

The Flanders UNESCO Trust Fund (FUST 1999-2003)

Evaluation Report

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Executive Summary

The evaluators found that the first phase of the FUST Agreement has been successful, despite some delays in the completion of projects due to start-up difficulties in the transfer of funds. Individual projects under the Agreement have been well managed and the desired results have been achieved. Important contributions have been made to the general programme objectives, as well as to the specific project deliverables.

The evaluators agree that the success of the respective programmes warrants the continuation of the Agreement.

Background

The Flanders UNESCO Science Trust Fund (FUST) is the subject of an agreement between UNESCO and the Government of Flanders initially covering a period of five years (1999-2003). Each year FUST provides for an allocation of 1.116 million EUR to support the UNESCO mission, to contribute to peace and security, by promoting co-operation among the nations in the field of education, science, culture and communication. The Trust Fund is managed by a Steering Committee representing both UNESCO and the Government of Flanders. It supports programmes of the International Hydrological Programme (IHP) and the Intergovernmental Oceanographic Commission (IOC), respectively taking into account the UNESCO programme and the priorities accorded by Flanders. UNESCO and the beneficiaries contribute to the activity in a co-operative manner. Scientists from the Flemish universities and research institutes are able to participate in one or more of the proposals if they so wish. The agreement can be extended beyond 2003 on the basis of an evaluation of the co-operation between UNESCO and Flanders. This review contributes to that evaluation process.

The specific programmes evaluated under the Agreement are the Oceanographic Data and Information Network for Africa (ODINAFRICA) of the Intergovernmental Oceanographic Commission and four programmes of the International Hydrological Programme, namely those centred in Gaza, the Nile Basin, Southern Africa and the Latin America and Caribbean region. The latter project is only just getting underway, however ODINAFRICA and the other three IHP projects are all founded on initiatives already established, and have a history of Flemish involvement.

Although the FUST Agreement on ODINAFRICA dates only from 1998, the foundation had been laid many years earlier, in an East Africa project developed jointly by IOC, Vrije Universiteit Brussel (VUB) and the Limburgs Universitair Centrum (LUC).

The Gaza project was conceived by a Flemish mission in 1995 and has the general aim of strengthening the Palestinian water sector institutions to ensure the long-term conservation of water resources. Presently the project is on hold, pending resolution of the local political situation.

In the Nile Basin over the last 35 years, a series of governmental initiatives has been put in place to pursue sustainable water management. The Nile FRIEND programme was established in 1996, with the support of UNESCO and forms the origin of the FUST Nile project, which supports a 4 year programme which started in November, 2001. A launch workshop for each theme, attended by Flemish counterparts, refined work plans and created a Project Management team reporting to the FRIEND/NILE Steering Committee.

The Southern African project originated from a request to UNESCO and WMO from the Department of Water Affairs and Forestry (DWAF), for assistance in the assessment of education and training needs. A Work Plan for capacity building and networking for water resources management was agreed for the period 2002-2005, with support from FUST, the Republic of South Africa and UNESCO.

The importance of water resources management in the arid and semi-arid regions of the world is widely recognised, and has been a priority for the IHP. Large areas of the Latin America and Caribbean Region fall into this category, and the establishment of a Water Resources Centre for the Region has been under discussion for some time. The general objective of the FUST project is to create a regional centre and Chile has been selected as both a natural choice and a willing host.

The primary purpose of the evaluation is to provide advice to the Government of Flanders and UNESCO concerning the extension of the FUST agreement. Visits to Brussels and to the UNESCO Headquarters were carried out jointly by the two consultants. The effectiveness and efficiency of the FUST projects within the International Hydrological Programme and the ODINAFRICA project within the Intergovernmental Oceanographic Commission, respectively, were evaluated using the annual reports and other documentation supplied. Separate field trips for the two consultants, to Cairo and to Zanzibar, respectively, completed the evaluation process.

Major findings

UNESCO and the Government of Flanders each have their own financial and administrative rules and regulations to respect and these are not necessarily easy to harmonise and co-ordinate. Some evidence of difficulties faced is apparent in the minutes of the Steering Committee and the members are to be commended on the resolution of potential issues.

In ODINAFRICA, regional networking, considered of immense importance to the development of an African renaissance in the future, is being promoted through the increased connectivity of data centres, through improved communication amongst regional scientists and through the distribution of scientific publications and journals. Similarly, networking within a country is essential for the development of a sustainable infrastructure. The activities funded by FUST in Tanzania were found to be well integrated into the national priorities and objectives. The funding and equipment provided by FUST have been catalytic in the transfer of capacity and in the development of national responsibilities in the context of coastal area management and the indigenous support has been real and sustainable. Progress in the modernisation of marine data management is having a beneficial impact on other national resource responsibilities in Tanzania.

One of the objectives of the FUST is the multiplication effect of its program. For the IOC, apart from the funds levered from the regular budget, ODINAFRICA, although widely acclaimed at governing body meetings, does not seem to have attracted other major partners from Member States.

FUST builds on an established history of support from Flemish academics for the IHP and has enabled several important initiatives to come to fruition. There has been strong support from the Flemish Universities for the 3 projects currently in place. The Gaza project has been running for some time and has been well managed and highly productive. Significant progress has been made in creating an effective Water Research Centre and a major programme of training and capacity building activities has been completed. In addition, major efforts have been made in the public awareness of water issues. The re-focussed Phase II programme, to develop a Palestinian Water Resources Network, is an appropriate response to changing needs and offers an important vehicle to develop collaborative research and training.

Before FUST support, little or no progress had been made in the Nile FRIEND project. The availability of financial support for project activities provoked a re-evaluation of management structures and facilitated the effective launch of the programme in November 2001.

In both the Southern African project and the establishment of the Water Resources Centre in Chile, FUST funding has been complementary to substantial resources provided by the host countries. In the Southern Africa project, preliminary commitments of support for the networking initiative have been achieved, at least from South African partners and stakeholders. The Chile Centre has yet to be created, but has the potential to make an important contribution to the Latin America and Caribbean Region. Substantial support and guidance will be required from UNESCO to build a truly regional Centre, and to establish effective links with other regional and global initiatives.

Lessons learned

The FUST Steering Committee has recognised the need for the Trust Fund to be able to accept complementary small-scale activities using the accrued interest on unexpended moneys. This suggestion has considerable merit.

Although many of the regional objectives in ODINAFRICA are common, there are significant differences in national priorities and how each participating national centre can best manage the allocated funds.

Communication is a particular source of difficulty for ODINAFRICA. Problems occur with data and information transfer and with the vulnerability to disruptions caused by electronic virus infections. These problems also impact on communications from the region to the outside partners. Language issues are apparent, but appear to be being slowly overcome.

The ODINAFRICA programme suffered a substantial delay on two separate occasions due to the late arrival of funds. There were too many differences between the planned budgets and those finally implemented, although overall objectives remained constant.

The participating countries in Sub-Saharan Africa are not at the same level of capability or capacity and training courses need to take these differences into account. As more countries join, the problem will be accentuated and future plans may need to be amended to allow for multi-tier training approaches. More use could be made of indigenous expertise for initial training purposes.

The Tanzanian visit demonstrated a lack of visibility for the Government of Flanders at the local level, which should be addressed as ample opportunities exist for co-operation. There seemed little knowledge of how to make contact with potential Flemish scientists.

The main constraint in the Gaza project is the current political situation. In Phase I, disruption to travel between the West Bank and Gaza was a major obstacle to joint Palestinian meetings. At present, it is not possible for staff in Gaza to travel to work. A correct decision has been made to put Phase II on hold, while continuing to support continuity of key staff at the Centre.

Progress in the Nile FRIEND project has demonstrated the importance of strong leadership and the need for flexibility to overcome political problems.

A general issue for the Nile and Gaza Phase II projects concerns the constraints on the use of FUST funds. The Nile project relies on research manpower, but while money can be provided for equipment and travel, it cannot easily be used to support staff. Most of the theme contributors are from African universities, and do not have the resources to undertake the necessary work. Very modest amounts of support for research staff could alleviate this issue. However, there are ambiguities in what is meant by research funding, as strictly the FUST support precludes support for salaries.

A general issue for all projects is the support of Flemish counterpart expertise. The partners see this as essential in providing access to state-of-the-art methods, awareness of current research developments, and in supporting training.

Synopsis of Recommendations

General:

- Complementary proposals, below an agreed maximum amount, should be supported from the accrued interest on the Trust Fund.
- Part of the management fee for the Trust Fund, combined with the considerable expertise present in the UNESCO Bureau for Extrabudgetary Funding, should be used to find additional funding partners.

ODINAFRICA:

- The efforts to increase the participation of African States must be continued.
- The cost and advantages of satellite communication should be investigated.
- An effort should be made to increase the number of contributing institutes in developed countries.
- Regional managers and the ODINAFRICA Co-ordinators should be funded to organise regional activities and workshops and to prepare materials for basic instruction.

IHP:

- Review missions should continue to play an important role in the assessment of project progress and constraints and in the review of strategic directions
- Limited funding should be made available to support research assistants/students.
- The role of Flemish counterparts needs definition and agreement on a project basis. Some financial support for counterpart inputs is recommended.
- UNESCO should develop a vehicle to establish and maintain contacts between different Regional Centres with common interests and to involve regional centres in relevant global initiatives, particularly with respect to arid and semi-arid areas.

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1. Background information

1.1 The Flanders UNESCO Science Trust Fund

The Flanders UNESCO Science Trust Fund (FUST) is the subject of an agreement between UNESCO and the Government of Flanders. Initially the agreement will run for a period of five years (1999-2003). Each year FUST provides for an allocation of the equivalent of 45 million Belgium Francs (approx. 1.115 million EUR) to support the UNESCO mission to contribute to peace and security by promoting co-operation among the nations in the field of education, science, culture and communication.

The Trust Fund follows the two-yearly agenda of UNESCO, and is managed by a Steering Committee representing both UNESCO and the Government of Flanders. The Steering Committee gives advice for the preparation of the projects and programmes and evaluates the activities supported by the Trust Fund.

The two initial UNESCO activities supported were in programmes of the International Hydrological Programme (IHP) and the Intergovernmental Oceanographic Commission (IOC), respectively.

In the agreement the Trust Fund is earmarked to support these activities taking into account the building of long-term capacity, developing policy, transferring information, co-operation and encouraging networking. The policy will be based on the UNESCO two-year plan and the priorities accorded by Flanders. UNESCO and the beneficiaries contribute to the activity in a co-operative manner. The principle of making optimum use of Flemish expertise and goods has been followed.

The selected activities are submitted to the Flemish universities and research institutes in an open presentation, so that scientists are able to participate in one or more of the proposals if they so wish. A project proposal can be completed only when the Flemish contribution has been determined, in addition to the participation of UNESCO, the beneficiary, and any third parties. The Trust Fund provides for specific training and short-term courses in the projects, but does not provide study grants.

