ORGANISATION OF DOCUMENTATION IN HUNGARY

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Gives the setup and development of documentation in Hungary. The functions of the documentation network of the ministries consisting of 600 documentation units (DU) supervised by the Central Information Offices (CIO) and the sub-network of central libraries headed by the Central Technical Library and Documentation Centre (CTLDc) are described. The lines of development worked out by the Standing Committee on Documentation are outlined.

1 GENERAL BACKGROUND

Hungary is a small country in Central Europe with a population of about 10 million, a territory of 93,000 km² and a population density of 107 per km². The country is not very rich in natural resources, only the large bauxite deposits, low-grade coal, oil and natural gas fields are worth mentioning. After the liberation of the country from the German Nazi invaders, Hungary chose the socialist way of development and introduced economic planning methods. Because of the scarcity of natural resources, the country had to develop strongly foreign trade, and in order to raise the standard of living of millions of people kept in poverty during centuries by their landlords and other oppressors, it had to develop industry.

The national income amounted in 1962 to 150,109 forints (30,109 rupees), that is about 15,000 forints (3,000 rupees) per head. Out of the national income 72% was spent for consumption, 18% for investment and 10% for increase of stocks. Industry's share in the national income rose constantly and reached 62% in 1962 whereas the share of agriculture declined to 19%.

The significance of foreign trade in the country's economy was featured by the fact that the value of imports represented 30% of the national income, whereas 42% of the value of the industrial production (without food processing), 17% of food processing and 9% of the agricultural production was exported. Machines and equipment accounted for 26% of imports and 37% of exports.

The wholly nationalised industry employed 1.4 million persons in 1962, and the 125 research institutes and the 665 university departments and academic institutions employed a total staff of 25,000 in 1961, out of the latter 11,000 were scientific research workers and members of the teaching staff. Of these 28% were engaged in technical, 20% in natural, 14% in agricultural, 22% in medical and 16% in social sciences.

The number of engineers amounted in 1960 to nearly 30,000 out of which 44% were engaged in industry, 7% in building industry, 12% in transport, commerce and other services, 10% in public administration, 21% in education, research and development (R & D).

In consequence of the prevailing situation, the country is striving for the best utilisation of its resources especially human resources, technical skill, scientific research, and education. Documentation plays a very important role in developing human resources directly which in its own turn has a strong impact on scientific, technical and economic development. The government took notice of the outstanding value of documentation and recently took steps to initiate further development of documentation services necessary for the achievement of the targets of the development plans of the country.

2 THE PAST DEVELOPMENT OF DOCUMENTATION

Before the liberation of Hungary after the Second World War in 1945 documentation

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was not felt necessary neither for industry which depended mostly on foreign capital, nor for scientific research being confined to a small number of scientists and institutions. Only the developing needs of the country after 1945 and the limited resources in equipment, material, energy and later on in manpower to meet these needs made clear the role of documentation in the economic development of the country devastated to a very large extent by the German Nazi hordes. The Union of Engineers and Technicians started early in 1947 with the publication of the first Hungarian abstracts journal. The nationalisation of the industry in 1948-49, the introduction of the economic planning system and the establishment of a National Council for Science (NCS) (Tudományos Tanács) gave rise to the organisation of the National Documentation Centre (NDC) (Országos Dokumentációs Központ) under the supervision of the NCS in 1949. The NDC organised four Sectorial Documentation Centres (DC) in Science and Technology, Agriculture, Medicine and Economics, published books on various documentation problems, prepared a medium Hungarian edition of the UDC, set up a union catalogue of scientific and technical periodicals, started standardisation in library and documentation work within the Hungarian Office for Standardisation, laid down the basic principles of methodology in several branches of documentation, arranged training courses in documentation and classification and organised the compulsory registration and the central deposit of translations and the documentation of documentation literature. This provisional start has been somewhat hampered after the creation of the new Hungarian Academy of Sciences (Magyar Tudományos Akadémia, MTA) in 1950, which took over the tasks and responsibilities of the NCS but did not want to continue the supervision of the NDC. The NDC has been transferred to the Ministry of Culture and then soon liquidated. But the Sectorial DCs survived the crisis and grew into independent developing institutions, except the DC for Economics which ceased to function in 1954.

