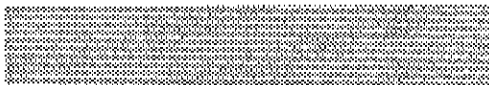


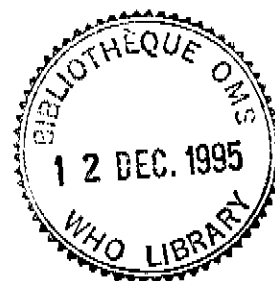
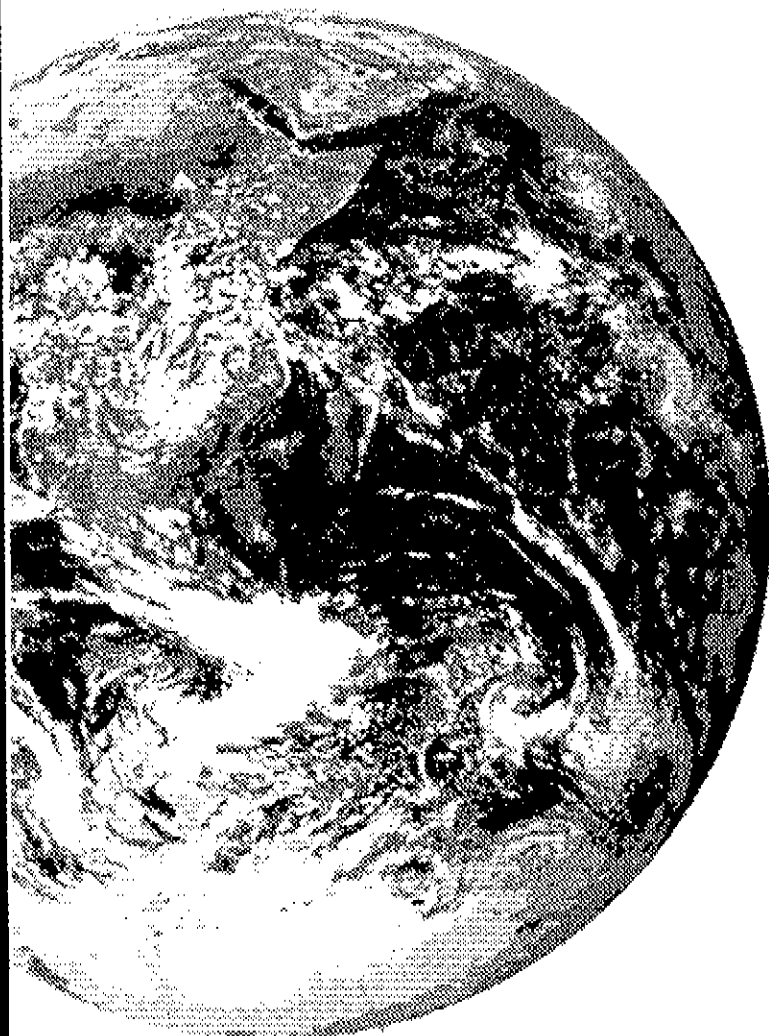
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ORIGINAL: ENGLISH



# **EHMDAC**

ENVIRONMENT AND HEALTH  
INFORMATION  
FOR MANAGEMENT OF  
DEVELOPMENT ACTIVITIES

July 1995



Office of Global and Integrated  
Environmental Health  
World Health Organization

## 1. What is EHMDAC?

The initials stand for **Environment and Health information for Management of Development Activities**. **EHMDAC** is a microcomputer-based information management system that stores, retrieves and analyzes data on projects, programmes and support activities in the linked fields of health and environment. The inbuilt software and standardised format make **EHMDAC** a powerful tool for using readily available country data to assess how effectively resources are being used and to guide management decisions on future priorities.