At all times, the emphasis is on good training and education of local researchers and managers. An important area of concern is the adequate collection and management of data at different levels.

The agreement for the Trust Fund to support UNESCO's activities in the scientific field is for a period of five years, and can be extended on the basis of an evaluation of the co-operation between UNESCO and Flanders. This review contributes to that evaluation process. The specific programmes evaluated under the Agreement are the Oceanographic Data and Information Network for Africa (ODINAFRICA) of the Intergovernmental Oceanographic Commission and four programmes of the International Hydrological Programme, namely those centred in Gaza, the Nile basin, South Africa and Chile.

1.2 ODINAFRICA

Although the present Agreement on ODINAFRICA was signed in March 1998, co-operation between the IOC and Belgium, on related African programmes, goes back as far as 1987. Belgium itself started development co-operation related to marine sciences in the Eastern Africa region as far back as 1985. The RECOSCIX-WIO project was developed jointly by IOC, Vrije Universiteit Brussel (VUB) and the Limburgs Universitair Centrum (LUC) in direct response to a request by the IOC regional body for an information exchange system for the region. Subsequently IOC implemented a pilot phase from 1989-1991 when the foundations for the network were being built.

The LUC, with funding from the Flemish Inter-university Council (VLIR), built on this foundation by providing equipment, organising training courses in marine information management and by providing information services to hundreds of marine scientists in the region. Due to the success of RECOSCIX-WIO, IOCINCWIO identified the need for development of capacity for data management, and a data network similar to RECOSCIX-WIO. The Western African nations, through IOCEA, also requested the establishment of an information network to serve their region.

The FUST Agreement allows support for the development of an Ocean Data and Information Network for Africa (ODINAFRICA). ODINAFRICA is being implemented in three parts: (i) Ocean Data and Information Network for Eastern Africa (ODINEA), (ii) Regional Co-operation in Scientific Information Exchange in the Central Eastern Atlantic (RECOSCIX-CEA), and (iii) Regional Co-operation in Scientific Information Exchange in the Western Indian Ocean (RECOSCIX-WIO).

The first phase of ODINAFRICA (1998 –2000) was reviewed at a workshop held in Lisbon in October 2000. The second phase, ODINAFRICA–II was discussed extensively by the regional Member States at the XXth. IOC Assembly, before its endorsement through the adoption of Resolution XX-22.

1.3 The IHP Programmes

1.3.1. Capacity Building and Training in Environmental Planning and Management (GAZA)

The Gaza project has the general aim of strengthening the institutions in the Palestinian water sector to ensure the long-term conservation of water resources in Palestine. The project was conceived by a Flemish mission to Gaza in 1995. The first phase ran from 1998-2001, and is fully documented in the Final report of November 2001. The specific objectives were the establishment of a Water Research Centre and the development of in-country training activities. A Water Research Centre was established at Al Azhar University in Gaza with support for computing and laboratory facilities and a documentation centre. An extensive programme of training and capacity building was undertaken in Palestine and Jordan, with support from Flemish and other international experts. Joint research was carried out by Flemish students in Gaza and Palestinian students in Flanders, for which separate funding was obtained, and a major programme of public awareness activities was carried out. Due to the political situation, delays occurred in certain activities, and travel between the West Bank and Gaza was not possible at times. Hence certain meetings, including the final evaluation workshop in July 2001, were held in Amman.

Phase II was approved, to run from 2001 for 4 years. The general objectives were the same, but the focus was broadened. There was to be continued support to the Centre at Al Azhar, and in addition the development of a Palestinian Water Resources Network, with funds for capacity building and training and collaborative research. Unfortunately the deterioration in the political situation has meant that no progress has been made. The project is on hold, pending improvement in local conditions.

1.3.2 FRIEND/NILE project

Over the last 35 years, a series of initiatives has been put in place to encourage co-operation between the Nile basin countries and to facilitate the common pursuit of sustainable management. These initiatives were agreed at governmental level, and principally focused on projects and training linked to the issues of basin management. The origin of the current UNESCO/Flanders FUST project was the establishment of the Nile FRIEND programme, with the support of UNESCO, in 1996. The aims were distinct from the other initiatives in that the primary focus was on scientific collaboration and capacity building. Nevertheless, an important secondary aim was the creation of a cohesive scientific community in the area of hydrology, as a major contribution to improved technical understanding and co-operation in water management for the basin.

When established in 1996, 5 priority themes were identified for FRIEND/NILE, with associated task leaders, namely: 1) establishment of a regional database; 2) flood frequency analysis; 3) rainfall-runoff modelling; 4) droughts and low flow analyses and 5) sediments. Consistent support for the FRIEND/NILE project has been forthcoming from Egypt, Ethiopia, Kenya, Sudan and Tanzania, who therefore form the core of the project. Little progress was made over the next 2 years, the main problem being the reluctance of the participants to share data, a subsidiary problem being lack of financial resources. The third annual steering Committee meeting, in 1999, resolved to overcome the data problem by postponing the sharing of data, with emphasis on participants working on common themes with their own data.

A meeting was hosted with the support of UNESCO and the Egyptian Water Resources Research Institute in Cairo in April 2000, following preliminary discussions with the Government of Flanders and the Flemish

universities. A work plan and outline budget was formulated, and focal persons defined, leading to the preparation of the Technical Project Document by UNESCO in April/May 2000. The FUST budget for a 4 year programme was agreed in 2001, with a start date of November 1 2001, focusing on the three components that the Flemish universities felt best able to support, namely flood frequency, rainfall-runoff modelling and sediments. A launch workshop for each theme was held in November 2001, attended by Flemish counterparts, to refine the work plans. A Project Management team for the FUST project was created, reporting to the FRIEND/NILE Steering Committee. These bodies met in December 2001 to approve the work plans, and the appointment of a full time Project Manager. In May 2002, all co-ordinators and the country focal representatives for each theme came together for a Hydrological Data Processing workshop in Dar es Salaam. This was the first meeting of the full set of thematic working groups.

1.3.3 Capacity Building and Networking for Water Resources Management in Southern Africa

The origins of this project lie in a request from the Department of Water Affairs and Forestry (DWAF), South Africa, for assistance from UNESCO and WMO in the assessment of Education and Training needs. The ensuing mission was led by Prof. Van der Beken in 1998, and produced an extensive report. The report found a major structural problem of a chronic shortage of trained manpower. This was exacerbated by the changing focus of water management, and increased demand for trained manpower to support new laws, policies and programmes, and to build community awareness. There was a wide range of current education and training provided, and high levels of professional capacity in the tertiary education sector, but there were also gaps, lack of co-ordination and collaboration, and a lack of communication between government and education concerning training needs. Scope for joint initiatives with SADC countries was also identified. The main recommendation was a collaborative networking initiative. Hence a Framework Programme of Education and Training for Water (FET-Water) was defined.

A Work Plan for capacity building and networking for water resources management in Southern Africa was agreed for the period 2002-2005, with support from FUST, the Republic of South Africa and UNESCO. The main focus is support for the launch of the FET-Water initiative. The project started in March 2002 with a meeting to discuss networking and its application in South Africa. European experience was discussed along with the experience of the River Health Programme, which had been initiated in South Africa in 1995. It was agreed that a rather broader network was needed, and a Water Environment Management Partnership was suggested (WEMNET), with a focus on aquatic system health and with communication and information management. Activities were defined as: joint curriculum development; capacity building sessions; workshops and symposia; mobility of staff and students; accreditation of courses and student placements for practical training. A Network Committee was established, to launch the network, convened by Dr. Van Vliet of DWAF. Flemish counterpart activities are seen in advice on the networking process and in the joint curriculum development, based on extensive Flemish experience in these areas. A DWAF employee has subsequently made a two-month visit to Europe, to undergo training for network co-ordination.

1.3.4 Establishment of a Water Centre for Arid and Semi-arid regions of Latin America and the Caribbean

The importance of water resources management in the arid and semi-arid regions of the world is widely recognised, and has been a priority area in Phases V and VI of the IHP. Large areas of the Latin America and Caribbean Region fall into this category, and the establishment of a Water Centre for the Region has been under discussion for some time. Chile is a natural host for such a Centre, with 47% of its area in this category, including a hyper-arid zone.

An early project proposal was drafted in 2000. This has now been refined to form the basis of a final proposal, for which the plan of operation for use of FUST was signed in June 2002 by UNESCO and the Chilean Government. The general objective of the project is to create a regional Centre to a) strengthen technical, social and economic development through improved development and management of water resources, and b) increase the role of communities in the development of a water culture. Specific

objectives are to promote relevant research, promote contact between researchers in the region, disseminate results of water resource investigations, impart education and training on water resources management, promote upgrading of the capacity of researchers and to establish a programme on the sustainable management of water resources in pilot areas of the Region (Chile, Bolivia, Argentina and Peru are candidate locations).

Chile has offered substantial support for the Centre, including facilities at the University of La Serena and annual funding from the regional government of Coquimbo and National Government. UNESCO will provide technical and administrative assistance for organisation of the Centre, help with establishment of contacts with funding agencies and assistance with dissemination activities. The FUST is to provide support for three years for three researchers, 18 scholarships, 4 research projects (in 4 countries), and courses with invited lecturers. An outline work plan has been formulated.

2. Purpose of Evaluation and Methodology

The primary purpose of this evaluation is to provide advice to the Government of Flanders and UNESCO concerning the extension of the FUST agreement. Visits to Brussels and to the UNESCO Headquarters have been carried out jointly by the two consultants, who conducted interviews with management personnel in UNESCO and in Brussels. A round table meeting was also held in Brussels with representatives of the Flemish Universities, to discuss their perspective on the projects and their role as counterparts. The consultants were able to compare notes and views on the overall program objectives and management process. The effectiveness and efficiency of the FUST projects within the International Hydrological Programme and the ODINAFRICA project within the Intergovernmental Oceanographic Commission, respectively, were evaluated using the annual reports and other documentation supplied. Separate field trips for the two consultants, to Cairo and to Zanzibar, respectively, completed the evaluation process.

For ODINAFRICA, the evaluation reviewed the overall goals for the three regional components of both ODINAFRICA II and I. Allowances were made for normal difficulties in start-up situations, poor communications, and lack of trained personnel. Additional discussions were held with representatives of the regional governments at the IOC Executive Council meeting in Paris, June 2002. Mr. Holland undertook the field trip to Zanzibar, Tanzania, over the period July 6-13, 2002.

The evaluation of the IHP projects focused similarly on progress in meeting the general as well as specific objectives, on programme management, and on identification of any specific problems within the projects. As with ODINAFRICA, allowance has been made for delays and difficulties - the Palestinian project being a particular example. Prof. Wheeler visited Cairo, from June 27 to July 1, to discuss the Nile and Gaza projects with UNESCO staff and review the files. He was also able to meet theme leaders and members of the Nile FRIEND project, from Egypt, Kenya and Tanzania, in Cairo, as well as the Egyptian Minister of Water Resources and Irrigation. Discussions with Prof. Van der Beken took place at the Kovacs Symposium in Paris in June 2002.

