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THE USERS' NEEDS AND INFORMATION DELIVERY  
CAPABILITIES OF INFOTERRA  
(formerly IRS)

Report of the Executive Director

This report has been prepared in response to Governing Council decision 6/3 A of 24 May 1978, in paragraphs 6 and 7 of which the Council requested the Executive Director to "undertake studies of the information needs of users in each region", and to "investigate means of strengthening the capabilities of the System to facilitate the delivery of information specially relevant to the needs of developing countries, and to report on this issue to the Governing Council at its seventh session".

## I. INTRODUCTION

1. INFOTERRA, the International Referral System (formerly IRS), has continuously endeavoured to stay attuned to the information needs of its users, and to facilitate the delivery of information specially relevant to the needs of users in developing countries.
2. The two requests made by the Governing Council in decision 6/3 A are intimately related, and the two studies requested are, in fact, facets of the same investigation. For this reason, the studies were combined.
3. Since INFOTERRA was established, such evaluative studies have formed an integral component of the operation and network reporting procedures. These regular reports are designed to elicit, within the framework of regular operations, data needed for the evaluation of INFOTERRA. In response to Governing Council decision 6/3 A, a specific survey was designed and carried out throughout the network. Its findings are reviewed and analysed in the present report.

## II. THE DESIGN OF THE STUDY

4. The study sought to involve INFOTERRA national focal points (NFPs), UNDP resident representatives and UNEP regional offices. Following extensive correspondence accompanied by guidelines for the collection of relevant information, a survey questionnaire was distributed and discussions held with representative NFPs by INFOTERRA staff members and consultants. The study was further supplemented by an analysis of experience and related statistics gathered in close co-ordination with focal points, sources and users during the two years of operations.

### A. The questionnaire

5. INFOTERRA NFPs and UNEP regional offices were asked to provide information for the study. Questionnaires were sent to the 94 INFOTERRA NFPs. Of these, 41 had replied in time for the preparation of this report. The regional distribution of the replies was: Africa 15; Asia and Pacific 9; Europe and North America 11; Latin America 4; and West Asia 2.
6. The questionnaire was designed to identify obstacles to the flow of environmental information at the national and international levels, including the problems faced by each category of user. It also solicited suggestions on alternative approaches (including their financial implications) and on the ways and means to strengthen the information delivery capability of the System.

#### B. Country visits and NFP discussions

7. In the course of the study, INFOTERRA staff and consultants held discussions with NFPs from 26 countries. In depth case studies were also conducted in six partner countries, to cover in detail the experience of NFPs in different regions.

#### C. Use-related statistics collected during 1977-1978

8. During the first two years of operation, the INFOTERRA programme activity centre in Nairobi processed some one thousand queries in addition to those processed by NFPs. Complete statistics on these queries are maintained as a part of routine operations to provide a means for assessing user satisfaction and as input for the further design of the System. These data were used to supplement the analysis of the questionnaire received.

#### D. Consultations with focal points, users and sources

9. In the course of network operations, periodic consultations have been carried out with network partners (focal points, users and sources) in order to obtain quantitative and qualitative evaluations of the information delivery capabilities of INFOTERRA. This information is kept on file and is regularly analysed to obtain detailed indications of users' requirements and to formulate proposals for responding to them more precisely.

### III. FINDINGS OF THE STUDY

#### A. User identification

10. The study shows that the majority of the users of INFOTERRA are government officials, research workers and scientists, environmental managers and planners. To a lesser extent users in industry, non-governmental organizations and the media also address queries to INFOTERRA.

11. Figure 1 indicates the distribution of queries received by the INFOTERRA programme activity centre from users in the various regions.

