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ODINAFRICA Progress Report

The second phase of the project for development of an Ocean Data and Information Network for Africa (ODINAFRICA-II) aims at enabling IOC member states in Africa to establish National Data Centres to gain access to ocean data and information available in other data centres, develop skills for manipulation of data and preparation of data and information products, and to develop infrastructure for archival, analysis and dissemination of the data and information products.

The funding for implementation of ODINAFRICA in the period 2001-2003 totals US\$4.4 million contributed by the Government of Flanders (Belgium), the Intergovernmental Oceanographic Commission of UNESCO and the 20 member states of IOC-UNESCO from Africa which are participating in the project

INTRODUCTION

The second phase of the project for the development of an Ocean Data and Information Network for Africa (ODINAFRICA-II) aims at enabling member states from Africa to get access to data available in other data centres, develop skills for manipulation of data and preparation of data and information products, and develop infrastructure for archival, analysis and dissemination of the data and information products.

The ODINAFRICA project proposal was prepared by experts from institutions in Africa that had taken part in the earlier phases of the project, including the two projects on Regional Cooperation in Scientific Information Exchange (RECOSCIX-CEA and RECOSCIX-WIO), as well as the Ocean Data and Information Network for Eastern Africa (ODINEA).

OBJECTIVES

The network of National Oceanographic Data and Information Centres envisaged will address the data and information requirements for Africa which have been identified at various regional and international fora. These requirements include in particular:

- Provide Internet access to marine scientists in Africa;
- Provide assistance in the development and operation of National Oceanographic Data Centres and establish their networking in Africa;
- Provide training opportunities in marine data and information management applying standard formats and methodologies as defined by the IODE;
- Assist in the development and maintenance of national, regional and Pan-African marine metadata and data holding databases;
- Assist in the development of marine data and information products responding to the needs of a wide variety of user groups;
- Reinforce the RECOSCIX-CEA and RECOSCIX-WIO networks as mechanisms for the dissemination of marine data and information to various user groups in Africa;
- Assist in the development of linkages with other international projects with similar objectives (eg GOOS-Africa; Gulf of Guinea LME, etc)

The implementation of the project is funded by the Government of Flanders (Belgium) with additional support from IOC-UNESCO. The 20 member states in Africa (Benin, Cameroon, Comoros, Côte d'Ivoire, Gabon, Ghana, Guinea, Kenya, Madagascar, Mauritania, Mauritius, Morocco, Mozambique, Nigeria, Senegal, Seychelles, South Africa, Tanzania, Togo, Tunisia) are providing counterpart contributions covering staff costs, utilities and some of the costs related to implementation of the project locally. Training and capacity building are a core element of the project and are being provided by experts from institutions in Belgium, India, United Kingdom and United States of America.

MANAGEMENT STRUCTURE

The member states participating in the project have been grouped into two regional teams based on the IOC Regional Subsidiary bodies (IOCEA and IOCINCWIO). South Africa which is a member of both bodies has been grouped with IOCINCWIO, while Tunisia which is a member of neither has been grouped with IOCEA.



Member States participating in ODINAFRICA:

- | | |
|------------------|------------------|
| 1. Benin | 11. Mauritius |
| 2. Cameroon | 12. Morocco |
| 3. Comoros | 13. Mozambique |
| 4. Côte d'Ivoire | 14. Nigeria |
| 5. Gabon | 15. Senegal |
| 6. Ghana | 16. Seychelles |
| 7. Guinea | 17. South Africa |
| 8. Kenya | 18. Tanzania |
| 9. Madagascar | 19. Togo |
| 10. Mauritania | 20. Tunisia |

Two Regional Coordinators (Mika Odido Kenya for IOCINCWIO and Sekou Cisse –Guinea for IOCEA) were elected during the first ODINAFRICA planning workshop held in Dakar, Senegal in May 2000. Subsequently they were contracted by IOC as Consultants and their responsibilities include:

- (i) Administrative management of the project;
- (ii) Monitoring progress;
- (iii) Organising; training courses and workshops
- (iv) Ensuring effective follow-up to training activities; and
- (v) Promoting extensive communications and exchange of expertise between the project partners.