The Scientific and Technical DC (Műszaki Dokumentációs Központ) has been united in 1950 with the old Library for Technology (Technológiai Könyvtár) and taken over in 1952 by the Ministry for Culture. The institution was later named Central Technical Library and Documentation Centre (CTLDC) (Országos Műszaki Könyvtár és Dokumentációs Központ, OMKDK).

Later on many local special libraries came into being in various research institutes, industrial works and other institutions, providing usual library services but on many occasions documentation services as well. As the needs of research and industry grew further, central offices in some ministries have been established, which at first managed chiefly translation work, but gradually took over other responsibilities in documentation as well.

The Library Bill of 1956 put an end to this first period of development by constituting among other networks the network of scientific and technical libraries, the centre of which became the CTLDC, then under the supervision of the Ministry of Culture.

This Ministry could not take the responsibility for the CTLDC's right or wrong attitude concerning scientific and technical problems, though for a long time no suitable government organ existed with the capability of instructing the CTLDC and its network of special libraries in matters of scientific and technical development.

In 1960 a small group was established in the Planning Office to study the problems of technical development and to make suggestions to the Planning Office as to the most important and most promising directions for development. Out of this small nucleus emerged in 1962 the National Committee for Technical Development (NCTD) (Országos Műszaki Fejlesztési Bizottság, OMFB), a collegial body of 45 members including leading scientists and engineers, representatives of the ministries, of the Council for Science and Higher Education (Tudományos és Felsőoktatási Tanács, TFT) and of the Hungarian Academy of Sciences. The NCTD is an advisory organ to the government, but has also executive functions in direct supervising the CTLDC and directive functions in directing scientific and technical information on a national basis.

3 THE PRESENT SITUATION

As a result of un-coordinated and often spontaneous developments in several spheres and levels of government, science and industry, the present situation is lacking co-ordination and integration covering both organisation and methods, moreover a careful planning of development of scientific and technical documentation for the near future and for the perspective.
3.1 Documentation Network of the Ministries

At the local level, about 600 documentation units (DU) are working in about 100 research institutions and several hundred industrial works, some of them extending their scope to several thousands of users. Their total stock exceeds 3 million volumes. The total number of personnel consists of about 600 full-time workers (librarians, documentalists, translators, etc.) and about 800 part-time workers.

These local units are parts of the parent organisations whose directors are responsible for their management and accredit their budget, staff and localities. In general, these DU's are understaffed and lacking in suitable working and reading accommodation. Financial support is much more readily available to them though in some institutions, there arise difficulties due to the Chief Accountant's lack of understanding for the mission of these organs.

All DU's research institutes, works and other institutions of the industrial ministries are supervised by the ministries' central information offices (CIO) including the ministries Central Libraries which are centres of a ministerial sub-network within the network of scientific and technical libraries. This network is headed by the CTLDC since 1956.

Though many of the scientific and technical libraries fulfilled some documentation tasks and rendered documentation services as well, the scope of the network of scientific and technical libraries has to be widened into a network of scientific and technical DU's.

The industrial ministries engaged in scientific and technical documentation sub-networks are:

- Engineering and Iron Metallurgy;
- Heavy Industries (Mining, Power Development, Chemical Industry);
- Light Industries (Textiles, Leather & Leatherware, Clothing, Paper, Wood, Furniture);
- Food Industry;
- Building Industry (Planning, Construction, Building Materials);
- Transport and Communication.