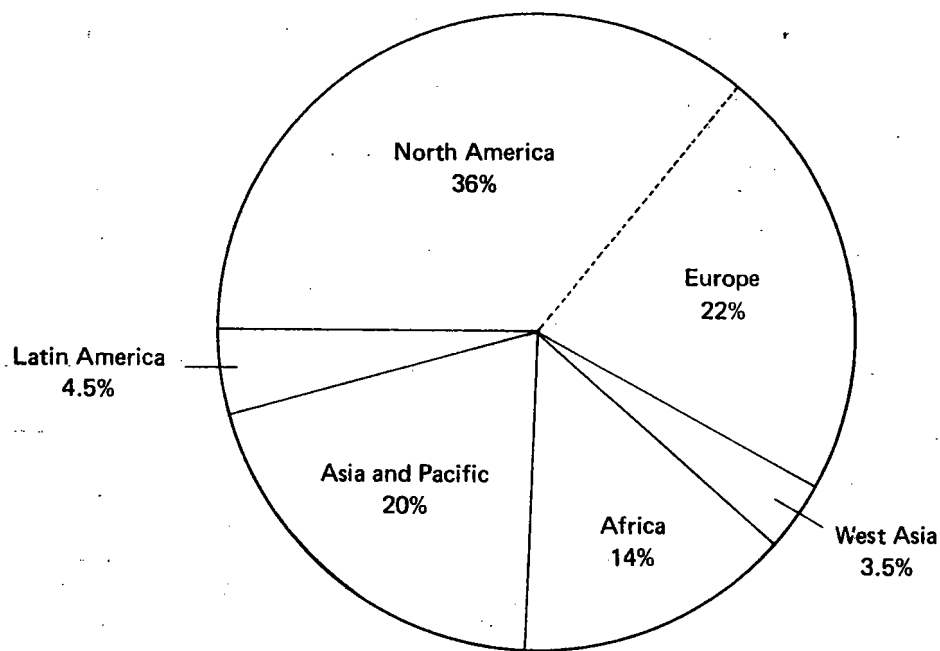


Figure 1: Regional distribution of INFOTERRA users

B. Environmental priorities

1. Topics of Interest

12. Analysis of the questionnaire returns shows that the main topics of interest of users can be grouped in descending order as follows:

- (a) Human health and well-being, food and agriculture, human settlements and habitat, fresh water;
- (b) Energy resources, technology and industry, education and training, land use, pollution, management and planning, population;
- (c) Wastes, wildlife, renewable resources, transportation, non-renewable resources, socio-economic aspects, oceans, seas and estuaries, atmosphere and climate;
- (d) Chemicals and biological agents and processes, recreation, disasters, physical energy phenomena.

Table 1 gives the regional breakdown by topics of interest.

13. Data on the queries received by the INFOTERRA programme activity centre generally coincide with the above list, although they show a significantly higher level of interest worldwide in sources of information on technology and industry; pollution; wastes; and chemical and biological agents and processes.

Table 1: Topics of greatest environmental interest in each region

Region	Topics
Africa	Food and agriculture; human health and well-being; human settlements and habitat; education and training; land use; fresh water.
Asia and Pacific	Population; pollution; human health and well-being; food and agriculture; human settlements and habitat; land use
Europe and North America	Human health and well-being; energy resources; pollution; human settlements and habitat; fresh water; technology and industry
Latin America	Renewable resources; food and agriculture; energy resources; non-renewable resources; technology and industry; atmosphere and climate
Western Asia	Human settlements and habitat; human health and well-being; pollution; fresh water; management and planning; wastes

#### D. Functional Interests

14. The study shows that the functional interests of users in all regions are mainly concentrated in the areas of policy implementation and administration, policy formulation, protection and conservation measures, legislation and regulations, and exploitation and development strategies.

#### 3. Access to environmental information

15. The study reveals that the majority of INFOTERRA users derived environmental information from the following sources, in order of importance:

- (a) International scientific journals;
- (b) Referral services; meetings and seminars; professional contacts; local scientific journals;
- (c) Consultancy services; research services; technical reports; newspapers; review articles; books; radio and television programmes;
- (d) Trade literature; general readership magazines; computerized bibliographic services.

#### 4. Difficulties encountered by users

16. The study dealt in detail with obstacles encountered by users in obtaining, storing and retrieving information. NFPs in several developing countries reported difficulties faced by users in locating national sources of information in their fields of interest, and even greater difficulty in locating sources of information in neighbouring countries and countries at similar levels of development.

17. The main obstacles encountered in source-user relationships appear to be delays in obtaining information from sources and difficulties in paying for it. Slow response from sources and the time needed for transmittal by mail appeared to be the main reasons for these delays. In many developing countries, payment was hampered not only by the lack of funds but also by exchange control regulations.

18. Other difficulties faced by INFOTERRA users included lack of facilities for the translation, photocopying and storage of documents; poor telecommunications service; the lack of relevance of some of the material received; and inadequate classification systems for cataloguing environmental information.

#### 5. Impact of INFOTERRA and user satisfaction

19. Evaluation studies of user satisfaction routinely carried out by the INFOTERRA programme activity centre show that, of the 129 users who reported on the relevance and usefulness of the referral provided by

INFOTERRA, 123 (95 per cent) stated that one or more sources contacted supplied "very useful" or "useful" information.

20. These studies also show that, for 672 sources contacted, users reported that 25 per cent were "very useful", 54 per cent were "useful" and 21 per cent were "not useful". The average time of response (including time of transmittal) was found to be approximately 3 weeks.

21. In addition, two independent surveys covering a representative cross-section of sources confirm that, while not every source selected is capable of answering the specific question asked, almost without exception the INFOTERRA directory provides access to relevant information in response to any environmental query.