Each of the member states participating in the project has designated an **National Coordinator** who ensures that the projects activities are implemented in the country as planned. In order to improve email communication between the now 60 or so contacts (national coordinators, data managers, information managers) the domain name odinafrica.net was registered and all the project contacts provided with a unique and permanent email address (f.surname@odinafrica.net).

The progress in implementation of the project is evaluated at an **Annual Project management workshop** attended by the national and regional coordinators, as well as other partners. The workshop reviews the activities already implemented and approves work plans and budgets for the subsequent year. The first and second management workshops were held in Dakar, Senegal (2-4 May 2000), and Nairobi, Kenya (14-17 November 2001) respectively. The next one is planned for November 2002 in Limbe, Cameroon.

ESTABLISHMENT AND OPERATION OF NATIONAL OCEANOGRAPHIC DATA AND INFORMATION CENTRES

The member states that had not established NODCs/DNAs at the start of the current phase (ODINAFRICA-II, 2001-2003) of the project were provided with support to organise national coordination meetings.. These meetings are used to identify a suitable national host institution for the NODC/DNAs as per IODE guidelines as well as to brief stakeholders in the participating countries on the objectives of the ODINAFRICA project and the IODE system. Several countries organised the coordination meetings in order to 're-start' centres that had become moribund. Eight member states (Benin, Cameroon, Comoros, Mauritania, Mauritius, Senegal, Togo, and Tunisia.) held national coordination meetings so far. Participating countries were encouraged to base the data and information centres in the same institutions (Participating institutions listed in Annex I).

PROVISION OF HARDWARE AND SOFTWARE PACKAGE

In order to ensure that the data and information centres fully participate in the technical aspects of the project (and in a harmonised way), a standard hardware and software package was provided.

	INFORMATION	DATA
Activities implemented	-Bibliographic search service -Document delivery services -Development of library catalogue -Database of aquatic science publications published in/about the country -Directory of marine/freshwater professionals -Directory of marine science related institutions	-Data services -Marine metadata-base -Data archive -Collection of all data related to the country's waters -National Marine atlas -National data CDs
Basic equipment provided	System 1: Dell Dimension L700C (933MHz PIII processor, 256MB RAM, 40GBHD, MS Windows 2000, MS Worksuite 2000) HPScanJet5300 <i>(for library staff to use in developing and maintaining library databases)</i> System 2: Dell Dimension L700C (700MHz Celeron processor, 256MB RAM, 20GBHD, MS Windows 2000, MS Worksuite 2000) HP LaserJet 1200 printer ASFA CD or IDS <i>(for users to access library databases and services)</i> INMAGIC DB/Textworks software for library management (2 to 4 licenses per library); web version at IOC Secretariat.	System 3: Dell Dimension 4100 Multimedia (1000MHz PIII processor, 256MB RAM, 20GBHD, DVD/CD-RW COMBO, MS Windows 2000, MS Office 2000) HP 990 printer

The data centres which participated in the first phase of the project had already received equipment for the data centre.

The participating institutions will have to set up or strengthen internal computer networks to improve local, institution-wide access to data and information. Improved access to the Internet will be important for exchange of information as most of the resources in this phase will be web based.

Support was provided to the centres for day-to-day expenses required to operate the data and information centres. This includes telecommunications (telephone, fax), Internet access, office supplies etc.

The project places emphasis on the development of products and services that can lead to, or at least assist in self reliance which will ensure sustainability of the centres beyond the project period. However the participating institutions have stressed that data should not be given a monetary value and that the current IOC policy on "full and open access" to data must be followed. Data and Information Products that are valuable to the whole network, especially those whose production has been funded by UNESCO/IOC should also be freely exchanged.

TRAINING AND FOLLOW-UP SUPPORT

Data Management Training Course: The marine data management training curriculum developed by the IOC's International Oceanographic Data and Information Exchange Program (IODE) is based on an extensive collation of international public documents on marine data, formats, software, program and data management procedures, manuals, protocols, and associated tutorials. The main collection, entitled the IODE OceanTeacher system, is a 600 megabyte CD-ROM that has been under development by the IOC training staff since 1997. It is accompanied by data CDs, that contain data sets relevant to the two regions covered by ODINAFRICA, ie IOCINCWIO and IOCEA. The CD-ROMs are the principal training resource used during data management courses. The OceanTeacher is also available through the Internet: <http://www.oceanteacher.org> Participants in the training courses are furthermore encouraged to use the OceanTeacher system to refresh and continuously update their knowledge.