The preparation of this report was undertaken jointly by the two evaluators.

3. Meeting with representatives of the Government of Flanders

The two evaluators met with representatives of the Government of Flanders in Brussels, on June 10 2002. Dr. Herman outlined the history and objectives of the Government of Flanders program as well as the infrastructure within Flanders on which the co-operation was based. The decision to engage in an arrangement with UNESCO was prompted by the complementarity of the UNESCO science programs and the major lines of interest within the Flanders program together with the mutual geographical priorities for programmes in Africa and other areas. The Flemish objectives were to increase the visibility of the capacity building effort and to use the existing UNESCO multilateral organisation and networks as an efficient and effective way to obtain these objectives in a cohesive and comprehensive manner.

He explained that, in the FUST programme, priorities have been given to the application of research results to managers and decision-makers. In this regard the provision of data and information and the establishment of sustainable infrastructures were seen as initial and essential steps. For ODINAFRICA, the provision of information services to managers and decision-makers, as recognised under the IOC programs of GOOS and JCOMM, was seen as a natural fit with the Flemish objectives.

The water resources and the ocean programmes have provided the initial focus for the agreement between the Government of Flanders and UNESCO. UNESCO submitted programs for consideration and after consultation with universities on their interest, the IHP Projects and ODINAFRICA were seen to be compatible with the competencies within Flanders, which also included expertise in the fields of electronics, biotechnology and environmental technologies. The two programmes were selected. The projects were approved for an initial period, reporting annually to a Steering Committee composed of a Representative of Flanders, the Science Division of UNESCO, External Affairs plus other advisors as necessary. The main objectives included the sustainability of the benefits generated, the ability of the program to lever additional support, and the quality of the technology transfer. The evaluators are expected to address the question of the effectiveness of these approaches for the programs underway.

The representative of the Ministry of Foreign Affairs, Mr. Pierre Ruyffelaere, then informed the evaluators that an additional fund has been created that will address priorities including Africa, Education, HIV/AIDS and cultural diversity. The new fund is 750 million EUROS per year and will contribute to the UNESCO Peace and Security mission and not necessarily be directed towards Science. The Government of Flanders wished to promote solidarity with countries in development and use the new funds that commence in 2004, to transfer competencies to such countries. Visibility for the aid program will be increased through the use of UNESCO as a partner.

The meeting continued with a discussion on the structure of the government and university system, and with a rationale for the objectives and expected benefits of the aid programs. Details were given of the interaction with UNESCO and of how the joint management process between the two organisations has progressed.

Later, a technical meeting was held with scientists from several of the universities involved in the two programmes, during which details of the individual programmes were discussed with the scientists directly involved. The comments made and the points raised during this meeting were considered and used by the evaluators in their assessment of the programmes.

4. Meeting with the UNESCO Bureau for Extrabudgetary Funding

Meetings with various UNESCO staff took place on June 13 and 14 2002. Madam Birgitte Moller, Director of the Bureau for Extrabudgetary Funding, explained the administrative process for the management of the FUST Agreement from the UNESCO side. The FUST Agreement is somewhat unique with its approval process and joint Steering Committee. The arrangements have proceeded smoothly and to the satisfaction of both partners.

Madam Moller explained that there are certain constraints on the use of such funds by UNESCO as these have to be used in ways that do not pose a burden on the regular programme and budget of UNESCO. The ten-percent management fee (reduced for the Palestinian project) is distributed annually with about half being absorbed by the Bureau and the remainder allocated to the central administration and to the UNESCO science sectors involved. The latter receive their portion a year in arrears after showing successful delivery of the programmes in the previous twelve months. There seemed to be no set formula for the distribution of the management fee within UNESCO and the evaluators could not review the accountability of such funds and how they were spent.

Over the period of the evaluation only about half the money contributed to the Trust Fund has been spent due to delays in the initiation of projects and in the transfer of funds. This has resulted in the accumulation of substantial interest in the Trust Fund account, which can be made available to the programmes. The

Flemish authorities did not see the slow start-up and the accumulation of funds in the Trust Fund as a problem and in fact the situation allows both the Government of Flanders and UNESCO to be able to plan ahead in confidence that moneys would be available when needed. The accrued interest also had the advantage of being available in a flexible way and could be used for complementary small proposals in addition to rescheduling of existing major programmes. The evaluators considered the management of the delays to be sensible and defensible in relation to the objectives of the FUST.

5. Major findings

5.1 General

The financial and administrative arrangements between UNESCO and the Government of Flanders are necessarily complex. Each has specified rules and regulations to respect and these are not necessarily easy to harmonise and co-ordinate. Some evidence of difficulties faced is apparent in the minutes of the Steering Committee and the members are to be commended on the resolution of potential issues. For example the judgement of the Government of Flanders to allow for the extension of financial commitments to compensate for unforeseen and unavoidable delays, and to allow accepted projects to proceed to termination over a longer time frame, is an example of flexibility and good management.

5.2 ODINAFRICA

Regional networking, considered of immense importance to the development of an African renaissance in the future, is being promoted through the increased connectivity of data centres, through improved communication amongst regional scientists and through the distribution of scientific publications and journals.

The activities funded by FUST in Tanzania are well integrated into the national priorities and objectives, the funding and equipment provided by FUST have been catalytic in the establishment of the national infrastructure. The FUST assistance has been influential in the transfer of capacity and in the development of national responsibilities in the area of coastal area management and other coastal and ocean issues and the indigenous support generated from within government, academia and the public has been both real and sustainable. The continuation of FUST support will assist in the acceleration and enhancement of on-going national efforts.

The importance of the ODINAFRICA project is increased many fold in Tanzania because in many ways the development of the marine information and data capability is in advance of data management in other areas of national responsibility. Progress in the modernisation of marine data management is having a beneficial impact on other national responsibilities in Tanzania, such as agriculture, transportation, tourism, etc.

One of the objectives of FUST is the multiplication effect of its program. This is taken to include the generation of infrastructure and support from within the recipient country and also the attraction of funds from other sources aligned with the same objectives. For the IOC, apart from the funds levered from the regular budget, the program does not seem to have attracted other major partners from Member States, although the program has been recognised in the Executive Council and Assembly, as being a highly successful capacity building activity.

5.3 IHP Projects

FUST builds on an established history of support from Flemish academics for the IHP and has enabled several important initiatives, identified by them in UNESCO missions, to come to fruition. There has been strong support from the Flemish Universities for the 3 projects currently in place. This has been important in terms of the progress made and is greatly appreciated by the project partners. It has also been a factor in raising the profile of Flanders, which is high in each of these projects. An important element of added value has been contributed to the Gaza project by additional funding secured for research and training activities by the Flemish Universities.

One IHP project (Gaza) has been running for some time and has been well managed and highly productive. The full documentation of the project is impressive, and greatly facilitates effective review. Significant progress has been made in creating an effective Water Research Centre at Al Azhar, and a major programme of training and capacity building activities has been completed, involving 1400 water professionals. In addition, major efforts have been made in schools and through the media to promote public awareness of water issues. Joint research has been initiated through additional Flemish support for student exchanges.

Before FUST support, the Nile FRIEND project had stalled; little or no progress had been made since the project inception in 1996. The availability of financial support for project activities provoked a re-evaluation of management structures and facilitated the effective launch of the programme in November 2001. It is clear from discussions with project members that an effective sense of a common scientific community is being developed.

In both the Southern African project and the establishment of the Water Centre for Arid and Semi-Arid Regions, FUST funding has been complementary to substantial resources provided by the host countries (South Africa and Chile, respectively), and has therefore been an important catalyst in getting these initiatives off the ground. Now that these projects are being established, careful monitoring and guidance will be needed from the respective project Steering Committees. Both projects need strong and effective leadership to reach out to their respective communities of participants. In the Southern Africa project, preliminary commitments of support have been achieved, at least from South African partners and stakeholders. For the Chile project, substantial support and guidance will be required from UNESCO to build a truly regional Centre, and to establish effective links with other regional and global initiatives.

6. Lessons learned (from both positive and negative experiences)

6.1 General

Many references appear in the Steering Committee minutes regarding the need for the Trust Fund to be able to accept small-scale quick disbursing activities through the use of accrued interest on unexpended moneys. This suggestion has considerable merit and could facilitate, or extend, the achievement of program objectives, if a relatively simple process of submission and approval of such activities could be adopted.

6.2 ODINAFRICA

Although many of the regional objectives are common, there are significant difference in national priorities and how each participating national centre can best manage the allocated funds. For example, one centre may have a top priority for equipment, another for training and yet another for access to scientific material. In ODINAFRICA II, more flexibility has been accorded to allow for these differences whilst maintaining the overall objectives for the program.

6.3 IHP Projects

Review missions of the Gaza project have been important in identifying areas for improvement and maintaining an appropriate strategic focus. For example, they identified that a rapidly changing situation required some refocusing of the programme, leading to the Phase II proposals for a more inclusive network initiative.

Progress in the Nile FRIEND project has demonstrated the importance of strong leadership (from Dr. Samir Farid) and the need for flexibility to overcome political problems. For example, sharing of data (a central objective) has been highly controversial, but it has been agreed that Ethiopia should provide data from a similar region, although strictly outside the Nile basin. Similarly, agreement on common methodology for analysis has not yet been possible, but agreement has been reached to work on common problems and discuss the results. Closer linkage with the Nile Basin Initiative is desirable and is currently being pursued.

7. Constraints/problems that impacted programme delivery

7.1 General

There is a severe problem with communications in Africa, which is a particular source of difficulty for ODINAFRICA. Land-lines are slow and unreliable except for a few of the major urban centres. Satellite communications would help alleviate this problem, however these facilities do not exist at the present time. A separate but equally serious problem is the vulnerability of communications in Africa to disruptions caused by electronic virus infections in software programs and e-mail. These problems also impact on communications from the region to the outside partners.

7.2 ODINAFRICA

The programme suffered a substantial delay on two separate occasions due to the late arrival of funds. Managing a multinational program of this complexity in this region has many local problems and these are severely compounded by administrative failures at the funding source. It is not the task of the evaluator to investigate the reasons for the delays, but it is disappointing to see unnecessary constraints on program delivery after plans and funding have been accepted.

The three major western languages used in Sub-Saharan Africa are English, French and Portuguese. There are some problems in regional co-operation caused by language differences, however these are being slowly overcome as the various national centres have access to manuals and training and increased contact between centres and this is promoting better communication.

The expenditures planned for internships were under-utilised in ODINEA. After three years it would seem that this element must be re-examined, because either the process is flawed, or the opportunities are not available, or the plan does not match the desires and expectations of the nations participating.