22. The questionnaire showed that 39 per cent of the NFPs considered the impact of INFOTERRA on information access in their country to be "very useful", while 57 per cent considered it "useful". One NFP believed the impact to be "not useful", and one NFP did not respond to this specific question.

#### 6. INFOTERRA in developing countries

23. The participation of developing countries in INFOTERRA progressed significantly during the past year, as shown by Table II.

Table II: Developing country participation in INFOTERRA as a percentage of the total number of participating countries

Date	INFOTERRA focal points	FPs providing sources for International Directory	Sources registered	Queries processed
March 1978	67%	55%	20%	40%
January 1979	69%	63%	34%	42%

#### 7. Summary of findings of the study

24. The findings of the study show that the focal points and sources comprising the INFOTERRA network can provide useful and relevant materials in response to the needs of the great majority of users of environmental information.

25. Participation of developing countries continues to make progress, as indicated by the use rate and source registration statistics. The findings of the study will contribute to the comprehensive evaluation

planned for INFOTERRA during 1980. Possible approaches to improved delivery of information to users, which are of particular relevance to those in developing countries, are given below.

#### IV. WAYS OF IMPROVING RESPONSE TO USERS' NEEDS AND OF STRENGTHENING INFORMATION DELIVERY CAPABILITY

26. On the basis of operational experience accumulated over the past two years, reinforced by the results of the present study, several possible approaches to providing improved information services to users can be identified.

##### A. Extension beyond referral

27. While the basic concept of a decentralized referral service connecting users with sources of information has been widely accepted as the only feasible approach to information exchange at the global level, the design of the INFOTERRA System does not prevent NFPs from providing additional information services. For instance, any NFP can take the initiative of contacting selected sources in order to obtain the information directly, analyse it and deliver it to the user. Alternatively, the NFP can request the sources to forward the information directly to the user. Other possibilities include developing documentation and archival facilities at NFPs to store copies of frequently requested documents, which can then be made available to users.

28. These measures would tend to improve the services the System is providing and strengthen its information delivery capability. Several NFPs have agreed to take on this additional responsibility on a trial basis, and the INFOTERRA programme activity centre will encourage and train NFPs to provide such services.

##### B. Payment for information

29. Payment to sources for the information supplied by them may be a potential obstacle to improved information flow which could be overcome if the NFPs can assist users in making the payments for information, or in helping to expedite the payment process, especially with respect to currency restrictions in many countries. For this, Governments would have to make appropriate financial resources available to their NFPs.

##### C. Translation and reproduction services

30. INFOTERRA services are provided in four official languages. However, sources supply information to users in their own working language. NFPs should explore the possibility of assisting the user with problems of translation and reproduction.



#### D. Sectoral approaches

31. One of the measures INFOTERRA is exploring to improve the information delivery capability of the System is the designation of specific information systems and data banks capable of supplying in depth information for certain environmental priority subject areas. Information exchange in areas of sectoral interest will be encouraged by establishing direct links between focal points and sources in various sectors. Three sectoral focal points have been designated so far, the Marine Environment Data and Information Referral System (MEDIS), the IRPTC programme activity centre and the UNEP Industry and Environment Office. Further development of the System along sectoral lines can help reduce delays in the information chain by promoting direct access to sources by users or by INFOTERRA on the users' behalf.

#### E. Quality and relevance of information

32. The study reveals three major areas in which the quality and relevance of the information services provided to the user can be improved:

(a) Selection and analysis of information: NFPs require appropriate means for selecting, analysing and adapting information to the specific needs of national users, particularly in instances where the information is obtained from sources at varying levels of technical expertise;

(b) Exchange of relevant information: Greater efforts are needed in promoting information exchange among users of information with similar developmental, technological and ecological concerns, and NFPs are particularly encouraged to promote information exchange between developing countries, as also recommended in the report of the United Nations Conference on Technical Co-operation among Developing Countries (A/CONF.79/13/Rev.1, para. 49);

(c) Criteria for selection of qualified information sources: NFPs should apply strict criteria in the selection of qualified sources capable of supplying relevant information to users. The INFOTERRA programme activity centre provides guidelines to assist NFPs in the registration of competent sources.

#### F. Provision of basic facilities to NFPs

33. The effectiveness of the INFOTERRA network is contingent on the operational capabilities of its focal points. These in turn depend on the availability of resources (financial and personnel, including travel funds, etc.) and infrastructure (telecommunication facilities, reproduction equipment, microfiche facilities, etc.). Since UNEP cannot provide financial resources for these, it is imperative that the NFPs receive adequate support from Governments, including adequate staffing, to enable them to take full advantage of their participation in the network.

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