irish Digital Atlas (MIDA) software engine, which is being utilized for the ODINAFRICA Coastal and Marine Atlas work. The participants also learnt to create standard grids products with Saga, and making products that are portable between GIS systems and also compatible with word-processing programmes.

Scenarios, Predictions and Forecasts: The development of scenarios, predictions and forecasts will commence after the first version of the national coastal and marine atlases are launched in mid-2011. The products will be developed on the basis of needs identified at the national/regional levels. Some of the possible topics for consideration include: (i) Climate Change impacts at regional scales, (ii) Scenarios for SST rise based on remote sensing data and in-situ measurements, (iii) Sea level rise along the African coast, (iv) Tidal predictions, (v) Water quality scenarios, and (vi) Coastal inundation maps. The tidal predictions and sea level rise scenarios will utilize the data collected by the sea level stations installed by ODINAFRICA in the previous phase, and other existing stations along the African coastline. Significant amounts of satellite data and in-situ measurements that can be used for climate change scenarios are also now available.

The African Register of Marine Species. The development of marine biodiversity database commenced in ODINAFRICA-III with the organization of training courses and focused workshops for mobilizing data on Marine Molluscs (March, 2006), Sponges (November, 2006), and Decapods (June, 2007). The data compiled in these workshops was included in Marine Species Database for Eastern Africa - MASDEA, which will now be re-named as the African Register of Marine Species (ARMS) to reflect its expanded geographic scope.

The focus of the work in ODINAFRICA-IV will be on assisting African countries in fulfilling their reporting obligations to UN Convention on Biodiversity - CBD. ODINAFRICA-IV will work closely with the Ocean Biogeographic Information System (OBIS) in implementing the following activities:

(i) Extraction of records for each country from MASDEA/OBIS/WORMS and send these to national experts [biologists] to review for accuracy and completeness. The quality-controlled information will form the basis for development of ARMS.
A workshop on ARMS data collection and logging will be organized in 2011. Participants will then work on the collection of new data to populate ARMS. The creation or strengthening of national and regional marine biodiversity nodes to provide input for ARMS, as well as contribute to the development of national marine atlases will be explored. Data entry will be based on the IUCN Red Listed species, rather than taxa as in previous phase.

An interface will be developed for ARMS to enable edition of data and online data entry, as well as improve access to the register. Additional functionalities such as maps to display existence of given species in a country's EEZ, statistics of known species etc will be included.

**The Ocean Data Portal:** The development of Ocean Data Portal (ODP) will provide seamless access to collections and inventories of marine data from the NODCs in the ODINAFRICA network and will allow for the discovery, evaluation (through visualization and metadata review) and access to data via web services. The system architecture will use Web-oriented information technologies to access non-homogeneous and geographically distributed marine data and information. The ODINAFRICA NODCs will be able to "plug-in" their databases into Ocean Data Portal as data providers. NODCs with web-serving capability (and permanent internet connection of sufficient bandwidth) will be able to directly connect to ODP. NODCs without a permanent internet connection and/or web-server capability will be able to use the central node at the IOC Project Office for IODE and serve their data sets through that facility. Two Data Managers, Mr Harrison Ong'anda (Kenya) and Mr Anis Diallo (Senegal) participated in the Training Course for IODE Ocean Data Portal Providers that was held in Oostende, Belgium in September 2010. It is envisaged that the two would play a key role as trainers/helpdesk for the ODINAFRICA institutions in implementing the national as well as regional Ocean Data Portals.

**Web-based Information Services.** The ODINAFRICA-IV Marine Information Management planning workshop was held from 29 November to 2 December 2010 in Dakar Senegal. The participants reviewed the library management and cataloguing software presented (ABCD, GREENSTONE, INMAGIC, DSpace) and noted that it maybe necessary to select different software for different institutions depending on the size of holdings and staff available in the libraries. Many of the ODINAFRICA libraries have not been using all the functions of the INMAGIC software that was provided in previous phases of the project. The challenges of changing software will include conversion of available records, and training on the new software selected. It is important that the libraries should be able to sustain the solution selected. Three possible solutions were identified:

(i) **ABCD:** The software is based on CDS/ISIS and is suited to libraries that require integrated library management software. Advantages: it is free, can work without internet, easy to install, provides a platform that can handle many databases (eg ASFA...), and can be availed on CD.