### Objectives

**EHMDAC** deals with national and external financial resources and contributes to:

- ▶ **improved quality and efficiency of resource utilization;**
- ▶ **increased flow of resources;**
- ▶ **increased absorptive capacity**

**EHMDAC's** analyses of resource utilization across the health and environment fields can be readily combined with qualitative and quantitative data from individual sector monitoring activities (air

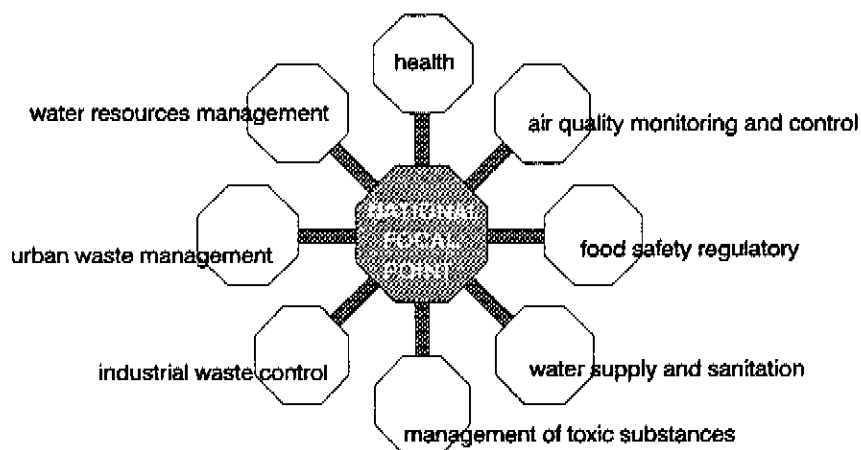
- ◆ **EHMDAC** facilitates the coordination of programmes and projects;
- ◆ **EHMDAC** links programmes and projects to development plans;
- ◆ **EHMDAC** integrates and monitors the flow of external resources as part of national development;
- ◆ **EHMDAC** earmarks resources for implementation;
- ◆ **EHMDAC** monitors investments - (funding sources and implementing agencies)

quality, water supply and sanitation coverage, river water quality, chemical safety trends, etc.), to give planners and managers a comprehensive picture of their country's current environmental health achievements and future needs. **EHMDAC** does not replicate information from these important monitoring activities; nor does it in any way supplant them. Indeed, improved and standardized sector monitoring features along with **EHMDAC** form an important component of capacity building initiatives in developing countries.

Application of the **EHMDAC** system significantly enhances the capacity of a country to pursue the goals of UNCED's *Agenda 21*, and the WHO Global Strategy for Health and Environment.

## 2. Who is EHMDAC for?

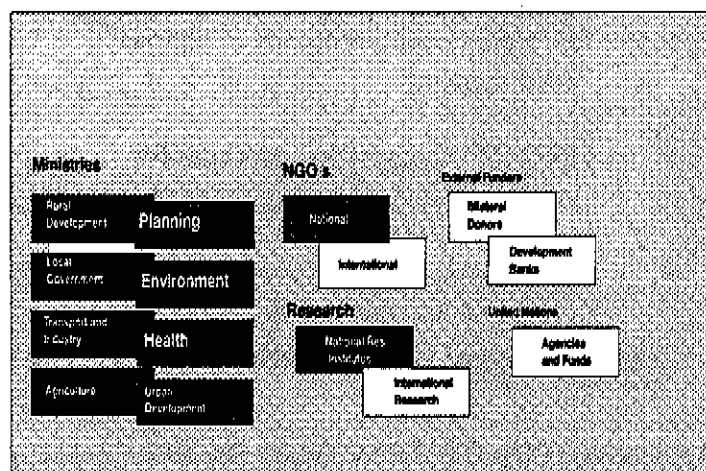
The information made available through **EHMDAC** is valuable to anyone involved in the planning, coordination or application of programmes in any of the health and environment sectors, e.g. water and sanitation, waste management, chemical safety, food safety, health services, air quality, housing, urban and rural development, environmental protection.



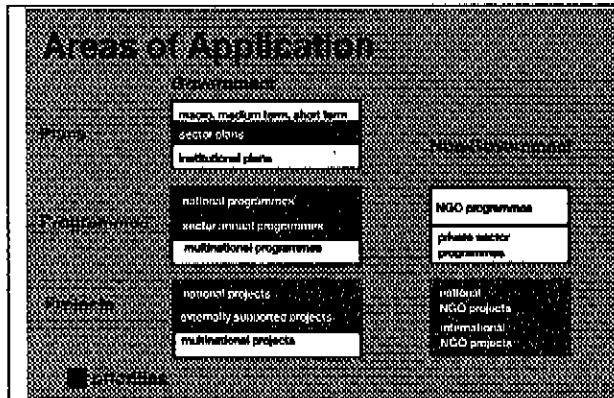
(sample areas)

The greatest benefit will be obtained when programmes for all sectors with links to environmental health are stored in the system, but **EHMDAC**'s standardized format and flexible data management routines mean that it can, if necessary, be built up incrementally, starting with just one or two sector agencies contributing data.