The participating countries in Sub-Saharan Africa are not at the same level of capability or capacity. Training courses need to take these differences into account. As more countries join, the problem will be accentuated and future plans may need to be amended to allow for a two-tier training approach. More use could be made of indigenous expertise for initial training purposes.

The funds set aside for scholarships are also consistently under utilised. One of the major reasons is the lack of trained personnel. Data centre managers cannot leave their management posts for any extended period, without a serious impact on the operation of the centre. An alternative approach would be to take a long-term view and identify potential junior candidates that could be sent away for training and return as understudies for management on the completion of their studies.

As the data centres established under ODINAFRICA gain in capability and confidence, they should be encouraged, and possibly funded, to engage in regional interactive communication and meetings. Regional problems and priorities should be discussed and intra-regional programs developed. This development is seen as a vital step in the maturing process for the regional network.

There were too many differences found between the planned budgets and those finally implemented, although overall objectives remained constant. Some discretion must always be present in budgets to allow for unexpected constraints and setbacks, or to take advantage of opportunities as they arise. When the differences are large however, the time spent in planning details, that do not come to pass, is wasted and a different process for the allocation of funds to planned activities needs to be adopted.

Field Trip – Tanzania

There is a lack of visibility for the Government of Flanders at the local level. If this is an objective for the program it should be addressed. Ample local opportunities exist for such co-operation in terms of research

topics, the need for expertise data interpretation and the generation of information products. There was a lack of knowledge of how to make contact with potential Flemish scientists.

There are many short-term requirements that are complementary to the overall objectives for the program, and could be satisfied within the scope of the funds available from the interest on FUST moneys in the Trust Fund. There are continuing needs for resources, equipment and expertise in order to continue the momentum of the present efforts. These will assist in the achievement of the national goals that have been established and in the development of a sustainable national infrastructure for marine information services. The continuation and enhancement of public awareness and education activities in this area may generate an opportunity for Flemish funds directed at social and education objectives.

7.3 IHP Projects

The main constraint in the Gaza project is the current political situation. In Phase I, disruption to travel between the West Bank and Gaza was a major obstacle to joint Palestinian meetings. At present, it is not possible for staff in Gaza to travel to work. A correct decision has been made to put Phase II on hold, while continuing to support continuity of key staff at the Centre.

A general issue for the Nile and Gaza Phase II projects concerns the constraints on the use of FUST funds. The Nile project relies on research being carried out on each of the project Themes by each member country. This requires research manpower, but while money can be provided for equipment and travel, it cannot be used to support staff (the exception is an element of support for the project and theme leaders). In the evaluator's opinion, this is a problem, to the extent of prejudicing the success of the project as a whole. The majority of the theme contributors are from universities, and in Africa they have major funding constraints. They do not have the resources to support full-time research staff, or in general, research students. It is therefore extremely problematic, and in some cases, impossible for them to undertake the work which is necessary. However, very modest amounts of support for research staff could alleviate this. Salaries are low, as are the resources required to fund research students.

An important element of Gaza Phase II is the provision of funds for collaborative research. In the evaluator's view, this is likely to be a major vehicle for establishing effective collaboration between institutions, and in building a coherent Palestinian research community. However, there are ambiguities in what is meant by research funding, and strictly the FUST support precludes support for salaries (again with the exception of the project management). As in the African situation, research requires manpower, and the universities do not in general have internal resources to support research assistants or research students. Again, only very modest resources are needed to provide support at local rates.

A general issue for all projects is the support of Flemish counterpart expertise. The partners see this as essential in providing access to state-of-the-art methods, awareness of current research developments, and in supporting training. There is a danger that expectations will be raised by the partners and these cannot reasonably be met by the counterparts. There is also the issue that counterpart inputs rely primarily on good will. Hence project management should seek to clarify expectations from partners and counterparts of what support is a) needed and b) feasible. It would also be helpful to provide some financial incentive to counterpart staff for the very substantial and essential contributions that are being made. A specific related issue is the need for up-to-date review of the national and international literature, discussed in Appendix 2 below in the context of the Nile project.

8. Recommendations

8.1 General

- Complementary proposals, below an agreed maximum amount, should be supported from the accrued interest on the Trust Fund. These should be submitted by program managers and mutually and rapidly approved by senior managers of UNESCO and the Government of Flanders. Acceptance would be conditional on proposals that further enhance the agreed objectives of the Trust Fund. The benefit of

using available Trust Fund interest for such activities would be negated if the approval process were onerous and slow.

- Part of the management fee for the Trust Fund, combined with the considerable expertise present in the UNESCO Bureau for Extrabudgetary Funding should be used to investigate and promote the availability of additional funding partners for the programme.

8.2 ODINAFRICA

- The efforts to increase the participation of African States must be continued.
- The cost and advantages of satellite communication, at least at the major data centres, should be investigated.
- Efforts should continue to further increase the number of institutes in developed countries willing to support the RECOSCIX with hard copy and electronic literature documents, especially in French and Portuguese.
- Regional managers and the ODINAFRICA Co-ordinators should be funded to organise regional workshops and prepare materials for basic instruction. The teachers would be those managers in the region already experienced in data and information management and the problems of establishing new data centres. The managers and technical staff of data centres, already established and running, would be those invited to advanced level workshops and courses. The advanced workshops would incorporate experts from outside the region and deal with enhancements and advances in data and information management.
- The more detailed findings that arose from the field trip to Tanzania should be examined by ODINAFRICA program managers and national representatives to see whether any are more generally representative of problems or opportunities and that could translate into common recommendations.

8.3 IHP projects

- Review missions should continue to play an important role in the assessment of project progress and constraints and in the review of strategic directions.
- Limited funding should be available to support research assistants/students contributing to project-approved research.
- The role of Flemish counterparts needs definition and agreement on a project basis. There is a danger of available support not meeting (possibly unrealistic) partner expectations. Some financial support for counterpart inputs is recommended.
- UNESCO should develop a vehicle to establish and maintain contacts between different Regional Centres with common interests and to involve regional centres in relevant global initiatives, particularly with respect to arid and semi-arid areas

9. Conclusions

The first phase of the FUST Agreement has been successful despite some delays in the completion of projects due to start-up difficulties in the transfer of funds.

The individual projects under the Agreement have been well managed and the desired results have been achieved. Important contributions have been made to the general programme objectives, as well as to the specific project deliverables.

The evaluators find that the success of the programs warrant the continuation of the Agreement. The evaluation has resulted in several comments and recommendations, at both senior and programme management levels, that should be considered in the development and implementation of a second phase.

Appendix 1. Evaluation of ODINAFRICA

1.1 Phase I (1998 – 2000)

IOCINCWIO

The following four objectives were followed during Phase I.

Setting up and operation of KeNODC/RNODC Mombasa

Initial expenditures for this activity were substantially reduced from those planned, due to an unforeseen reduction in Internet costs. Planned small office equipment needs were covered by a 1997 contribution from the IOC. The setting up of a regional centre was postponed following the recommendations of the ODINEA W/S. Savings were diverted to other objectives.

Development of, and assistance to, NODCs

The distribution of funds varied substantially from the original plan. Increased funds were allocated to equipment for eight NODCs in seven countries. Unfortunately the late arrival of funds made the award of four internships impossible and the diversion of funds to the data management workshops was a justified alternative. The ODINEA data management and planning workshop was held in Capetown, SA, November 30 to December 11 1998, and was considered successful and drafted an ODINEA workplan for 1999. There were 10 regional participants.

More funds than planned were used for equipment in 1999. Although the reasons for attending to this basic need are clear, the planning should take this into account. Operational expenses were also 30% larger than planned. The annual report for 1999 states that support was provided on the basis of workplans submitted and these could have been reported in the planning table. The internship program was again under-funded, but adequate explanations were given. The two workshops combined exceeded budgets by 25%, even though the Information training workshop was over \$11000 less than planned, probably because it was co-sponsored by SAREC. The amount that SAREC contributed was not given.

Development of data and information products

Due to negotiation of preferential ASFA rates and other circumstances, substantial reductions to this item were possible without any loss to the objective. Some justified over expenditures occurred with the involvement in GODAR.

Project co-ordination and monitoring

A decision was made to hire a part-time regional consultant to organise the co-ordination in the region. This resulted in an increase in cost of about \$11000 to this item. Although not in the original plans, the assignment of a regional consultant was a good decision in terms of regional development and capacity. In 1999 the provision of a regional co-ordinator should have been foreseen in the plans.

Findings

1998: It would probably be expected, and be necessary, to accept changes in plans to allow for funding schedules and unforeseen factors. The project kept its major objectives in focus, although some of the expenditures were significantly different from those planned. The final IOC contribution was reduced without prejudice to the overall objectives because of favourable decreases in the costs of planned and undertaken activities. The total Flemish funds expended was on target.

1999: The difference between the cost of planned and implemented activities remained high. Accepting that delays in receiving funds, difficulties with arrangements for intergovernmental participation, allowances for national policies and many other factors, this may be excusable. Consideration should perhaps be given to alternative ways of planning for expenditures that would allow for better estimates without having the need to justify continual changes to schedules and costs. The main achievements for 1999 were listed as the updating of equipment; the provision of operational support for data centres; internship support; ODINEA '99 Workshop; 'Data for ICAM' workshop; Information Management workshop; the continued support for Internet access; participation in the International GODAR conference;

the development of an ODINEA Resource Kit; the participation in ASFA Board and the IAMSLIC Annual Conference; provision of ASFA; the establishment of an NODC in Mauritius; the hiring of an ODINEA regional co-ordinator and continued support to RECOSCIX-WIO.

2000: The final report covered all three years and was difficult to separate the activities during the year as individual elements. It was disappointing that the planned budget bore little resemblance to the proposed budgets from the ODINEA 1999 w/s. If this is going to be the rule, more workshop time could be spent in dealing with training and operational experiences rather than preparing budgets, whose value is suspect.

RECOSCIX-WIO

The IOC funded the related RECOSCIX-WIO program in 1998. Although not included in the Flemish funds, the program is a component of ODINEA and is legitimately included as an IOC contribution in the 1998 report. In contrast to the criticisms above, the IOC contributions to RECOSCIX were planned and implemented down to the nearest dollar, which itself seems to be anomalous.

The report noted that three issues of the newsletter 'WINDOW' were published (March, June, September) and the 'Western Indian Ocean Directory of Marine Scientists' (WIODIR) was updated. Through an agreement with SADC, additional records were obtained and merged with WIODIR. Negotiations were underway to include records collected by the SEACAM Project (Maputo, Mozambique) which focus on ICAM expertise. Collectively these activities signify a substantial increase in regional information infrastructure and use.

IOCEA

The expenditures of Flemish funds followed closely those planned. The IOC funds, similarly distributed in the plan were diverted to supplying adequate equipment, without which no services could be undertaken.