(ii) **AGRIS/OceanDocs:** The software was initially created for local repositories and is suited for institutions that require the cataloguing and repository functions. Advantages: easy to install, easy conversion of records from INMAGIC, compatible with OceanDocs, AGRIS and VOA3R. However this is not integrated library management software and is not yet compatible with ASFA.

(iii) **There are institutions that have already invested in INMAGIC web publisher and would be reluctant to move from INMAGIC. However it must be emphasized that ODINAFRICA will not provide support for this and they should arrange for the support using their own resources.**

Support will be provided for conversion of current library databases for those institutions that will migrate to either ABCD or AGRIS/OceanDocs. The participants proposed that a workshop
be organized for all the marine information managers in March/April 2011. The workshop will cover general aspects of MIM the first few days, then focusing on in-depth training on ABCD and AGRIS/OceanDocs. The participants also noted that there maybe some ODINAFRICA institutions that are part of a larger institution, which have already decided on software, not included in the list above. It would be better to support such libraries to provide better services to their users within this framework. At the network (continental level) the harvester function of DSpace will be used to create the combined catalogue. Guidelines should be developed on exchange of metadata between the software in use by the different libraries. These guidelines should also address interoperability with other IODE products.

The participants considered ways of strengthening the MIM component of ODINAFRICA-IV and proposed the following:

(i) Explore local training opportunities in library management, leading to diploma or such qualifications, which can be supported with resources from ODINAFRICA.

(ii) Development of internship programme, through which the librarians can visit the librarians of other ODINAFRICA institutions to learn from them and share experiences. These will have to be planned carefully to ensure that they are based on the needs of both the interns and the host institutions. The participants noted that several institutions had already offered to be Regional training centres for MIM (KMFRI, Kenya; DPM, Senegal; and INSTM, Tunisia) and could be used as hosts for the interns.

(iii) Expert visits to assist libraries/institutions in addressing challenges that they face.

(iv) Marketing plan should be developed to ensure that products are accessed and used by the target audience.

(v) Involvement of information managers in the development of ODINAFRICA products such as the Coastal and Marine Atlases at national and regional level.

(vi) Meetings with other regional projects involved in marine information management and dissemination, such as the LME projects

(vii) Promotion of the usage of marine information and products that can be accessed through the information centres to a wide user community

(viii) Participation in conferences, especially the next session of IAMSLIC planned for October 2011 in Zanzibar, Tanzania.

**Objective 3: Promoting the use of products and services developed by the project to all stakeholders.**

**NODC and Project websites:** The ODINAFRICA website ([www.odinafrica.org](http://www.odinafrica.org)), has been updated and maintained. The interfaces for accessing several databases developed in ODINAFRICA-III will need to be updated, and or new interfaces developed as required. These include:

(i) An interface to access the records of African Experts and institutions in OceanExperts ([www.oceanexpert.org](http://www.oceanexpert.org)). Similar interface for accessing national experts will be developed for linkage with the NODC websites.

(ii) The AFRILIB interface will be reviewed and updated. Possibility of enabling access through the NODC websites will be explored.

(iii) The projects database, previously available through the NEPAD/COSMAR website will be moved to the ODINAFRICA website. An interface will be developed to enable access and data entry. Information Managers will update records from their countries. The records will be linked to the metadata catalogues developed by the NODCs.

(iv) An interface to be developed for accessing the African Register of Marine Species (ARMS).
Other websites developed in the previous phases, such as the African Sea Level Network website (www.iode.org/glosafrica), the African Ocean Portal (www.africanoceans.net), and the NODC websites (www.nodc-countrypage.org) will be evaluated and updated in the current phase of ODINAFRICA.