The initiative to introduce **EHMDAC** in a country may well come initially from a planning or environment ministry seeking to streamline its management of resources and to assess how effectively those resources are being used to achieve environmental health goals.



3. What sort of information does EHMDAC manage?



EHMDAC is used to monitor plans, programmes and projects of different duration and composition. Projects and programmes can have various funding sources, national as well as external. Funding can be provided as grants or loans. Projects and programmes can be national, regional or global (e.g. countries benefit from regional programmes).

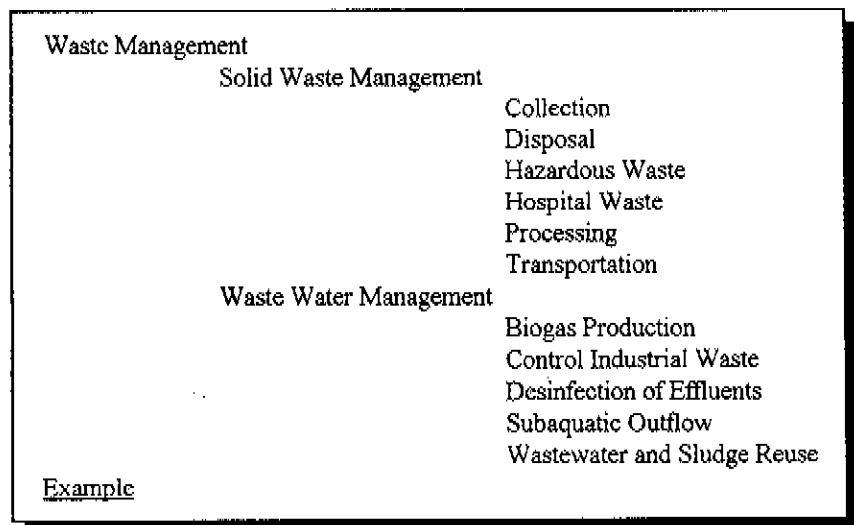
EHMDAC can be used for government as well as non-government applications (e.g. it is used by national as well as international NGOs to monitor programmes and projects).

EHMDAC is used to track progress towards financial and physical targets. It contributes to coordination between programmes and projects, institutions, agencies, etc. and thus to reduction of overlaps.

The analysis will form the basis for managerial decisions on prioritizing, reorientation and alternative distribution of resources.

EHMDAC's basic building block is a *Project* (the word is interpreted in a wide sense, to include programmes as well as individual projects). The major part of the data stored in a national EHMDAC system will relate to *Country Projects*. A file on *Externally Funded Projects*, which is being provided upon initial installation, contains information abstracted from outside data bases such as the DAI CD-ROM issued by the Coordinating Unit for the International Network for Development Information Exchange (INDIX).

EHMDAC provides for multiple levels of detail, so that users have the opportunity to code projects according to their *Sector* (e.g. drinking water supply and sanitation, rural development, waste management, health services), *Subsector* (e.g. rural sanitation, urban water supply, solid waste management, hospitals and clinics), and *Components* (e.g. groundwater protection, communicable disease prevention, hazardous waste).