Loss and failure to deliver equipment disrupted much of the planning for 1999. Of course this was unforeseen, but delays in planned activities were inevitable. Unexpended funds were transferred to 2000. Despite problems much progress was made. The query handling and document delivery service was set up at the Regional Dispatch Centre, CRO, Abidjan and was available at the national level in Côte d'Ivoire by the end of 1999. Regional scientists responded to a canvassing campaign and were entered into the GLODIR. A first draft of the regional newsletter INFOCEAN was prepared.

Overall:

The progress in the establishment of an ocean information and data network over Phase I has been slow but nevertheless impressive. The sustainability of the national centres seems reasonably assured, however there would seem a requirement for continued mentoring and resource support.

The 2000 report was included as part of the total Phase I report 1998 – 2000. The details for 2000 were not well reported, although the individual reports from the regional centres were useful. It appears that despite the slowness in getting some of the centres underway, the progress was real and welcomed by the nations concerned.

Little was seen in the way of reports and results to indicate what the regional co-ordinator(s) was doing. The engagement of a regional co-ordinator or co-ordinators is logical and expected to be helpful to the program. The annual reports should give more prominence to the activities of the co-ordinators and their collective knowledge and experience should be better publicised.

The final Phase I report gave a useful summary of the status of ODINEA, which was not repeated for either the RECOSCIX -WIO or the RECOSCIX – CEA.

The final workshop for the first phase of **ODINAFRICA-I** was held at IPIMAR, Lisbon, Portugal from October 25 –27 2000 to review past achievements and to recommend the way forward. The workshop, which was attended by participants from Kenya, Madagascar, Mauritius, Mozambique, Seychelles, South Africa and Tanzania provided an opportunity to evaluate the progress made since the launch of the project in 1998. The experiences learned were translated into changes contemplated for the implementation of the

second phase of ODINAFRICA. The participants agreed that the objectives of ODINEA had been achieved in most of the member states.

1.2 ODINAFRICA Phase II (2001 - 2003)

Administration:

The second phase of the project aims at enabling IOC member states in Africa to obtain access to ocean data and information available in other data centres, to develop skills for manipulation of data 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 in-kind contributions from the 20 participating African Member States of IOC-UNESCO. These are Benin, Cameroon, Comores, Côte d'Ivoire, Gabon, Ghana, Guinea, Kenya, Madagascar, Mauritania, Mauritius, Morocco, Mozambique, Nigeria, Senegal, Seychelles, South Africa, Tanzania, Togo, Tunisia. Experts from institutions in Belgium, India, United Kingdom and the United States of America have contributed training and capacity building expertise.

It is apparent that progress in infrastructure is being made at both regional and national levels. The Member States participating in the project have been divided into two groups based on the IOC Regional Subsidiary bodies (IOCEA and IOCINCWIO). Each Member State has designated a national co-ordinator, who ensures that the national components of project activities are implemented. A common e-mail service for managers and co-ordinators has been created under the registered domain name of odinafrica.net. The two Regional Co-ordinators Mika Odido (Kenya) for IOCINCWIO and Sekou Cisse (Guinea) for IOCEA, respectively, continue to provide administration support and management of regional training and communication activities. Annual workshops allow regional managers and experts to review progress and approve future plans. The next workshop is planned for November 2002, in Limbe, Cameroun.

Member States, that had not established NODC/DNAs at the start of the current phase, and those wishing to re-energise centres, were provided with support to establish national institutions, as per IODE guidelines, and to educate stakeholders. Eight Member States (Benin, Cameroun, Comores, Mauritania, Mauritius, Senegal, Togo, and Tunisia) have held national co-ordination meetings so far. The project places emphasis on the development of products and services that can lead to, or at least assist, in self-reliance to ensure sustainability of the centres beyond the project period. The participating institutions have agreed that the current IOC policy on "full and open access" to data should be followed.

Training and Follow-up support:

The IODE marine data management training curricula were used for data management training courses. The material 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 Ocean Teacher system was used in order to ensure standardisation of software, formats, methodology and training curricula, and to enable students to undertake self-study subsequent to group training courses. The first ODINAFRICA-II course was held in Casablanca, Morocco, April 2-13 2001.

Two courses in Marine Information Management were held in Cape Town, October 29 to November 9 2001 and in Tunis, April 29 to May 10 2002.

In addition to the available on-going material, a small team of experts was contracted to provide Internet-based (e-mail) 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 include some of the same as those used during the training courses.

Availability 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. In addition there is an on-going programme to identify, digitise and repatriate other data sets, which are available in

foreign institutions to the regions. 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. 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 program allows each country to identify its own set of priorities for data and information requirements. 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 has been provided so far to institutions in Kenya, Madagascar, Mozambique and Tanzania.

Building on the work already carried out under ODINAFRICA I and the RECOSCIX network, the two regional dispatch centres (RDC), located at the Kenya Marine & Fisheries Research Institute (KMFRI) in Mombasa, Kenya, and the Centre de Recherches Océanologiques (CRO) in Abidjan, Côte d'Ivoire, offer regional information services and products. These include:

- a document delivery service to marine scientists in Africa;
- recent additions to the RDC collection and contents of journals;
- merged catalogue of holdings of several regional marine science libraries in the region;
- development and maintenance of database of publications;
- a directory of marine and freshwater professionals and institutions in Africa;
- a newsletter (WINDOW) published 3-4 times a year in English and French and
- maintenance of the project website (www.odinafrica.net).

Linkages with other programmes/projects:

As the networks under ODINAFRICA mature, there is a need to avoid duplication of effort and to partner with other national, regional and international programmes that address coastal and marine environmental issues in Africa. The effectiveness of the networks depends on their ability to share information across national, sectoral and disciplinary boundaries. ODINAFRICA is expected to 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. Examples of 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 co-ordinating 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. The commencement of the project was deferred until January 2001 and 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 the establishment of data and information centres. The funds allocated to training and development of services and products increased progressively during the implementation of the project.

A second delay was experienced in 2002, due to difficulties with changes to the UNESCO financial management system. This impacted negatively on the activities for the year 2002. Fortunately, the FUST Agreement possesses a structure that allows a certain amount of delay to be accommodated.

Conclusions:

The evaluator sees real progress in the development of national and regional infrastructure, in the building of linkages and co-ordination amongst regional partners and in the increased use of data and information in ocean and coastal management activities. The benefits accrue, not only to the marine sector, but spread, by example, to other areas.

1.3 Field study – Tanzania

The field trip to the Institute of Marine Sciences, Zanzibar, Tanzania took place during July 9-11, 2002.

The Situation:

Due to the nature of its mandates and expertise, the Institute of Marine Sciences (IMS) in Zanzibar was nominated by the Government of Tanzania to be the country's Designated National Agency (DNA) on all matters pertaining to oceanographic data and information.

Currently the Institute is using the ODINAFRICA project to lay the foundations for the establishment of a full National Oceanographic Data Centre (NODC). This effort includes also the establishment of a functional coastal and marine resource and environmental meta database for Tanzania, co-ordinated at IMS.

Within Tanzania the ODINAFRICA project is used to strengthen the infrastructure for its data centre and to acquire scientific data and information from institutions, scientists, coastal districts, departments and other stakeholders. The database has been upgraded using the ACCESS software that is able to handle queries and allows the use of search engines. The Project also provides a valuable line of communication and source of data from the regional and the global communities.

ODINAFRICA also encourages the Institute to publicise its activities in a series of outreach projects in the public domain, with government responsibility centres and with stakeholders. The Institute is providing training on relevant marine data and information management themes by organising training workshops and seminars, offering short-term internships at the data centre and conducting demonstrations of their capacity in the provision of marine information.

In particular the IMS has developed a strong collaboration with the Tanzania Coastal Management Partnership (TCMP) and through this and other efforts has become associated with other integrated coastal management activities in the country.

Findings:

The activities funded by FUST in Tanzania are well integrated into the national priorities and objectives for the development of marine information and data services.

The funding and equipment provided by FUST have been catalytic in the establishment of the national infrastructure.

Increasing the visibility and awareness of the usefulness of marine information and data for sustainable management and community programs has been an early goal for the IMS and fits well with the objectives of the FUST and ODINAFRICA.

The FUST assistance has been influential in the transfer of capacity and in the development of national responsibilities in the area of coastal area management and other coastal and ocean issues.

The indigenous support generated from within government, academia and the public has been real and sustainable.

The continuation of FUST support will assist in the acceleration and enhancement of on-going national efforts.

Weaknesses:

There is a lack of visibility for the Government of Flanders at the local level. If this is an objective for the program it should be addressed. For example, there is no direct contact between the IMS and the scientific strengths present in the Flanders scientific institutions. Ample local opportunities exist for such co-operation in terms of research topics, the need for expertise data interpretation and the generation of information products, however, there seemed little knowledge of how to make contact with potential Flemish scientists.

There are many short-term requirements, complementary to the overall objectives for the program, which could be satisfied within the scope of the funds available from the interest on FUST moneys in the Trust Fund. For example, further assistance is needed for equipment to improve the GIS activities to enhance the usefulness and application of data and information holdings. Another area that has been very productive has been the unit for raising awareness of marine issues at the community and school levels. This unit whose objectives are as close to education as they are to marine science and technology is struggling with out-dated equipment for producing video materials.

Opportunities:

In many ways the development of the Marine Information and data capability within Tanzania is in advance of data management in other areas of national resource responsibilities. For this reason alone, the importance of the ODINAFRICA project is increased manifold. Progress in the modernisation of marine data management, the data archives and the presentation of marine information products, will have a beneficial impact on other national responsibilities in Tanzania, such as agriculture, transportation, tourism, etc.

The IMS is already training graduates of the university computer science faculty in basic data management capabilities; thus directly building human capacity that can be used, not only in marine science but other environmental and resource industries. Indirectly, scientists are also being trained themselves in how to submit their data in easily assimilated formats and to gain understanding in value added applications for their data holdings.

Regional networking, considered of immense importance to the development of an African renaissance in the future, is being achieved through the increased connectivity of data centres, through improved communication amongst regional scientists and through the distribution of scientific publications and journals.

Needs:

There are continuing needs for resources, equipment and expertise in order to continue the momentum of the present efforts. These will assist in the achievement of the national goals that have been established and in the development of a sustainable national infrastructure for marine information services.

Without any prejudice for other priorities that may arise, the following were noted in particular:

- The continued efforts for the integration of the many national responsibility centres, dealing with different elements of marine responsibilities, into a cohesive and accessible distributed data network.
- The provision of useful and understandable marine information products to managers and stakeholders. For example, sensitivity maps, coastal resource maps and similar valuable GIS materials.
- The integrated involvement of the national efforts into the regional and global situation, yielding benefits to both the national and wider communities.
- The continuation and enhancement of public awareness and education activities. These may have the potential of being funded under Flemish funds directed at social and education objectives.