The shape of the CIO's is formed according to the special tasks of each ministry. So the ministries for Engineering and Iron Metallurgy, Heavy Industries, Building Industries and Transport and Communication have set up large CIO's as independent governmental or research organisations with a staff exceeding 100-200. The Ministry for Light Industries preferred to transmit supervisory obligations to its Department for Technical Development, whereas the Ministry for Food Industry entrusted its Central Research Organisation with carrying out the tasks related to the guidance and supervision of its own sub-network of documentation units.

Some of the ministries (Engineering and Iron Metallurgy, Light Industries) have started already organising branch offices but rather on a pilot basis.

The direct contacts in documentation between the CIO's and the local units are not always satisfactory owing partly to the fact that the CIO's working programmes do not confine themselves to documentation but extend rather heavily to other fields of information as well (exhibitions, films, conferences, workers' training courses, etc).

Though the CTLDC has developed very good and close direct contacts with the local units as a result of a well-planned and executed field-work during the last 5-6 years, this institution cannot take over fully the direct responsibility for the methodical guidance of the local units being explicitly the task of the competent ministries.

The CIO's issue many publications directed in a differentiated manner to various categories of users. Among these publications information materials (bibliographic lists, abstracts, reviews of literature, trade catalogues, etc.) and original contributions (research reports, papers, short notes, etc.) are both represented.

3.2 The Central Technical Library and Documentation Centre

The CTLDC has developed into a complex information organ since 1962 under the supervision of the NCTD.

The Central Technical Library (CTL) with a stock of about nearly 300,000 volumes and 3,000 current periodicals and with its
yearly acquisition of about 12,000 volumes is the fundamental library of Hungary in the various branches of technology. As a separate department, it includes one of the largest patent collections of Europe with about 5 millions of patent specifications and with an yearly addition of about 300,000.

Besides serving some thousand individual and official borrowers the CTL also forms partially the basis of the documentation carried out by the Technical Documentation Centre (TDC), the field of activity of which extends from abstracting, searching and reviewing to translating scientific and technical literature. Nearly 85,000 abstracts are made and published yearly in 13 series called reviews of foreign scientific and technical literature in the fields of physics, chemistry, mining, metallurgy, energy, engineering, electronics, textiles, food industry etc. The abstracts are also available on cards as a card service organised and classified according to UDC.

A special service is provided for literature searches extending rapidly owing to the strong impact, the display of literature searches and the possibility of ordering such searches offered by the CTLDC at the Budapest Industrial Fair 1963 had on research workers and engineers. As a result of this offer about 6,000 literature searches have been requested by experts and worked out by the CTLDC. The very modest normal yearly demand of about 300 literature searches will be doubled during 1964.

The TDC publishes a series of publications devoted to the economic aspects of research, development and production (R&D&P). These series consist partly of reviews of literature on actual subject themes and partly of digests of outstanding articles, reports, etc. Very thorough and detailed review monographs are published on various scientific, technical and economic questions.

Abstracting and reviewing is done by external experts, guided by staff people who participate in literature searches as well.

As Hungary is a small country with a very specific language much stress has to be laid on translation, especially translations from foreign languages into Hungarian. The National Register of Translations established in 1949 by the then NDC is incorporated into the CTLDC. Before starting a translation every institution has to send in a written application to the Register asking for permission to translate the document, without regard to the subject theme of the text. Translations of official documents and translations made by publishing houses are exempted. The National Register has to notify the applicant within 48 hours if the translation is already registered or not. In the affirmative case, the Register informs the applicant about the translating body and prohibits the translation being made once again unnecessarily. After completion one copy of every registered translation has to be sent to the National Register which checks the translation against the Register and afterwards passes them on to the competent Documentation Centre to be stocked and used.

The number of applications for translation rose by 100% during the five years from 1959 to 1964 from 25,000 to nearly 50,000 the majority of which is related to science and technology. The average length of a translation is about 15 pages.

The translation section of the CTLDC is managing about 40% of all translations made in the country with the aid of external translators specified according to language and subject theme.