## EHMDAC

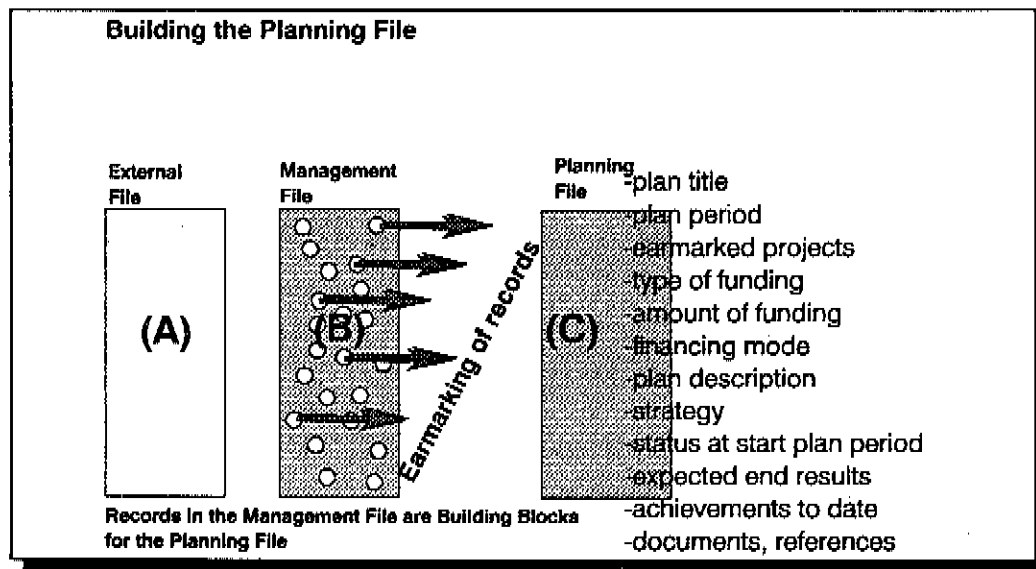
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Complementary to *Sector, Subsector and Component* programmes/projects can be coded into *Categories* (a subdivision of the project into such aspects as research, operation & maintenance, quality surveillance, etc.). A further two subdivisions - *Project elements* and *Project subelements* are made available for user-defined parameters.

Two further **EHMDAC** files are important supplements to the project records:

- \* *Funding Source Details* identifies the national and international sources of finance for any project, the amounts committed in local and external currency, and the types of funding, interest rates, etc.
- \* *Management Overview Details* is a tool for periodic evaluation of resource utilization and progress. The depth of detail is determined by the user. User-defined items to be evaluated are each associated with financial and manpower resources, targets and timetables.

**EHMDAC** links the management file for *Country Projects* to a *National/Institutional Planning* file through earmarking programmes/projects for implementation during the respective planning period.

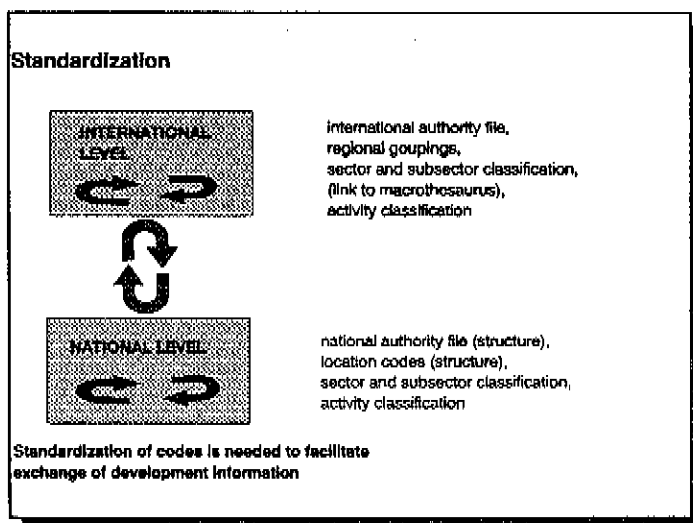


Two additional files are provided in **EHMDAC** for:

- \* *National/Institutional Sector Bulletin*  
with schedules and details of meetings, seminars, workshops, training courses;
- \* *International Sector Bulletin*  
with schedules and details of regional or global conferences, meetings, etc.