The first ODINAFRICA-II Training Workshop in Marine Data Management, held in Casablanca, Morocco, April 2-13, 2001, was designed to provide participants with knowledge and skills in the following areas: Basic computer skills; the importance of marine data in general, and particularly within participants' national and regional environments; how to set up an oceanographic data centre within the IODE System; infrastructure requirements, including hardware and software tools; how to manipulate and analyze the principal types and formats of marine data ; and how to produce ocean data products and to disseminate the products, both over the Internet and by traditional methods. The second course in Tunis, Tunisia 29 April- 10 May 2002 covered: setting up and use of Internet clients for WWW browsing and email fundamentals of data analysis (document and spread sheets formatting, creation of hydrographic datasets, gridding), development of metadata-base and data archives; use of GIS (creation of GIS files, image and data synthesis); preparation of project proposals.

Marine Information Management Training Course: The IODE OceanTeacher has a Marine Information Management training module on which the ODINAFRICA training courses are based. The first training course was held from 29 October- 9 November 2001 at the *Research Aquarium of the Directorate of Marine & Coastal Management* in Cape Town South Africa and focused on basic skills in Marine Information Management, including introduction to Information Technology and development of library catalogues using INMAGIC which is an Integrated Library Management Software. The second course, hosted by the *Institut National des Sciences et Technologies de la Mer, (INSTM)* in Tunis, Tunisia from 29 April-10 May 2002 covered further training on utilizing INMAGIC (cataloguing, web-upload, serials management), setting up user services, information seeking in an electronic environment, and exploitation of information resources in marine sciences.

Follow-up Support: In order to ensure standardization of software, formats methodology as well as training curricula, and to enable students to undertake self-study subsequent to group training courses, the OceanTeacher system was developed, as described above.

In addition a small team of experts was contracted to provide internet-based (email) follow-up and support, including maintaining an 'ODINAFRICA Help Desk'. They ensure that the trainees can make optimum use of the knowledge gained during the training course and it ensures full implementation of 'take home' tasks assigned during the course. The experts involved are some of the trainers used during the training courses.

SOURCING OF DATA AND INFORMATION AND DEVELOPMENT OF DATABASES

The institutions participating in ODINAFRICA have been provided with a data CD containing data from the IOCEA and IOCINCWIO regions obtained from other IODE data centres around the world. This will enable the African data centres to provide access to a wide range of data to their users. In addition there is an on-going programme to identify, digitise and repatriate other datasets which are available in foreign institutions to the regions. This is done within the framework

of the IOC/GODAR programme. In addition of course, the data centres will receive, quality control, archive and make available data collected by national scientists.

Each data centre participating in the project is developing a metadata-base containing information on location and availability of marine and coastal data/information in the respective countries using the MEDI format. The national and regional metadata-base will be availed on the project website when completed.

The development of national data archives is an important component of the project. The priority data types for each centre will be decided upon at the national level. Some of the countries have opted for a distributed system of data centres where each research institution archives its own data (but in close consultation and collaboration with the NODC/DNA), while in other countries the designated NODC is the depository for all the data.

DEVELOPMENT AND DISSEMINATION OF SERVICES AND PRODUCTS

The identification of services and products required at the national level is crucial in deciding the priorities of the centres. Resources have therefore been allocated to enable each of the institutions to organise a national workshop to identify these requirements. Support for development of specific data and information products was so far provided to institutions in Kenya, Madagascar, Mozambique and Tanzania. Activities implemented within the framework of these contracts included: preparation of data summaries and national oceanographic data CDs. CENADO in Mozambique coordinated two studies: (i) evolution of the bottom topography of Zambezi river delta; and (ii) seasonal variation of currents, sea levels, salinity and other hydrographic parameters along the Mozambican coast.