**Publicity/Public Awareness:** The following products for publicity/public awareness will be prepared to facilitate the communication of information on the projects' products and services to all categories of stakeholders:

(i) A Standard ODINAFRICA-IV presentation in English and French to be provided to the ODINAFRICA National Coordinators to use during the National Coordination meetings.

(ii) WINDOW newsletter, with possible increase in frequency (while reducing the number of pages), and efforts made to produce it in English and French.

(iii) Posters and brochures will be produced to publicize the activities of ODINAFRICA at national, regional, and continental levels.

(iv) The possibility of translating the ODINAFRICA book into French should be explored. The publication of additional books will be considered depending on the availability of resources.


The organization of open-days and exhibitions will be used to publicize the products and services developed by the project. These would be an appropriate mechanism to be used by the ODINAFRICA institutions to improve the awareness of the youth on marine-related activities, and to encourage women scientists to take an active role in the activities of ODINAFRICA-IV in line with the UNESCO Global Priority on Gender and Youth.

**Visual and Interpretative Tools:** The analysis of data and preparation of products is not sufficient to ensure that the information that has been generated is utilized. The development of visual aids and interpretive products for prioritized issues can assist in supporting the uptake of this science. Different tools, methodologies, and media will be utilized to facilitate interactions with stakeholders and assure greater exposure to the institutions and the services that they can provide. These include:

(i) Policy and media briefs provide tangible advice for decision-making, priority issues and resource deployment. ODINAFRICA-IV will support the preparation of short documents that convey specific problems and outline possible actions to resolve them. The policy briefs will have to be focused, professional, evidence based, succinct, understandable, and accessible. The policy briefs will focus on, but not limited to, the four topics that were identified during the ODINAFRICA workshop: shoreline changes, sustainable use of resources, management of key ecosystems, and marine hazards and disaster management. Similarly, materials for the media will be developed that are easily taken-up by television, radio, and newspapers.

(ii) Coastal resource mapping can indicate the location and relative loading of point source pollution within an enclosed bay or harbour of interest. Interpretive tools such as the conceptual diagram, can take this information one step further: showing the interaction with competing interests and the ecological processes that are underway. Stakeholders can use such tools in decision making to reach agreement on the causal relationship of an issue such as a pollution source, and the actions that should be taken to address it.
Objective 4: Fostering active south-south, intra-Africa, north-south and Africa-Flemish collaboration for marine training, research and technology transfer.

ODINAFRICA has established excellent links with all the Large Marine Ecosystem (LME) projects implemented along the African coasts. The links with the Agulhas Somali Current LME project started with the joint work on the African Marine Atlas during ODINAFRICA-III and have since been strengthened, with ASCLME and its sister project – the South Western Indian Ocean Fisheries Project co-sponsoring the first ODINAFRICA-IV Coastal and Marine Atlases workshop in Mombasa in August 2010. ASCLME and ODINAFRICA have also jointly funded a capacities assessment initiative in the Western Indian Ocean region, and are working on arrangements for inclusion of the ASCLME literature database (6,000 documents) in OceanDocs, and the ASCLME cruises data to the World Ocean Database. ODINAFRICA is working on data management training and development of national data policies with the Benguela Current Commission – BCC. All the LME projects are participating in the ODINAFRICA Coastal and Marine Atlases initiative are members of the Atlas Task team.

The Western Indian Ocean Marine Sciences Association is another active partner of ODINAFRICA. Some of the activities implemented jointly in the past include: (i) Organization of training courses on diverse topics, including: sea level data analysis, numerical modeling, application of satellite altimetry to oceanography, (ii) implementation of the self-driven capacity development programme, together with the IOC Capacity Development section, in particular the sponsorship of participants in the Advanced Leadership workshops for Heads of Marine related Institutions and Senior Role models in WIO; Proposal writing workshop, and team building workshop, and (iii) Assessment of sea level network in WIO region.

ODINAFRICA has also collaborated with the UNEP Nairobi Convention secretariat and UNEP/DEWA in development of the African Marine Atlas and the Nairobi Convention Clearing House Mechanism.