1.4 Meetings:

Brussels June 10 2002

- Meeting with Rudi Herman, colleagues from the Government of Flanders and representatives of the Flemish Universities

Paris June 4 to 14 2002, IOC Executive Council

- Meetings with IOC Staff, Meeting with M. ODIDA, ODINAFRICA Co-ordinator, Meetings with representatives of participating Member States

June 13 2002

-Meeting with UNESCO Bureau of Extrabudgetary Funding

Visit to Tanzania, July 6-13,

-Meetings with Alphonse Dubi, D. Masalu, C. Muhando, E. Nyika and associates at the Institute of Marine Sciences, University of Dar es Salaam, Zanzibar

Appendix 2. Evaluation of IHP Programmes

2.1 Capacity Building and Training on Environmental Planning and Management - GAZA PROJECT

The evaluation is based on: a review of the reports and other documents listed in Appendix 3, access to the project files in the UNESCO Cairo office, discussions with Dr. Radwan Al-Weshah in Cairo, as well as the meetings with Government of Flanders and Universities in Brussels and UNESCO staff in Paris, including Dr. Andras Szollogy-Nagy and Dr. Abdin Salih (see section 2.4). The project files reviewed in Cairo included reports of various seminars, workshops and public awareness events.

Phase I

The Gaza project ran as a first phase from 1998-2001, and is very fully documented in the Final Report of November 2001. The project was conceived following a mission to Palestine by Prof. Dirk Raes of the Flemish Inter-University Programme in Water Resources Engineering in March 1995. He recommended establishment of a Water Research Centre and the development of in-country training activities. The general aim was to ensure the long-term conservation of water resources in Palestine through strengthening the institutions in the water sector. Al Azhar University in Gaza followed the Raes recommendations and established a Water Research Centre. The Government of Flanders decided to support this project, and a second mission was undertaken to Gaza in 1997 to prepare a detailed action plan. A three-year agreement was signed in March 1998, with a budget of US\$524k.

A Steering Committee was established, including representatives of the Water Research Centre, the Palestinian Ministry of Higher Education, the Government of Flanders and UNESCO. This Committee met annually (minutes were inspected) to evaluate progress and adopt the annual budget, and undertook an evaluation of the phase 1 project in July, 2001. The Project Director was the UNESCO Regional Hydrologist in Cairo, and the National Project Manager was Eng. Moustafa El Baba, located at Al Azhar University.

The project provided support for the development of facilities at Al Azhar, namely a Documentation Centre, computer facilities to support training activities, some \$200k for laboratory equipment, and a mobile laboratory. Another principal focus was on training activities. An extensive series of courses, seminars and workshops was held at Al Azhar University, other locations in Gaza and the West Bank, and in Jordan. These are fully documented in the Final Report. It is noted that these were attended by more than 1400 Palestinian water experts, from both governmental and non-governmental organisations; approximately 20% were women (a very high proportion for the region). The major workshops and courses were supported by Flemish counterparts and other international experts. The seminar series included Palestinian schools, and one of the public awareness activities organised was World Water Day and Palestinian Water Week, which included work with children, public lectures and video showings, and a national newspaper competition.

Staff of the Water Research Centre attended 13 workshops/round table meetings as part of the capacity building activities. Palestinian staff also participated in wider initiatives within the Arab region, namely the Wadi Hydrology programme and the Groundwater Protection Network. Joint research was supported by Flemish collaboration. Three Flemish students undertook research at Al Azhar, and two of these produced MSc theses based on Palestinian data. Two Palestinian students gathered data in Palestine and studied for their MSc in Flanders. Significant added value was achieved through additional Flemish funding for these exchanges.

Due to the political situation, delays occurred in certain activities, and travel between the West Bank and Gaza was not possible at times. Hence some meetings, including the evaluation workshop, were held in Amman.

In addition to the annual reports and reviews, a number of UNESCO review missions were undertaken. A mission to Gaza in Jan/Feb 2000 noted positive progress, but also made recommendations for improvement. For example, it was noted that laboratory equipment usage could be increased and that the

training programmes would benefit from greater focus on priority issues and target groups. Issues of continuity of Water Research Centre staff needed to be addressed for long-term sustainability of the Centre.

The Final Report of November 2001 concludes that the project has been a great success. In the opinion of the evaluator, and in particular given the political situation and associated constraints, this is correct. Substantial progress towards the general programme objectives has been made, the success of the training programmes in terms of participation has been excellent, and the Flemish support has been significant, productive and mutually beneficial.

Phase II

The general objectives of the programme are ambitious and would inevitably require continued support over a longer period than Phase I. Hence planning for a Phase II extension was initiated at an early stage. The review mission by Chifa Tekaya of UNESCO in Jan/Feb 2000 noted that the dynamic situation in the water sector in Palestine required re-focusing of priorities, and that there was a continuing need to support the Water Research Centre. The concept of a Palestine network had been proposed earlier as an efficient way of developing a national strategy for training and research and implementing collaboration between universities, ministries and NGOs. This was developed further in missions undertaken by W. Bauens in February and July 2000. The result was a Project Outline for a 4 year Phase II with a budget of \$850k.

Within the context of the general objectives discussed above, the main focus of Phase II was on training and capacity building through:

- a) further support to Al Azhar University, as a continuation from Phase I
- b) the creation of a Water Resources network on training and research.

The latter was aimed at broadening the scope of the previous activities and achieving best use of resources through national co-ordination.

The Phase II objectives were:

- To establish a Palestinian Water Resources network
- To establish a modern documentation centre, accessible by the whole water sector
- To strengthen the staff of the Palestinian universities (as training providers)
- To enhance the research capability of the universities
- To develop public awareness of water conservation

The documentation centre would be a significant development of the Phase I facility, with expert help to establish it. The Network on Training and Research would have a steering committee (the Network Commission) and secretariat and would foster and facilitate collaboration for training and research. An important aspect of the Network would be the facility to support training and research projects with funds from the project (and evaluate such projects). The activities would be: training of trainers, capacity building of scientific staff, special projects for top level staff (for workshops and seminars abroad) and support for collaborative research in the field of water resources.

Phase II was approved, with the same management structure as before, i.e. project management from UNESCO Cairo, overall supervision by a Steering Committee representing the main interested parties (now to include active Network members) and annual reporting. The Palestinian institutions would provide local staff, office equipment and running costs of the Water Research Centre, UNESCO the support for various preparatory work, logistical support, technical support and provision of documentation. However, recent political events have effectively prevented its implementation. A decision has been made to put the project on hold until progress is possible, while seeking to retain core staff of the Water Research Centre.

Conclusions

Phase I has been effectively managed and fully reviewed and reported. Despite the difficulties of the political situation, significant progress has been made in meeting the project objectives, which are at the heart of the development needs of Palestine. The extent of the training activities undertaken is impressive, and the establishment of the Water Research Centre has been successful in establishing a focus for training, research, laboratory facilities and documentation. There has been an effective relationship with the Flemish counterparts in terms of support for training events and in the development of collaborative research. The

additional resources generated by the Flemish universities to support exchanges for training and research is a very positive aspect of that collaboration.

Phase II seeks to diversify the involvement of the various universities and government interests in the water sector. The network, reinforced by the provision of funding for collaborative projects, is an excellent concept to achieve this, and to avoid duplication from the various unilateral aid activities providing support to Palestine. The evaluator suggests (as in the Nile project) that funding for research projects should include the possibility of providing costs for local researchers. At present these are apparently explicitly excluded, but self-evidently manpower is required for research projects, in the form of students and/or research assistants, and the modest support needed for local salaries would ensure this.

In view of the present political situation, the management decision to defer the project until circumstances allow progress is clearly correct. It is fortunate that the funds have sufficient flexibility to allow this.

2.2 FRIEND/NILE Project

Capacity Building and Networking of the Nile Countries

Background

The Nile is one of the world's largest rivers, and, with 10 riparian countries, presents important political and technical challenges with respect to integrated management. The main contribution to Nile flows comes from the Blue Nile, rising in Ethiopia, with lesser inputs from the White Nile, originating in Lake Victoria. The downstream riparian countries, Egypt and Sudan, are dependent on flows from upstream for their major water resource, and vulnerable to the actions of upstream users. The basin as a whole has limited water resources, and these are facing increased pressures, due to population growth and economic development. Other pressures on the environment are growing, and there is a major challenge to balance development with the protection of valuable habitats, such as the Sudd wetlands, which are of global importance. There are also increased uncertainties for the future, associated with potential impacts of climate change. There is evidently a complex set of management issues, and the potential for serious international conflict.

Over the last 35 years, a series of initiatives has been put in place to encourage co-operation between the Nile basin countries and to facilitate the common pursuit of sustainable management. This began with the HYDROMET project in 1967, which became the TECCONILE project in 1992. This was succeeded by the Nile Basin Initiative in 1998. These initiatives were agreed at governmental level, and principally focused on projects and training linked to the issues of basin management.

The origin of the current UNESCO/Flanders FIT project was the establishment of the Nile FRIEND programme, with the support of UNESCO, in 1996. The aims were distinct from the other initiatives in that the primary focus was on scientific collaboration and capacity building. Nevertheless, an important secondary aim is the creation of a cohesive scientific community in the area of hydrology, as a major contribution to improved technical understanding and co-operation in water management for the basin.

Development of the FRIEND/NILE BASIN project

The FRIEND/NILE project followed several similar regional initiatives, for example, European FRIEND and Southern Africa FRIEND, which sought to develop a shared regional data-base and then to use the power of the data-base to develop, through collaborative research programmes, appropriate regional methods to support hydrological management.

Hence, when established in 1996, 5 priority themes were identified for FRIEND/NILE, with associated task leaders, namely the establishment of a regional database (University of Dar es Salaam, Tanzania), and development of co-operative research programmes in the areas of:

- flood frequency analysis (WRRRI, Egypt),
- rainfall-runoff modelling (University of Dar es Salaam, Tanzania),

droughts and low flow analyses (University of Nairobi, Kenya) and sediments (Omdurman University, Sudan).

Consistent support for the FRIEND/NILE project has been forthcoming from Egypt, Ethiopia, Kenya, Sudan and Tanzania, who therefore form the core of the project.

Very little progress was made over the next 2 years, the main problem being the reluctance of the participants to share data, a subsidiary problem being lack of financial resources. The third annual steering Committee meeting, in 1999, resolved to overcome the data problem by postponing the sharing of data, with emphasis on participants working on common themes with their own data. The programme was therefore re-focused and re-organised. WRRRI, Egypt took the role of overall co-ordination, the regional data base activity was dropped, and a new element of Training and Capacity Building was introduced, led by the Hydraulics Research Institute, Egypt. The concept that focal persons should be identified in each country for each theme was also agreed.

