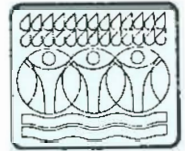




UNITED NATIONS
ENVIRONMENT
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INTERNATIONAL TRAINING
CENTRE FOR WATER
RESOURCES MANAGEMENT



Meeting of experts on fresh
water resources management
in the Mediterranean region
Cannes, France, 25-29 April 1978
convened by UNEP and organized
in cooperation with CEFIGRE

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CASE STUDIES IN FRESH WATER RESOURCES
MANAGEMENT IN THE MEDITERRANEAN REGION :
TECHNICAL, ECONOMIC AND INSTITUTIONAL ASPECTS

UNITED NATIONS PROGRAM
FOR ENVIRONMENT

INTERNATIONAL TRAINING
CENTRE FOR THE ADMINIS-
TRATION OF WATER
RESOURCES

Meeting of experts on the
administration of soft water
resources in the Mediterranean
region -

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ration with the CEFIGRE

LIMITED DISTRIBUTION
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FRENCH

Original in FRENCH

CONFERENCE ON THE ADVANTAGES OF AN
INFORMATION NETWORK ON SOFT WATER BEING ADAPTED
TO THE MEDITERRANEAN REGION

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GENERAL INTRODUCTION - THE PROJECT AND ITS OBJECTIVES

Over 2000 years ago, the famous Alexandria library already housed the most important inheritance of current knowledge contained in a collection estimated at more than 500.000 volumes. A compilation of all the works available was organised probably for the first time, on such a scale ; the texts were copied and published in a standard size in order to make the filing and the references easier ; and a bibliographical catalogue of the works in stock was drawn up. This "information system" before its time has been the standard reference used by all the learned people of the Mediterranean world for several centuries, until the library was accidentally destroyed.

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Our times being characterised by a rapid evolution of knowledge and by quick exchanges, the problem is no longer to store a mass of information in a library to be used by a small minority. Easy access to information and its speed of circulation play a decisive role in training men and advancing their knowledge, so that they can dominate technology by spreading abroad their techniques and knowledge, so that their methods and processes become the bases of any decisions made.

To fill what is called the "technological gap" is to make good insufficient information and to bring it up to date.

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The potential of scientific and technical information that is available in the Mediterranean countries is certainly considerable. But, is the present documentation sufficiently mobilised for the good of the countries concerned ? Do these countries take enough advantage of the resources of relevant information available outside the Mediterranean area ? Would it not be profitable for the "Blue Plan", in view of its objectives, to define its information policy and to demonstrate the means necessary for its realisation and success ?

If the answer to these questions leads to a general consensus of favourable opinion from the Mediterranean countries, it would then be possible to start thinking together to determine a common policy of scientific and technical information, taking into account the best documentary support of the "Blue Plan", based on national policies of information adopted by

each interested country. The documentary support of the Blue Plan will obviously have to take into account the current documentary activities in the member countries, to cooperate with the existing national institutions, to use to the best advantage the means and results available in international organizations, especially those belonging to the UN.

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The definition and carrying into effect of the information system of the Blue Plan, should it be agreed on, must be carried out step by step. It will have to take into account the diversity of ideas, requirements and sources of information incidental to the different situations in each country. It will undoubtedly be difficult to set up a faultless system from the beginning. It will be necessary to estimate the cost involved, to determine the means of financing as far as this is compatible with the most realistic estimates, and eventually to fix the tariff of its credits, and to train the required specialists in documentation, etc.

But the efficiency of this information networks to be created will not be judged, at least at the beginning, from the amount of filed information, but rather, and especially from the standpoint of real help, and directly usable help, that it will supply on request, from the value of information that it will collect and supply, and also from the degree according to which it will express the documentary needs which are often more or less felt spontaneously by the users. Today the most efficient system of information should be able to encourage and maintain close communication and a permanent dialogue with its users, and have the ability to overcome the risk of being changed as time goes on, into a very well organised concern which is out of touch with its clientele.

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Notes on some of the documentary themes in the
Blue Plan System of Information

First of all, one can indicate the following documentary themes which should be included in a system of information such as the Blue Plan :

- Protection and reconstitution of the original conditions, water, soil, countryside and coastline.

- Problems of inventories of natural resources and their use ; methods of compiling inventories and reference systems, of ecological control ; definition of details of the state and evolution of the constituent parameters of the environment and methods of establishing records of the environment.

- Statistics.

- Techniques and practices to effect large scale schemes of water regulation and use of soils, rational management of national resources having for twin objectives economic development and protection of the environment and its equilibrium.

- Problems connected with the catchment areas, such as conservation of soil, regulation of surface water supply, amount of sediments carried, and control of river beds.

- Steps for administration and protection of forest areas (including fire protection), pastures, cultivated land. Use of poor lands.

- Documentation of results obtained from representative and experimental catchment areas.