ODINAFRICA organized a meeting for marine related projects and organizations in the WIO Regional projects in Mombasa, Kenya in August. The participants in the meeting noted that in many of the countries in the region, the same institution (and staff) is participating in the different initiatives that are preparing catalogues and databases using different approaches. This is not only duplicating efforts, but also putting a strain on the personnel in the institutions. The use of PostgreSQL for storage of the metadata and geospatial data was proposed as a possible solution. GeoNetwork can harvests information from PostgreSQL databases. Mick Wilson (UNEP/DEWA) was requested to investigate if the Nairobi Convention Clearing House Mechanism (based on ESRI products and MySQL) can be able to harvest information from a PostgreSQL database.

ODINAFRICA has received support from the IODE network of data and information centres for its training programmes. Australia, Belgium, and the USA have been particularly active in this.

ODINAFRICA-IV Scientific Symposium and Planning/Review meetings: The ODINAFRICA planning and review meetings will provide an opportunity to further develop linkages with other organizations/projects with Africa and beyond. The two planning and review meetings planned for 2011 and 2013 will comprise a Scientific Symposium on the first three days, and a workshop for the Head’s of Institutions on the final day. The first of the meetings will be held in Dakar, Senegal with the ODINAFRICA Scientific Symposium taking place from 4-6 October 2011, and ODINAFRICA Head’s of Institutions workshop on 7 October 2011. The theme of the symposium will be “Contributions of Ocean Data and Information to Sustainable Development in Africa”.

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2. **PROPOSED WORK PLAN AND TIME TABLE FOR THE NEXT INTER-SESSIONAL PERIOD**

**ODINAFRICA-IV Products.**

*The African Oceans & Coasts Book series*

- **Scenarios & Forecast**
  - Erosion
  - Pollution
  - Fisheries
  - Ecosystems (Biodiversity)
  - Climate Change as driver for the scenarios??

- **Marine Atlases**

- **Data Catalogues**

- **Ocean Data Portal**

- **Data Archives**
  - Atmosphere
  - Hydrosphere
  - Biosphere
  - Human Environment
  - Base Maps

- **Literature Repositories**

- **Literature Catalogues**

- **Directory Experts and Institutions**

- **Catalogues of Marine Related Projects**

PUBLIC AWARENESS/PUBLICITY: Websites, Newsletters, Brochures, Exhibitions...

*Linkages between the ODINAFRICA-IV products*

The first session of the ODINAFRICA Steering Committee (20-22 January 2010, UNESCO/IOC Project Office for IODE, Oostende, Belgium) identified the following broad areas to focus on during each year of implementation of ODINAFRICA-IV:

- **2009:** National Assessments and putting in place management structures at the Regional level
- **2010:** Finalization of National Assessments, Identification of priority issues to address, Data Mining and commence development of National Marine Atlases
- **2011:** Completion of National Marine Atlases, commencement of work on regional atlases and national ocean data portals, as well as development of scenarios and forecasts to be included in marine atlases.
- **2012:** Completion of regional atlases and national ocean data portals, incorporation of scenarios and forecasts in marine atlases
- **2013:** Development of regional ocean data portals, publication of the African Marine Atlas book, finalization of ODINAFRICA-IV

ODINAFRICA-IV will dedicate substantial energies to development of products for integrated marine and coastal management, especially at the local and national level. The national coordination committees will undertake the identification products that are required for integrated coastal management, and a gap analysis for the data and skills required to develop the products. Ongoing projects will provide crucial inputs into the process and must be engaged.
The revisions in work plan and budget proposed by the ODINAFRICA Project Steering Committee were approved by the Flanders UNESCO Science Trust fund (FUST) Steering Committee at its meeting in June 2010. The original and revised budgets are shown in Tables 1 and 2 respectively.