A meeting was hosted with the support of UNESCO and WRRRI in Cairo in April 2000, following preliminary discussions with the Government of Flanders and the Flemish universities. A work plan and outline budget was formulated, and focal persons defined, leading to the preparation of the Technical Project Document by UNESCO in April/May 2000. The budget, of \$900,000 over 4 years was agreed in 2001, with a start date of November 1 2001, focusing on the three components that the Flemish universities felt best able to support, namely flood frequency, rainfall-runoff modelling and sediments. This led to the beginning of this new phase of activity with three launch workshops, one for each theme, in November 2001, attended by Flemish counterparts, to refine and flesh out the work plans. A Project Management team for the FIT project was created, reporting to the FRIEND/NILE Steering Committee. These bodies met in December 2001 to approve the work plans, and the appointment of a full time Project Manager, Abdulaziz Zaki. Most recently, in May 2002, all co-ordinators and the country focal representatives for each theme came together for a Hydrological Data Processing workshop in Dar es Salaam. This was the first meeting of the full set of thematic working groups.

Programme management

As noted above the UNESCO/Flemish FIT project is overseen by a Project Management Committee (PMC), comprising Dr. Rudi Herman (Government of Flanders), Dr. Abdin Salih (UNESCO Paris), Dr. Radwan Al-Weshah (UNESCO Cairo) and Prof. Samir Farid (WRRRI, Cairo), General Co-ordinator of the Project. The Project Manager, Abdulaziz Zaki, is a full-time employee of the project and supports Prof. Farid with respect to scientific co-ordination and Dr. Al-Weshah with respect to project administration. The scientific co-ordinators for the individual themes are Prof. Felix Mtalo (University of Dar es Salaam) for Rainfall-Runoff Modelling, Prof. Abdalaah Abd Salaam (Khartoum) for Sediment Transport and Watershed Management and Prof. Samir Farid, for Flood Frequency. In addition, each theme has a focal person in each participating country.

An important aspect of the programme management is a requirement for full documentation. All meetings are fully, and evidently promptly, reported (bound proceedings of the May Dar es Salaam workshop were delivered to Cairo before the end of June), and there is a requirement for half-yearly progress reports from each theme co-ordinator. Hence there is a comprehensive account of the discussions and deliberations to date. The first meeting of the PMC was in December 2001, in Cairo. Annual meetings of the PMC are envisaged, in association with the annual meeting of the FRIEND/NILE Steering Committee.

The Technical Programme and Progress to date

The proposal supported under the FIT programme defined a set of immediate objectives which, put briefly, are:

- a. To improve understanding of hydrological variability, in space and time, to develop hydrological science and design methods for low and high flows
- b. To enhance research co-operation
- c. To increase the number of trained personnel and reduce dependence on external support
- d. To create a network between training institutions and linkage to similar networks in the advanced world

In the proposal, three research themes were identified for support under the FUST funding, namely rainfall-runoff modelling, sediment transport and watershed management and flood frequency. The document was well prepared, and had been based on the April 2000 Cairo workshop. The themes identified are important, both scientifically and technically, and well matched to the available expertise and interests both within the region and from the Flemish counterparts. However the programme is complex, both technically and logistically, with the added complication of extreme sensitivities from some members over the issue of access to data. Hence a significant amount of work was required to update and flesh out the work programme, to build consensus concerning the priorities within these Themes, and to identify time-scales, equipment and training needs, and budgets. The November 2001 workshops made a major step forward in each of these aspects.

The May 2002 Workshop reflected the priority of data acquisition, and served a variety of purposes. It was the first occasion on which the focal members from the three themes had come together as a single group, it identified particular technical issues to be addressed in putting data sets together (and included elements of training related to those issues), and prioritised specific catchments as a focus for the first stages of research. The bringing together of the three themes was important also in identifying some common catchments as a focus for research across the themes. The workshop also made further progress on research priorities and went some way to identifying a preferred set of modelling tools. The workshop report annexes identify agreed objectives for the focal persons in the various themes, which is very much to be welcomed.

There is also a sense of strong relationships being developed between the participants, and the concept of sharing data is bearing fruit. For example, Kenya has already provided 40 years of data from several catchments, significantly augmenting the integrated Nile basin data-base, and Ethiopia is providing data, albeit from outside the Nile basin, but in the same climatic region.

In summary, technical progress has been good for the present early stage of the programme. A programme of work has been identified and prioritised, equipment and training support needs have been identified, and procurement has commenced. It would be helpful in terms of future technical progress to produce a note of agreed deliverables, with associated time-scales, for individual focal persons, although it is recognised that this may not be feasible at present. A technical recommendation concerning review material is appended (See paragraph 7 below).

Observations on Progress and Resource Issues

Progress at this stage of the programme is excellent. In discussions with 2 theme co-ordinators and one focal person, the evaluator has been impressed by their enthusiasm for, and commitment to, the programme; this is mirrored by discussions with the Flemish university counterparts. There is firm management, good reporting, strong leadership from Prof. Farid and effective support from UNESCO Cairo.

There are two concerns about maintaining the present high level of momentum of the project under the current resourcing model:

a) Research Assistant support

At present, some support is available to the Theme co-ordinators to provide necessary expenses for their support role. However, the key to progress will be the research undertaken by the focal persons and co-ordinators. Equipment is being provided to facilitate this, but in addition, a significant commitment of research assistant manpower is required. For the African universities in particular, this presents a difficult problem. They do not in general have available research manpower. At present, they are hoping to use MSc and research student inputs, but have no guaranteed sources of funding for either. Another, and somewhat sensitive issue, is staff commitment. To my personal knowledge, academic salaries in Africa are often inadequate to meet the basic cost of living; academics therefore of necessity must have other employment. Research commitment, although undoubtedly present, must be balanced against these other pressures.

In my opinion, the programme would be considerably strengthened if a very modest level of support were to be provided to meet part of the costs of the necessary research assistant inputs. This need only be a

very low level (perhaps in the range of \$1500-2400 per year per focal person), and could probably be found from the current overall budget. Without this, some of the focal persons will struggle, and may well fail, to resource their technical inputs.

b) Flemish counterpart inputs

The concept of partnership between the Nile basin partners and the Flemish counterparts is seen by all partners as an important and essential component of the programme, and is very much welcomed by the Nile basin members. Evidently, in terms of the programme objectives, it is this connection which will deliver the linkage to advanced country networks. However, the Nile basin countries are also looking to the Flemish counterparts for expertise, advice and training. The Flemish counterparts are committed and motivated to provide this support, but are undertaking this work voluntarily, have other (probably increasing) pressures on their time, and can obviously not provide unlimited inputs to the programme. It will therefore be necessary for all partners to recognise these constraints; it might therefore be helpful to clarify the expected partner inputs.

The evaluator feels that it would be helpful to acknowledge and encourage the counterpart inputs, which is understood to be entirely voluntary at present, by a small per diem honorarium.

External Links

Liaison with the Nile Basin Initiative

It is obvious that there are strong synergies between the FRIEND/NILE programme and the Nile Basin Initiative. At a working level, this is recognised (several of the participants are the same), and at a political level, H.E. Dr. Abu-Zeid, Egyptian Minister of Water Resources and Irrigation, strongly supports closer co-operation. UNESCO is pursuing this with a formal presentation to the next NBI steering group meeting. In my opinion this is very much to be welcomed.

Links to other FRIEND programmes

Other FRIEND networks exist and have developed a significant history of technical co-operation and technical progress. Liaison across the FRIEND networks can therefore benefit FRIEND/NILE in terms of the issues in developing collaboration, and also technical progress - many of the other FRIEND networks have common technical goals. The visit of Dr. Farid to a recent Southern Africa FRIEND meeting is therefore very much to be welcomed, and closer technical collaboration should be fostered.

Links to other partners

There is a danger in the NILE/FRIEND programme being perceived as exclusive to existing partners. It is noted that invitations to other Nile countries have regularly been extended, but only patchily been taken up. Nevertheless, the continuation of such invitations should be a priority. It is also noted that the Flemish consultants have consistently indicated that non-Flemish inputs are welcome. There is obviously a need to continue to look for additional support for the programme, and in particular the theme of Drought and Low Flows.

Review Material

At various stages in the discussions of the November 2001 and May 2002 there is some reference to the need for literature reviews, and this is also a specific recommendation of the mission report of Patric Jacobs and Jean Poesen, Nov, 2001. The technical recommendation is that an important element for each of the three themes is to undertake a review of relevant historical studies related to the individual theme available in the national literature of the participants and in the international literature. These themes can, in varying degrees, draw on earlier work in the region and should aim to maximise the scientific value of such previous work. A region-specific theme bibliography would be a useful early product from the programme.

In addition it would be advantageous to produce a state-of-the-art technical review for each theme. This would have to be provided from the counterparts, other experts, or from material already available in the literature. This would be an important training document and provide a common framework from which individual focal persons could draw.

2.3 Capacity building and networking for water resources management in Southern Africa 2002-2005

This report is based on discussions in Brussels and Paris with Flemish University staff, including Prof. Van der Beken, and UNESCO staff, including Dr. Bogardi, together with three reports, listed below.

The origins of this project lie in a request from the Department of Water Affairs and Forestry (DWAF), South Africa, for assistance from UNESCO and WMO in the assessment of Education and Training needs. The ensuing mission was led by Prof. Van der Beken, and produced an extensive report in 1998. The report found a major structural problem of a chronic shortage of trained manpower. This was exacerbated by the changing focus of water management towards integrated management, and increased demand for trained manpower for new services and organisations, to support new laws, policies and programmes, and to build community awareness. There was a wide range of current education and training provision, and high levels of professional capacity in the tertiary education sector, but there were also gaps, lack of co-ordination and collaboration, and a lack of communication between government and education concerning training needs. Scope for joint initiatives with SADC countries was also identified. The main recommendation was a collaborative networking initiative at a variety of levels, with support for networks, mobility between institutions, joint projects and various support activities. Hence a Framework Programme of Education and Training for Water (FET-Water) was defined.

As a follow-up to this mission, a Work Plan for capacity building and networking for water resources management in Southern Africa was agreed for the period 2002-2005. The main focus is support to launch the FET-Water initiative. The four levels proposed in the 1998 report are to be pursued. The first networking activity will focus on a capacity-building network on 'River Health,' one of the identified training gaps for ecologically orientated water resources management. The mobility strand will support participation in capacity building courses, and is also intended to enable SADC countries to participate in FET-Water. The joint project strand will focus on joint curriculum development, and support actions will involve workshops and monitoring of the implementation of the initiative. The Flemish Trust Fund contribution will be \$208k, with the Republic of South Africa providing \$275k and UNESCO \$45k. Flemish counterpart activities are seen as advice on the networking process and in the joint curriculum development, based on extensive Flemish experience in these areas.