## 4. How does it work?

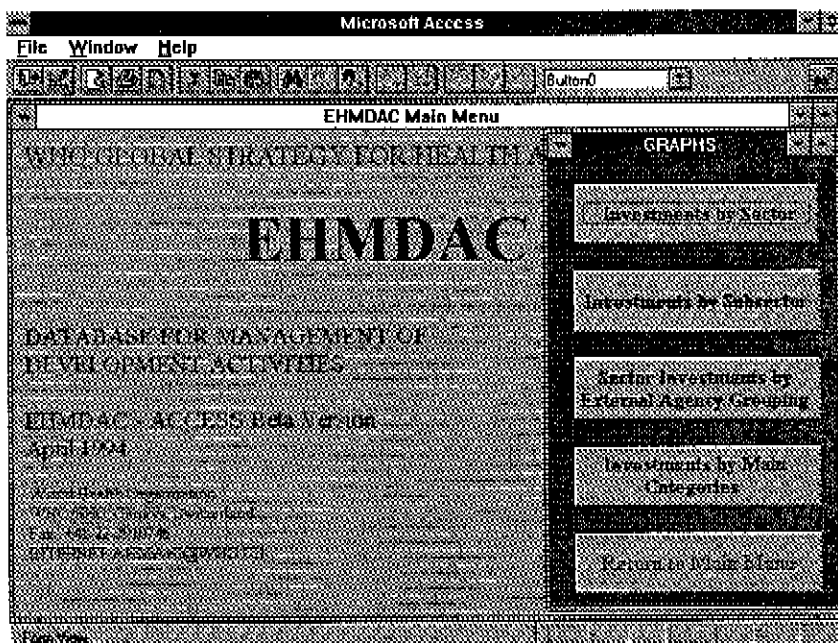
Any information management system can only be as good as the information fed into it. One of **EHMDAC's** big advantages is that it makes data collection and recording a straightforward and consistent operation. Standardized formats have been developed from the considerable experience gained from operation of one of **EHMDAC's** forerunners, the *CESI* system, for managing information on externally funded water supply and sanitation projects.



The basic information needed to complete an **EHMDAC** project record will be normally found within the existing filing system of the agency concerned. It can be supplemented with individually selected data appropriate for a particular country's management needs. On the other hand, the system will perform perfectly well even if some of its data fields are left blank through lack of information. Data input is made easier by the **EHMDAC** software, which has user-friendly input screens with optimum use of multiple choice lists and of automatic entries where these can be derived from other data (e.g conversion from local currency to US dollars).

## 5. What sort of queries and reports can be generated?

Data are sorted and processed and reports are printed out using the **EHMDAC** system's inbuilt routines, based on the well established *FoxPro 2.0* software. Furthermore, at the request of various countries, an add-on programme for analytical and evaluation purposes has been developed in Microsoft **ACCESS2.0**



## EHMDAC

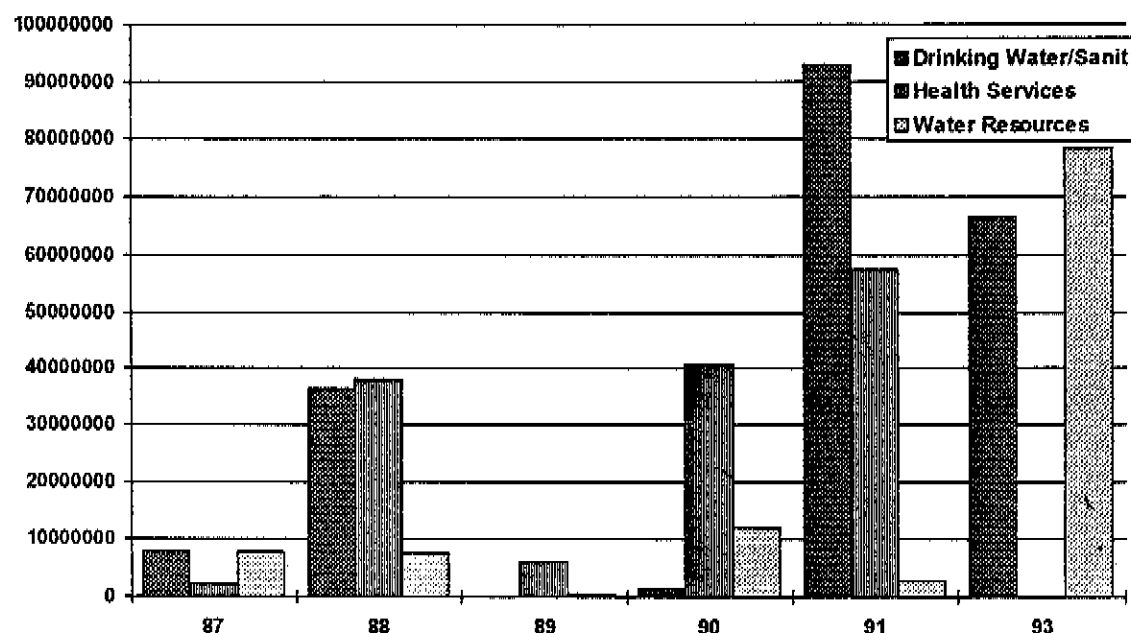
Two examples of graphs and tables generated in ACCESS2.0 based on externally funded projects recorded in EHMDAC:

### External Support in the Area of Health and Environment

#### Investments per Sector in US\$

Country: Viet Nam

29-May-95



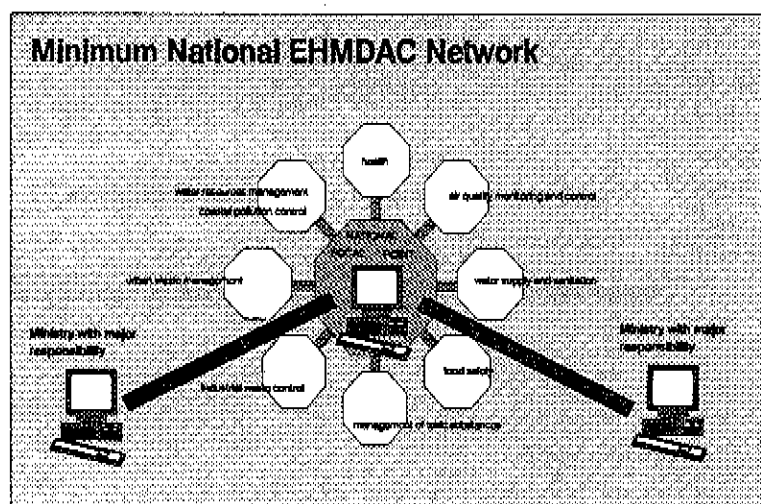
### Investments in 1000 US\$ and No. of Projects

#### by Health and Environment Sectors in 29 Selected Countries

| Sectors              | 1990              |            | 1991              |            | 1992              |            | 1993              |            | 1994              |            |
|----------------------|-------------------|------------|-------------------|------------|-------------------|------------|-------------------|------------|-------------------|------------|
|                      | Amount            | No.        | Amount            | No.        | Amount            | No.        | Amount            | No.        | Amount            | No.        |
| Air Quality          | 7667.23           | 4          | 40370.142         | 4          | 801.652           | 9          | 11961             | 6          | 9688.048          | 13         |
| Chemical Safety      | 2177.42           | 5          | 41060.342         | 8          | 1615.462          | 10         | 11422             | 4          | 958.718           | 15         |
| Drinking Water/Sanit | 723810.317        | 128        | 1396761.77        | 155        | 469735.757        | 91         | 636605.202        | 75         | 1385892.45        | 77         |
| Environment, General | 20928.016         | 20         | 18956.227         | 27         | 25217.002         | 26         | 260653.9          | 40         | 117185.307        | 33         |
| Food Safety          | 16256.5           | 3          | 15364.782         | 11         | 7979.49           | 8          | 8258.6            | 4          | 14205.777         | 9          |
| Health Services      | 187249.43         | 163        | 264633.126        | 160        | 437259.08         | 162        | 754781.492        | 48         | 329211.15         | 124        |
| Rural Development    | 79249.089         | 19         | 130381.561        | 23         | 170359.32         | 33         | 361076.642        | 32         | 74339.765         | 16         |
| Urban Development    | 73460.22          | 9          | 357264.72         | 20         | 217713.03         | 14         | 110686.1          | 10         | 142619.845        | 14         |
| Waste Management     | 171041.625        | 22         | 320221.9          | 33         | 58674.307         | 31         | 236234.5          | 17         | 146347.828        | 33         |
| Water Resources      | 310165.001        | 57         | 240421.867        | 65         | 201231.242        | 50         | 851971.25         | 56         | 344225.758        | 34         |
| <b>Totals</b>        | <b>1592004.85</b> | <b>430</b> | <b>2825436.44</b> | <b>506</b> | <b>1590586.34</b> | <b>434</b> | <b>3243650.69</b> | <b>292</b> | <b>2564674.64</b> | <b>368</b> |