The RECOSCIX networks have already pioneered in the provision of information services and products through the two regional dispatch centres (RDC) located at the Kenya Marine & Fisheries Research Institute (KMFRI) in Mombasa, Kenya and Centre de Recherches Océanologiques (CRO) in Abidjan, Côte d'Ivoire. The information services and products offered by the centres include: (i) a document delivery service to marine scientists in Africa; (ii) circulation of lists of recent additions to the RDC collection such as reprints, and contents of journals received; (iii) maintenance of a merged catalogue of holdings of several marine science libraries in the region to enable access to documents available in the libraries; (iv) development and maintenance of database of publications about marine and freshwater science in Africa; (v) a directory of marine and freshwater professionals in Africa, which is part of GLODIR. The database also includes recent publications of the professionals; (vi) exposure of marine science publications in the region through their inclusion in the Aquatic Sciences and Fisheries Abstracts (ASFA) database; (vii) a directory of marine, coastal and freshwater research institutions and information centres in Africa; (viii) a newsletter (WINDOW) published 3-4 times a year in English and French provides information on marine sciences issues relevant to the region; and (ix) maintenance of the project website (www.odinafrica.org) that provides information on the project and through which the project services and products can be accessed. A second web site <http://partners.odinafrica.net> provides information specifically to the project partners such as copies of national reports, annual reports, addresses of partners, activities calendar, information on workshops etc.

In order to create awareness of the services and products available through the network, the projects activities have been published through brochures, information sheets, data summaries, calendars, meetings/seminars, lectures to educational institutions, and meetings with key government officials.

LINKAGES WITH OTHER PROGRAMMES/PROJECT

There are several regional or international programmes and other initiatives that address coastal and marine environmental issues in Africa. Their effectiveness depends on their ability to share information across national, sectoral and disciplinary boundaries. ODINAFRICA should play an active role in the development of the data management plans for such programmes and also provide

the mechanism for an exchange of information between individuals and organisations through its wide network.

Some of the programmes with which ODINAFRICA is establishing linkages include: the African Process for the Development and Protection of the Coastal and Marine Environment, Abidjan and Nairobi Conventions (UNEP Regional Seas Programme), International Ocean Institute (IOI), the Gulf of Guinea Large Marine Ecosystem Project (GOG-LME), Western Indian Ocean Marine Science Association (WIOMSA), Secretariat for Eastern Africa Coastal Area Management (SEACAM), .

ODINAFRICA is also playing a key role in the implementation of the “Cross Cutting” project on development of UNESCO Knowledge portals by coordinating the development and maintenance of the “African Ocean Portal”.

ODINAFRICA WORK PLANS AND BUDGETS

The commencement of implementation of the second phase of ODINAFRICA was re-scheduled due to delays in transfer of the funds to the Intergovernmental Oceanographic Commission of UNESCO. Though it had been envisaged that the project would commence in May 2000, it was not until August that the funds were transferred to UNESCO. Due to the already tight schedule planned for the second half of the year, including the sixteen session of IODE and the final workshop for the Ocean Data and Information Network for Africa, Phase 1, it was not possible to start the implementation of planned activities. The coordinators, in consultation with the participating institutions decided to defer the commencement of the project to January 2001. Consequently all the activities planned for 2000 were moved forward.

In the first year of implementation of the project (2001), a considerable amount of resources was spent on procurement of equipment and software, as well as setting up of data and information centres (see Chart 3). The funds allocated to training and development of services and products increases progressively during the implementation of the project. These two items (training and services/products) are allocated the bulk of the funds available (42%) as shown in Chart 2.

Though good progress was made in implementing the work programme for 2001, the pace for 2002 has been much slower due to administrative delays caused by the change in the UNESCO financial management system. This is bound to impact negatively on the activities for the year 2002.