This project is in its early days, and effectively started in March 2002. A discussion meeting was held from 7-12 March 2002 to discuss networking and its application in South Africa. European experience was discussed, and the experience of the River Health Programme, which had been initiated in South Africa in 1995. It was agreed that a rather broader network was needed, and a Water Environment Management Partnership was suggested (WEMNET), with a focus on aquatic system health and communication and information management. Activities were defined as: joint curriculum development; capacity building sessions; workshops and symposia; mobility of staff and students; accreditation of courses and student placements for practical training. A Network Committee was established, to launch the network, convened by Dr. Van Vliet of DWAF. A two month visit to Europe has subsequently been made by a DWAF employee to undergo training for network co-ordination.

Conclusions

The Republic of South Africa clearly has major problems in its transition status, with greatly expanded needs for water management and major shortage of trained manpower. Appropriate training is needed across a range of levels, and while some of the tertiary education sector achieves the highest levels of international research and training, there are gaps in provision, a lack of communication and collaboration, and the need to support the 'previously disadvantaged' sector. There is also a strong need for support to the SADC region as a whole. The case for the FET-Water Network has been convincingly argued, and the Flemish Universities are very well positioned to contribute their experience to this project. It is very early days to review the project, but obviously its success will depend on the extent to which the South African institutions see value in contributing. The March 2002 meeting shows general, although cautious, support. There will be a need to build bridges with other SADC initiatives, for example the Waternet SADC initiative supported by the Netherlands, and the Southern African FRIEND project, have created relevant networks across the region. However, UNESCO is well positioned to advise on existing relevant initiatives.

2.4 Establishment of the Water Centre for Arid and Semi-arid regions of Latin America and the Caribbean

The importance of water resource management in the arid and semi-arid regions of the world has been recognised by UNESCO; this has been a priority area in the Fifth Phase of the International Hydrological Programme and will continue to be so in Phase 6 (2002-2007). Significant areas of the Latin America and Caribbean Region fall into this category, in 22 countries of the region. The establishment of a Water Centre for the Region has been under discussion for some time, and Chile is a natural host for such a Centre, with 47% of its area in this category, including a hyper-arid zone.

An early project proposal was drafted in 2000. This has now been refined to form the basis of a final proposal, for which the FUST plan of operation was signed by UNESCO and the Chilean Government in June 2002. The general objective of the project is to create a regional Centre to:

a) strengthen technical, social and economic development through improved development and management of water resources, and b) increase the role of communities in the development of a water culture. Specific objectives are to:

- Promote relevant research
- Promote contact between researchers in the region
- Disseminate results of water resource investigations
- Impart education and training on water resources management and promote upgrading of the capacity of researchers
- Establish a programme on the sustainable management of water resources in pilot areas of the Region (Chile, Bolivia, Argentina and Peru are candidate locations).

Chile has offered substantial support for the Centre, including facilities at the University of La Serena (\$150k), and annual funding from the regional government of Coquimbo (\$100k/year) and National Government (\$50K/year). UNESCO will provide technical and administrative assistance for organisation of the Centre, help with establishment of contacts with funding agencies and assistance with dissemination activities. The Flemish Trust Fund is to provide \$120k per year for three years to support three researchers, 18 scholarships, 4 research projects (in 4 countries), and courses with invited lecturers. An outline work plan has been formulated.

At this stage of the project development, only general comments are possible. Undoubtedly there is an important role for a regional centre focusing on arid and semi-arid areas. Chile is an eminently suitable location in terms of climate and development; the support from Chile for the Centre is impressive and includes not only the regional government but also the Director General of Water Resources for Chile. It is understood that a project steering committee has yet to be established for the Flemish funding. This will obviously have an important role in guiding the new initiative.

In setting up a regional centre, there is a major challenge to establish a credible programme and reach out to the other relevant countries. This will depend heavily on the Centre staff and on establishing effective contacts - but UNESCO is well positioned to advise on the latter. The current documentation makes little specific reference to the wider programme of international activities in the arid and semi-arid areas. Clearly there is a need for close liaison with UNESCO's global activities and its other regional programmes (most notably in the Arab region). There is also a need to command the international literature, overcome language barriers to the transfer of research, and make links with other relevant international initiatives. The SAHRA project at the University of Arizona, Tucson is one. The role of the Flemish Universities is not clearly established in the available documentation. However, Prof. Berlamont has visited Chile, and a workshop is to be arranged to discuss future co-operation with the Flemish counterparts.

In conclusion, this is an important and timely initiative, with strong support from the host country, and is to be welcomed. However much work remains to be done to plan the project in detail, including the Flemish counterpart contribution.

2.5 Meetings

Visit to Brussels June 10 2002

Meeting with Rudi Herman, colleagues from the Government of Flanders and representatives of the Flemish Universities

Visit to Paris June 13 – 14 2002

Meeting with UNESCO staff and attendance at IHP5 review meeting/Kovacs Symposium; meetings with Andras Szollogy-Nagy (Director of Water Division), Birgitte Moller (Director, Bureau for Extrabudgetary funding), Abdin Salih (Deputy-Director; Nile Friend and Palestine), Janos Bogardi (South Africa), Alberto Tejada-Guibert (Chile Centre), Peter Pissierssens (IOC),

Visit to Cairo June 27 to July 1 2002

Meeting with Radwan Al-Weshah and Abdulaziz Zaki (UNESCO)

Meeting with Mahmoud Abu-Zeid, Egyptian Minister of Water Resources and Irrigation

Meeting with Felix Mtal, University of Dar es Salaam

Meeting with Francis Mutua, University of Nairobi

Meeting with Samir Farid, WRI, Egypt

Appendix 3 - Documents Examined

3.1 Administration and Management

Agreement on the UNESCO/Flanders Trust Fund for the Support of UNESCO's Activities in the Field of Science.

Brief outline on the Operation of the Flemish/UNESCO Trust Fund

Terms of Reference for the Evaluation

Minutes of the Steering Committee Meetings

3.2 ODINAFRICA

ODINAFRICA Progress Report IOC/INF-1171 Paris, April 9 2002

Oceanographic Data And Information Network For Africa (ODINAFRICA) - Annual Report 2001

Oceanographic Data And Information Network For Africa – Second Phase – Project Document April 25 2000

IOC Regional Workshop for Member States of Western Africa – GODAR VI

Oceanographic Data And Information Network For Africa (ODINAFRICA) - Final Report 1998-2000 (including report for 2000)

Oceanographic Data And Information Network For Africa (**ODINAFRICA**) - **Annual Report 1999**

Oceanographic Data And Information Network For Africa (ODINAFRICA) - Annual Report 1998

Summary Reports of the IOC Assembly 1999 and 2000

Summary Reports of the IOC Executive Council 1998, 2000 and 2002

Institute of Marine Sciences Dar Es Salaam – Profile

Tanzania Coastal Management Partnership Retreat Proceedings December 19 - 21 2001

Tanzania Coastal Management Partnership Retreat Proceedings May 21 - 22 2001

Status of Oceanographic Data Management in Tanzania, Desiderius Masalu, 2002

3.3 IHP Programmes

Capacity Building and Training on Environmental Planning and Management - GAZA PROJECT

Workshop on Evaluation of Phase I and launching of Phase II of the UNESCO/Flanders FIT Project on Capacity Building and Training on Environmental Planning and Management in Palestine - Minutes of Meeting, Amman, Jordan, July 9 – 13 2001

Capacity Building and Training on Environmental Planning and Management, Phase II, Project Outline (*undated- prepared 2000*)

Capacity Building and Training on Environmental Planning and Management

Final Report, Eds. Radwan Al-Weshah and Riyad El Khoudary, FMR/UNESCO-CAIRO/01/214(FIT), Nov.2001

Technical Report on UNESCO/Flanders Funds in Trust Project: Capacity Building and Training on Environmental Planning and Management, January-December 2000

Training course on Groundwater Flow/Exploration and Modelling Report, 18-22.02.2001, Birzeit University

Training course on Introduction to Geographic Information System (GIS), 17-22.02.2001, Al-Azhar University

Mission to Palestine July 24-27, 2000, W. Bauwens

Various UNESCO files reviewed, including reports of various seminars, workshops and public awareness events

NILE FRIEND/NILE Project

Capacity Building and Networking of the Nile Countries

Mid-First Year Report on Sediment Transport and Watershed Management Component (STWMC), Khartoum, May 2002

Hydrological Data Processing Workshop, University of Dar es Salaam, May 2002 (Main report plus 12 Annexes)

Report on 4th FRIEND Inter-Group Co-ordination Committee (FIGCC) Meeting and 4th FRIEND-2002 Regional Hydrology Conference, Cape Town South Africa March 17 –23 2002 by Prof. Dr. Mohammed Samir Mahmoud Farid

The First Project Meeting of Friend/Nile UNESCO-Flanders FIT Project 10-12 Dec. 2001, Cairo, Final Report (Vol. I) and Presentations of Research Co-ordinators (Vol. II)

The Fifth Steering Committee Meeting of Friend/Nile UNESCO-Flanders FIT Project 13-14 Dec. 2001, Cairo, Final Report (Vol. I) and Presentations of Research Co-ordinators (Vol. II)

FRIEND-NILE SEDIMENT TRANSPORT AND WATERSHED MANAGEMENT COMPONENT,

Report of mission to Egypt and Sudan by Patric Jacobs and Jean Poesen, November 16 – 23 2001

Nile FRIEND Project Launching Workshop on Rainfall-Runoff Modelling, November 1 -5 2001,

Bagamoyo, Tanzania

FRIEND Nile Basin Project Report on Workshop of Flood Frequency Analysis Component and Drought and Low Flow Analysis Component, Vol. 1 Final Report, Vol. 2 Annexes

Friend/Nile Project Proceeding of the Sediment Transport and Watershed Management Workshop, Nov. 2001, Khartoum, Sudan

Report on Participation of workshop on Rainfall-Runoff Modelling component, FRIEND NILE BASIN Project, 1-3 Nov. 2001, Bagamoyo-Tanzania, by Prof. Dr. Mohammed Samir Farid

Report on Participation of workshop on Sediment Transport and Watershed Management, FRIEND NILE BASIN Project, 20-23 Nov. 2001, Khartoum-Sudan, by Prof. Dr. Mohammed Samir Farid and Prof. Dr. Mohammed El-Moutassem

FRIEND/NILE BASIN PROJECT TECHNICAL PROJECT DOCUMENT, UNESCO Cairo Office, April/May 2000

Capacity building and networking for water resources management in Southern Africa 2002-2005

DWAF/UNESCO/WMO Mission on the Assessment of the Education and Training Needs of the Water Resources Management Services of the Republic of South Africa, May 1998, 86pp plus Appendices

Capacity building and networking for water resources management in Southern Africa 2002-2005: WORK PLAN, 11pp

Capacity building and networking for water resources management in Southern Africa 2002-2005: Record of discussion sessions 7-12/3/02, 19pp

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