- Wind erosion. Stabilization of soils, dunes, coastal sand.

- Special problems in connection with the protection of coastal areas and the sea against telluric pollution : making diagrams and maps of what is being done on the coast. Demographic and economic problems specific to coastal zones. Order of priority of various risks and nuisances. Special steps for protecting the susceptible areas or the more exposed ones. State of the bathing areas and of shellfish beds. Methods of sea protection. Definition of short term specific priorities, and the recommended techniques.

- Drinking water supply and purification of the coastal resorts. Rain water. Common or individual drainage.

- Techniques to reduce the pollution of domestic, urban, industrial or agricultural refuse. Specific techniques to purify built-up areas with high variations in seasonal population (tourism).
- Techniques for throwing back refuse to the sea.
- Recycling of waste water ; agricultural use and dispersal of used waters.
- Making of lagoons and reduction of the throwing back of pathogenic germs.
- Pollution that cannot be dealt with biologically : detergents, heavy metals, pesticides, toxic products.
- Collection, recovery and disposal of solid refuse.
- Aquaculture in coastal lagoons.
- Organization of networks for hydro-meteorological and physico-chemical measures.
- Problems related to instrumentation, analysis and equipment of laboratories.
- Documentation connected with the technical specifications of the projects.
- Filing of studies, monographs and realizations in the Mediterranean countries.
- Documentation on new materials and new technologies.

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The foregoing themes are only mentionned here to encourage people to think over the possible documentary themes of the information system of the Blue Plan. If a list of themes to be kept is adopted, a wide collation of the various points of view of the countries associated with the Blue Plan will be necessary regarding their own requirements and the themes that have already been dealt with or will be dealt with eventually. Because of the vastness of the fields covered by each theme, it is probable that much preliminary work will be necessary to prepare these themes, to define how it will be possible, in the field of an information network, for each country to make its contribution, and to study under what conditions the problem of

a common documentary language will be solved, i.e. the constitution of a thesaurus.

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THE INFORMATION NETWORK

The current conceptions of organizing a scientific and technical information system tend to encourage the cooperation of several independent documentary organizations round an information network, in order to reduce the negative aspects of dispersal and isolation. The network is where opinions are exchanged, tending to harmonization, concertation, assistance and cooperation between the documentary organizations having common interests.

The set up of an information network requires detailed studies : organization, thesaurus, format for the exchange of information, study of all rules and methods which will enable satisfaction to be given to all needs in the best possible way, by giving to the network all the necessary uniformity and coherence.

Cooperation gives the users a wider field of information, and a better quality in the service rendered ; it encourages competition for the development of activities of the independent organizations, the profitability of investment and the best use of methods, and of the staff specialists in documentation belonging to each documentary organization associated with the information network ; it preserves all the advantages incidental to the operation of the associated documentary centres.

The access to the stage of automatic documentation is also made easier by cooperation, for the documentary softwares are best employed by a powerful computer, having a sufficient size of central memory, that can be linked to enough subsidiary equipment (record, tape-recorder, card punch and reader, printer console , etc.) in order to assure the rapid consultation of the documentary files.

Each documentary organization associated with the network is equipped, should the necessity arise, with a terminal of variable size according to its importance, to assure its own

output, and eventually the taking of the information in "real time", and whenever possible, to consult the fundamental documentation of the information system. The distance and difficulties of international interconnection will be a real handicap as far as instantaneous consultations of these documentary data are concerned.

There must obviously be only one documentary software per network ; if the integration of documentary centres in the network has a different software, it is more or less difficult, but always possible, provided some alterations are brought about to help solve the problems of interfaces between different equipment held by members of the future network.

Each documentary organization assures at least the preparation and the acquisition of its own documents, as well as those that will be assigned through the distribution of jobs decided on a mutual agreement among the members of the cooperative information network. Each organization develops its own activities so as not to be only a "client" of the network, but also to bring to the community more or less elaborate information : gathering, analysis, documentary references, technical synthesis and even data bank placed at everyone's disposal. Each organization must maintain and develop a direct relationship with its users. The flexibility which is the basis of cooperation within the information network is beneficial at the level of information feed-in put in common and exchanged, and at the level of outputs in which the contacts are directly established between the documentation organizations and their users.

This direct and permanent dialogue between documentary organization and its user is necessary to help the user state exactly the information he is looking for, and to check whether he is satisfied with the service rendered.

Lastly, the network is of sufficient size to encourage and contribute in a practical way to the permanent training of keepers of records, and eventually to the training of research workers in the disciplines of scientific information.

THE THESAURUS

Once the need for information and the corresponding field which will be covered by the information system of the Blue Plan have been acknowledged, it will be fitting to study whether the setting up of such an information network is desirable, what will be its function and its structure, what will be the circuits of information, what will be its relations with national documentary organizations and its users, how will it fix the contribution of these organizations, how will it share out the work involved, notably the distribution of documents to be analyzed, and how will the network be harmonized with certain international organizations.