Budget Table ODINAFRICA-II: budget planning 2000-2003 (before rescheduling)

	2000	2001	2002	2003	TOTAL
Counter part contributions from participating member states from Africa	478584	337803	336153	336673	1489213
Contribution IOC	87390	109388	99388	99388	395554
Contribution of external expertise partners	41900	41900	41900	41900	167600
Contribution of Flemish government project expenses	302997	530395	621395	651588	2106375
10% overhead for Flemish contribution	30300	53040	62140	65159	210638
TOTAL PROJECT BUDGET	941171	1072526	1160976	1194708	4369380

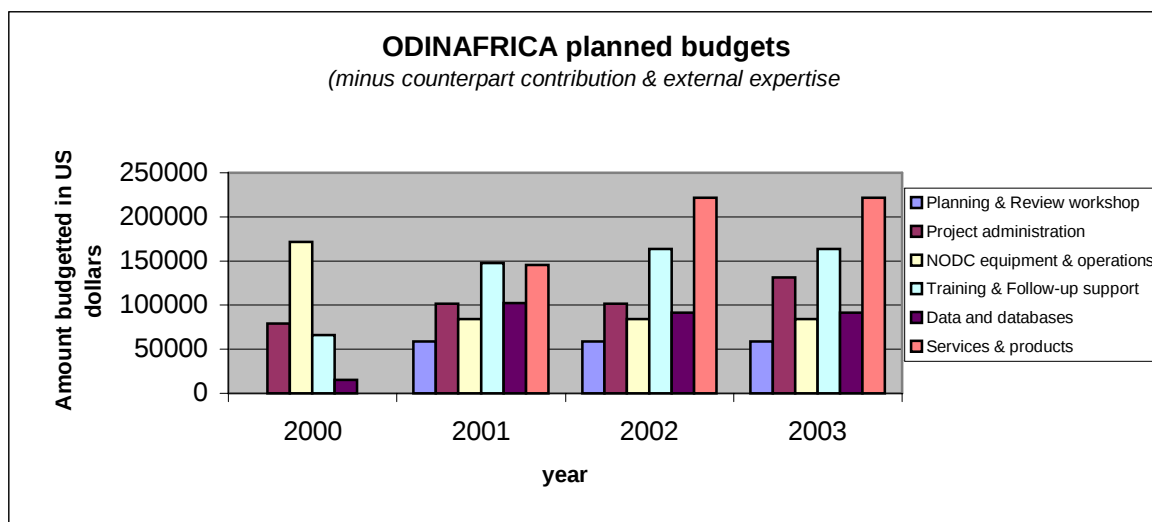


Chart 1

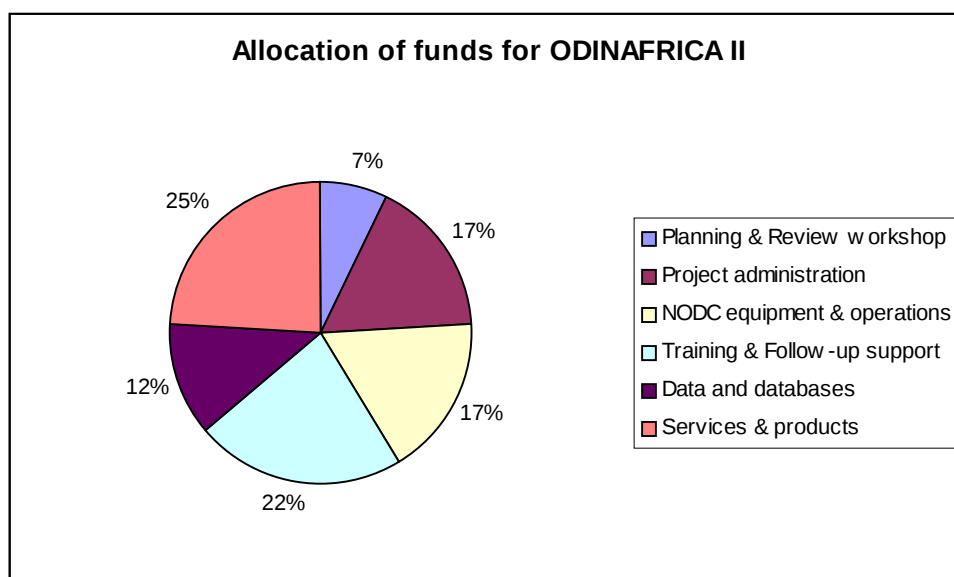


Chart 2

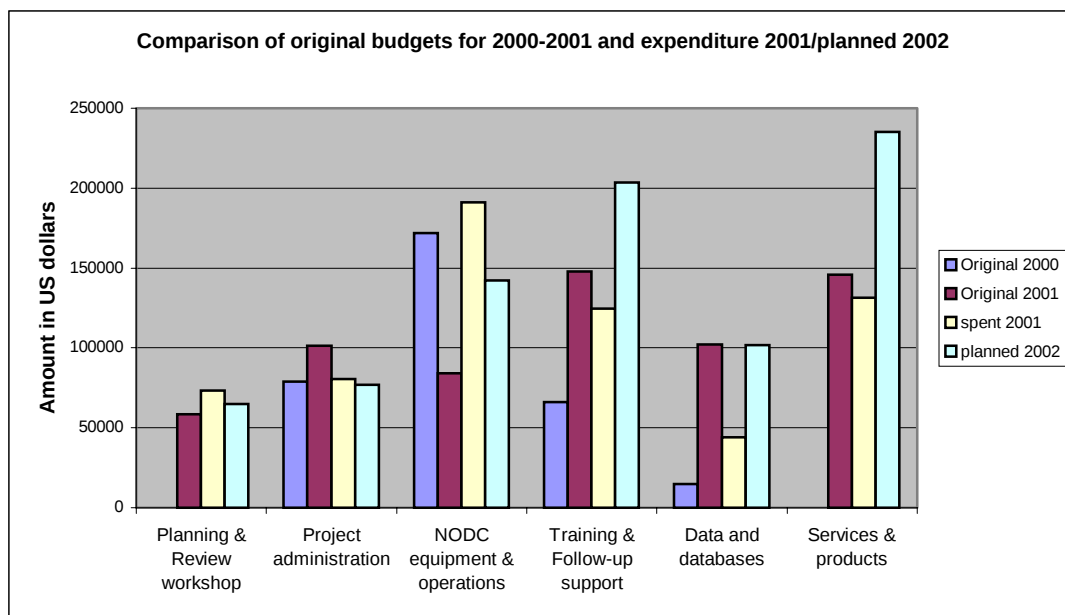


Chart 3

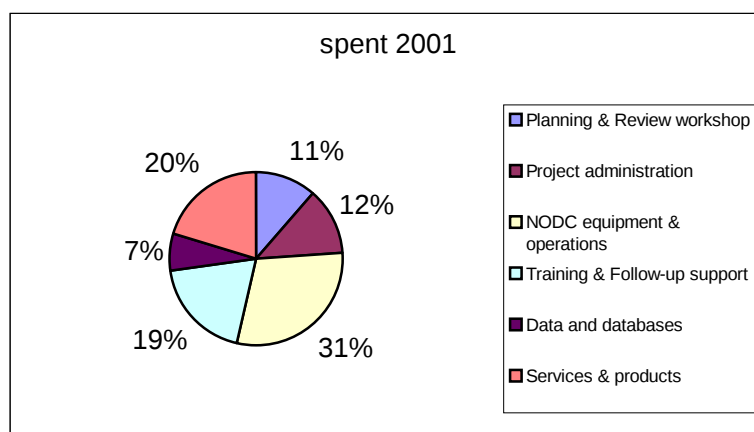


Chart 4

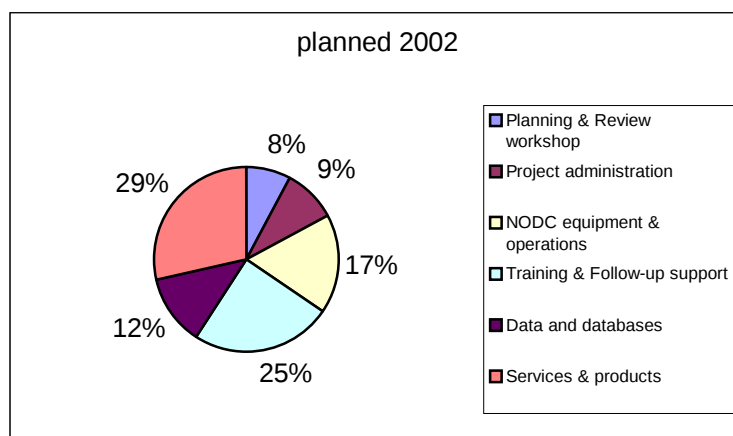


Chart 5

ODINAFRICA-II Budget Implementation 2001/Planning 2002

	ORIGINAL APPROVED BUDGETS				UTILISED IN 2001	PLANNED FOR 2002
	2000	2001	2002	2003		
1.1 Annual Project Management workshop		58600	58600	58600	73483	65000
1.2 Project Staffing and Management	78787	101183	101183	131376	101487	76988
2.1 National coordination meetings	12000	12000	12000	12000	12000	15200
2.3 Provision of hardware and software package	116000	0	0	0	127030	14500
2.4 Support for operational expenses	44000	72000	72000	72000	52000	112500
3.1 Development of ODINAFRICA/ IODE Resource Kit	24000	24000	12000	12000	23444	20000
3.2 Regional Data Management Training Course	42000	42000	56000	56000	37650	71000