**SUMMARY OF REVISED BUDGETS.**

**Table 1: Original ODINAFRICA Budgets by work packages (December 2009)**

<table>
<thead>
<tr>
<th></th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>Totals</th>
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<tr>
<td>WP1: Networking, Coordination and Management</td>
<td>186,629</td>
<td>367,260</td>
<td>193,684</td>
<td>375,226</td>
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<td>170,000</td>
<td>170,000</td>
<td>170,000</td>
<td>830,000</td>
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<tr>
<td>WP3: Development of Products</td>
<td>150,000</td>
<td>320,000</td>
<td>185,000</td>
<td>85,000</td>
<td>740,000</td>
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<tr>
<td>WP4: Dissemination and sharing of data, information products and services</td>
<td>192,500</td>
<td>107,500</td>
<td>137,500</td>
<td>92,500</td>
<td>530,000</td>
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<td>TOTAL</td>
<td>854,450</td>
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<td>684,450</td>
<td>716,950</td>
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<tr>
<td>10% UNESCO overhead</td>
<td>85,445</td>
<td>96,695</td>
<td>68,445</td>
<td>71,695</td>
<td>322,280</td>
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<td>752,895</td>
<td>788,645</td>
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**Table 2: Revised ODINAFRICA Budgets by work packages (approved June 2010)**

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<th></th>
<th>2009</th>
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<th>2012</th>
<th>2013</th>
<th>TOTAL</th>
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<td>200,000</td>
<td>150,000</td>
<td>96,000</td>
<td>762,000</td>
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<td>WP3: Development of Products</td>
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<td>297,500</td>
<td>310,000</td>
<td>67,500</td>
<td>20,000</td>
<td>705,000</td>
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<td>WP4: Dissemination and sharing of data, information products and services</td>
<td>1,671</td>
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<td>270,000</td>
<td>140,000</td>
<td>34,329</td>
<td>526,000</td>
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<td>TOTAL</td>
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<td>583,226</td>
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<td>10% UNESCO overhead</td>
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<td>44,291</td>
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<td>641,548</td>
<td>487,203</td>
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**ANNEX I: SUMMARY OF PROJECT INFORMATION**

**Project Title:** Integrated Data And Information Products And Services For The Management Of Oceans And Coastal Zones In Africa (ODINAfrica-IV)

**Target Country or Region:** AFRICA

**Budget code:** 513RAF2013

**Project Goal:** The overall goal of ODINAfrica-IV is to promote the sustainable management of marine and coastal resources, as well as reducing the risks of ocean related hazards, based on sound scientific knowledge.

This will be achieved by strengthening the pan African network of National Oceanographic Data Centre (NODCs), and marine related institutions, as a sustained mechanism for application of data, information and products in marine and coastal management in Africa.

**Project Objectives:**

- Expanding and strengthening the network of marine scientists and institutions in the region to foster the sharing of data and information.
- Developing high quality products and tools to support decision-making, management and conservation of the marine and coastal environment.
- Promoting the use of products and services developed by the project to all stakeholders.
- Fostering active south-south, intra-Africa, north-south and Africa-Flemish collaboration for marine training, research and technology transfer.

In addition, the ODINAfrica IV programme will strive to promote the involvement and participation of women and youth in marine science.

**Project Duration:** Planned 01 January 2009 – 31 December 2012 [4 years].

Requested change: 1 August 2009 – 31 July 2013

**Executing Agency:** UNESCO/IOC

**Implementing partners:** UNESCO/IOC and participating institutions in Algeria, Angola, Benin, Cameroon, Comoros, Congo, Cote d'Ivoire, DR Congo, Egypt, Gabon, Ghana, Guinea, Kenya, Madagascar, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Nigeria, Senegal, Seychelles, South Africa, United Republic of Tanzania, Togo, and Tunisia.

**Project Funding:**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>TOTAL</th>
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<td>Contribution requested from Flanders</td>
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<tr>
<td>UNESCO/IOC Counterpart contribution</td>
<td>181,000</td>
</tr>
<tr>
<td>National Partner counterpart contributions</td>
<td>3,583,234</td>
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<tr>
<td>TOTAL</td>
<td>7,309,314</td>
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