Then would follow the stage of constitution of a thesaurus, that is to say the compiling of a common documentary language structured into classified categories, linked together by logical and associated steps. This vocabulary is used for the indexing of information and for the documentary research. It will have to be worked out for every theme accepted, integrated and ultimately and regularly brought up to date.

It will have to be decided whether this thesaurus will be unilingual or multilingual, in order to be accessible to a maximum number of people ; and to determine the languages that are to be used. The creation of multilingual thesaurus has already been examined in order to set up some international networks. It is a possible development, but it involves difficulties. It allows indexing of documents and consultation of the information system in any of the languages chosen.

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CONCLUSION - Proposals for a first stage

The problem is to know if it is suitable and realistic to equip the Blue Plan with a documentary support likely to promote its objectives. If this is so, the following must be taken into consideration :

- What would be the appropriate composition of a scientific and technical documentary basis intended to fulfil these objectives.

- What would be the stages and terms of its realization and of permanently keeping it up to date at a reasonable cost.

This report, which is quite preliminary, is not meant to solve all the problems involved, nor to outline a project, or even suggest solutions. Such an ambitious undertaking would have been too premature. The answers can only be the result of a thorough consultation ; and, if the project in this form is adopted, it can only be definitely drawn up as a result of common work and goodwill.

The thing is that it is the interest of all the Mediterranean countries to have the information they need, circulated and used as much as possible. This information quite often exists. But where is it to be found ? Is it rudimentary or well researched ? To what level of requirement is it suitable, to that of the general user or the specialist ? How can the user have access to it ? In the wide scientific, technical, economic and institutional field of water administration, international organizations such as the "FAO", "O.M.M.", W.H.O., etc. often deal with the same problems under related specific aspects, and the user must be au fait with the system in order to take his own necessary decisions.

It would be useful, from the foregoing points of view, to have : a central place of information, of easy access, looking for the available data, classifying it in the customary way or leaving it as information "to order", and usable directly according to the users' wishes. Such a centre would not compete with the current sectorial and standard information systems. On the contrary, it could enhance their value, while the users would save time and benefit by greater efficiency.

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A first stage could be the setting of a simple information answer service, trying to encourage the demand for information in order to know what that is, and to answer with its limited resources matters which would, at the beginning, be confined to a few priority operations.

The main roles of this service would be as follows :

- to gather the users' requests for information in order to analyze : their content, estimate the requests pragmatically and use these initial data (i. e. nature of information requested, origin, frequency distribution, etc.).

- to direct the request towards known information sources likely to give satisfactory answers, to ensure a description of all information possessed by the answer service, such as scientific meetings, conferences, congresses, etc. It is likely that a good expert in problems regarding water administration will be quite capable of playing these roles in the preliminary stage.

- to prepare an initial questionnaire to define the current situation, both as regards documentary organizations (a primary project for a questionnaire herein enclosed), and in identifying the nature of the users' requirements, and the acceptable delay in obtaining answers.

As it advances, this answer service will gradually be in a position to foster the goodwill and cooperation of the persons concerned, the value of developing such a service, to determine the selective services that can be obtained, the stages to be gone through, and the relevant operational structures during the preliminary period and later on.

Lastly, this answer service will have to inspire and strengthen the Secretariat of the Blue Plan countries, composed of agents working together in groups who will in favorable circumstances gradually initiate the organization of a real information system.

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A P P E N D I X

Study of the current situation : Review of the existing national documentary organizations producing scientific and technical data, and of the documentary applications they carry out. Selection of the organizations whose field of research and information would concern the Blue Plan.

Date of creation and regularity of its functions.
Eventual breaks in activity.

Description of the range of information given.

Supply and demand of the information collected.

List of periodicals and of tabulated primary publications. Other sources of information, either primary or secondary : origin and description of documents.

Nature of treatments used, methods and means - Thesauri softwares used.

Means and methods in collecting, selecting and analyzing documents.

Ways of filing documents.

Nature of withdraws - Amount - Frequency. Supports, languages used. Ways of circulation.

State, nature, organization, volume, accessibility of files - Catalogues. Bulletins. Index. Retrospective research of information. Individual or collective selective circulation. Documentary analysis and synthesis. Critical monographs of equipment or results of their use. Translations.

Structures of the documentary organization and of its connections throughout.

Description of its users.

Nature and number of questions asked by users : questions requiring a detailed consultation of the documentary stock, or simpler queries that can be answered straight away.

Ways of questioning and obtaining the response from
the documentary organization. Time taken to find answers.

Use of computers and subsidiary equipment.

Staff : qualification, number.

Operating cost - Finance - Grants - Invoicing of
services rendered by the documentary organization.

Forecast of possible and probable projects.
Bill-book.

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