3.3 Regional Data Management Course Follow-up	0	20000	20000	20000	12000	20000
3.5 Regional Information Management training course	0	42000	56000	56000	51341	72510
3.5 Regional Information Management course Follow-up	0	20000	20000	20000	0	20000
4.1 GODAR participation	15000	15000	15000	15000	30000	15000
4.2 Development of national and regional meta database	0	33000	22000	22000	2600	33000
4.3 Development and maintenance of national and regional data archive	0	54000	54000	54000	11300	53800
5.1 National workshops on data/information services/products requirements	0	0	54000	54000	0	66699
5.2 Support for RECOSCIX	0	60000	60000	60000	55296	72000
Provision of ASFA	0	14000	36000	36000	64000	0
5.3 Support for development of data and information products		36000	36000	36000	7200	50700
3.3 Support for public awareness creation on the project services/products		36000	36000	36000	5000	45950
TOTALS	331787	639783	720783	750976	665831	824847

ANNEX I

List of ODINAFRICA-II National Cooperating Institutions

Country	Institution	Coverage (data and/or information)
Benin	Centre Béninois de la Recherche Scientifique et Technique, Centre National Océanographique (CBRST/CNO)	Data and Information
Cameroon	Fisheries and Oceanography Research Station (Ekona Regional Centre), Institute of Agricultural Research for Development (IRAD)	Data and Information
Comoros	Centre National de Documentation et de Recherche Scientifique (CNDRS)	Data and Information
Côte d'Ivoire	Centre de Recherches Oceanologiques (CRO)	Data and Information