## 6. What equipment is necessary?

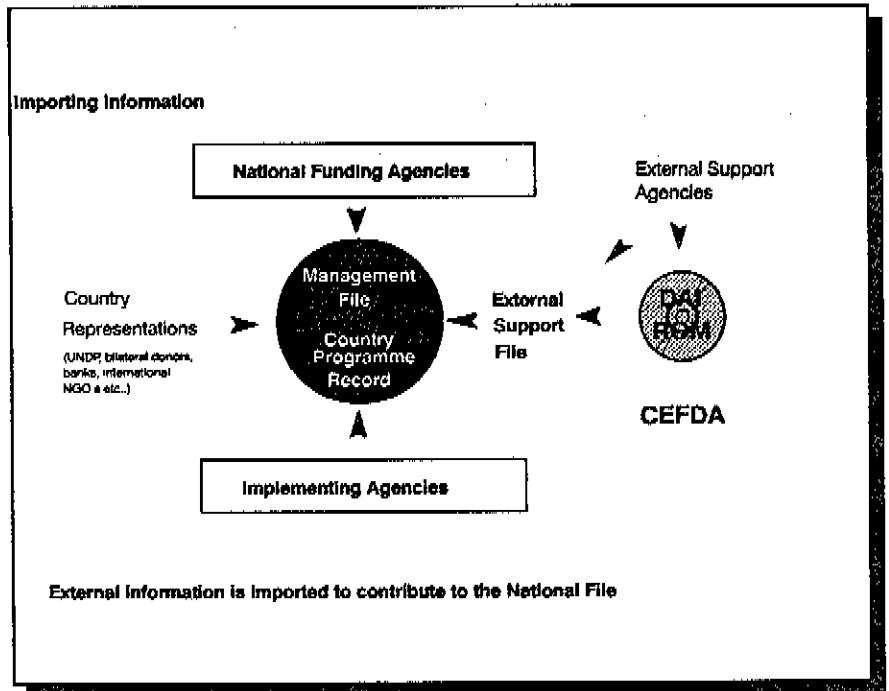
The system can be installed on several microcomputers in different locations in a network. Initially, it is envisaged that updating and sharing of information among different installations in the same country will take place through the periodic exchange of diskettes. It is however recommended to use electronic linking, if available, to speed up this networking of national users.



EHMDAC can run on a 286 computer with at least 550kB of executable conventional memory and a DOS 3.3 or higher operating system. However, for better performance a 486 computer with 4MB of RAM is recommended. When the package is first installed, there must be at least 10MB (preferably 20MB) of available disk space on the host computer. The EHMDAC package includes a run-time version of *FoxPro 2.0* and is supplied on three high-density diskettes with a self-running installation procedure.

To run the EHMDAC-ACCESS add-on programme for graphs and special reports, a 486 computer with WINDOWS, 8MB and 10 MB free hard disk is required in order to ensure a satisfactory operation.

**EHMDAC** is a partner of the International Network for Development Information Exchange and a major user of the *Common Exchange Format for Development Activities* (CEFDA), which has been developed by a group of bilateral and international agencies for use in an international information exchange network. Through the CEFDA conversion facility, **EHMDAC** users have access to information on projects funded by bilateral donors, lending institutions and United Nations agencies.



## 7. Are specialist staff required?

Essentially, **EHMDAC** has been developed as an efficient and standardized way of storing and retrieving national project information. Because it is standardized, some discipline is necessary in the organization and updating of **EHMDAC** data. Wherever possible this discipline is imposed by **EHMDAC**'s own input screens and inbuilt routines. Users of the system are guided through the processes of data input, browsing, searching, reporting, and updating in a way designed to minimize the scope for errors and to demand no specialised knowledge of computers or computing.



When **EHMDAC** is introduced into a country for the first time, workshops, seminars and training courses will normally be held to assess existing information systems in the environmental health field and work out how these can best be complemented by the **EHMDAC** system. This stage will include staff training in the operation of the system, and awareness raising among potential users of the advantages the computerized system will offer.

7. **What support is available?**

This brief description of the EHMDAC system has been prepared in the Office of Global and Integrated Environmental Health at WHO Headquarters in Geneva, where the programme was developed in collaboration with a number of national and international agencies. The software comes with a comprehensive user manual, including specimen data files related to activities in the country concerned, which users can experiment with before establishing their own system. WHO can provide technical support and advice to developing countries during installation and operation of the EHMDAC system, and will assist where possible in the preparation of requests to donor agencies for financial support.

**For more information on how EHMDAC can help in the management of information on your country's environmental health programme or your agency's sector activities, contact:**

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