Gabon	Bibliothèque Centrale de l'U.O.B	Information
Ghana	Marine Fisheries Research Division	Data and Information
Guinea	Centre de Recherche Scientifique de Conakry -Rogbane (CERESCOR)	Data and Information
Kenya	Kenya Marine and Fisheries Research Institute	Data and Information
Madagascar	Institut Halieutique et des Sciences Marines, Université de Toliara	Data and Information
Mauritania	Centre National de Recherches Océanographiques et des Pêches	Data and Information
Mauritius	Albion Fisheries Research Centre	Information
	Mauritius Meteorological Services	Data
Morocco	Université Mohamed V, Faculté des Sciences, Département des Sciences de la Terre, UFR "Gestion Intégrée des Zones Côtières",	Data and Information
Mozambique	Instituto Nacional de Hidrografia e Navegação (INAHINA)	Data
	Instituto Investgação Pesqueira	Information
Nigeria	Nigerian Institute for Oceanography and Marine Research	Data and Information
Senegal	Direction de l'Océanographie et des Pêches Maritimes(DOPM)	Information
	Centre de Recherches 'Océanographiques de Dakar- Thiaroye (CRODT)	Data
Seychelles	Seychelles Fishing Authority (SFA)	Data and Information
South Africa	Directorate of Marine and Coastal Management (MCM)	Data and Information
Tanzania	Institute of Marine Sciences, University of Dar-Es-Salaam (IMS)	Data and Information
Togo	Centre De Gestion Intégrée du Littoral et de Environnement (CGILE), Université de Lomé	Data and Information
Tunisia	Institut National des Sciences et Technologies de la Mer, (INSTM)	Data and Information