The Methodical Section of the CTLDC carries out the tasks of the Centre of the scientific and technical libraries' network. Associated with this purpose the Section organises besides regular on-the-spot surveys, national and branch conferences, training courses, publishes the CTLDC's Journal Tudományos és Műszaki Tájékoztatás (Scientific and Technical Information) and several series devoted to the theory and practice, methodologies and organisation of documentation.

Recently the Section established a National Film Information Centre with a view to introducing and widening the use of scientific and technical films as a media for scientific and technical information.

The CTLDC has earned a country-wide reputation with its direct library and documentation services to the users and with its achievements in the organisation and guiding the network of scientific and technical libraries. The new tasks set out by its new lead-
ing body, the NCTD require new approaches of thinking, new methods and a reconstruction of the organisation of the Institute, especially with regard to the greater responsibilities in overall methodical and organisational guiding of the network of documentation units.

3.3 Other Institutions

Besides the NCTD the Ministry for Education has also a certain authority in scientific and technical information, being according to the Library Law of 1956 the central organ responsible for the libraries' work, special libraries included. The ME's Library Section, till 1962 the supervisory body to the CTLDC, asserts its functional responsibility through the CTLDC.

The NCTD and the ME have both an advisory body on library and documentation matters. The NCTD's Standing Committee on Documentation is concerned with preparing reports and suggestions to the NCTD on the most important and actual problems of scientific and technical documentation. The ME's National Committee on Librarianship and Documentation (Országos Könyvtárgy és Dokumentációs Tanács, OKDT) consists of sub-committees on various aspects of library and documentation work, one of these sub-committees being the Hungarian National Committee on Documentation (Országos Dokumentációs Bizottság, ODB), the Hungarian member of FID. The CTLDC provides for the Secretariat of the National Committee on Documentation.

There are still other governmental and non-governmental bodies concerned in one or more ways with scientific and technical documentation. They all have their representatives either in the NCTD or in the NCTD's Committee for Documentation or in the ME's Committee for Documentation. Such bodies are:

- the Ministry of Agriculture with its Central Library and Documentation Centre (Országos Mezőgazdasági Könyvtár és Dokumentációs Központ, OMgKDK);
- the Hungarian Academy of Sciences in its Central Library and its network of libraries attached to academic institutions;
- the Hungarian Office for Standardisation (Magyar Szabványügyi Hivatal, MSzH) with its unique international standards collection;
- the Hungarian Patent Office (Országos Találmányi Hivatal, OTH);
- the Hungarian Central Statistical Office (Közponi Statisztikai Hivatal, KSH) with its large library and data collections and its Directorate for Data Processing;
- the network of university libraries, especially central and departmental libraries in the technical universities and in the Karl Marx University for Economics;
- the Széchenyi National Library (Országos Széchenyi Könyvtár, OszK) with its National Union Card Catalogue of Books and Periodicals;
- the Centre for Library Science and Methodology (Könyvtártudományi és Módszertani Központ, KMK); and
- the Association of Scientific and Technical Societies (Műszaki és Természettudományos Egyesületek Szövetsége, MTESz) with its Central Committee on Scientific and Technical Information and with its Department of Documentation.

An organisational scheme is given in Fig. 1.

4 THE DOCUMENTATION DEVELOPMENT PROJECT

The NCTD set up in 1962 took over the responsibility of direction of scientific and technical information on a nation-wide basis according to the government's decision. In view of the defective state of scientific and technical information in general, of the information facilities and services falling behind the objective needs of R & D & P, the NCTD soon after its inauguration decided to work out projects for the long-term development of information. First of all the problems of documentation came under revision, and the NCTD charged its Standing Committee on Documentation (Dokumentációs Allandó Bizottság, DÁB) to work out a well-based project for the development of scientific and technical documentation in the country. As a result of a working group's activity the DC presented a project to the NCTD after thorough deliberations in which many leading scientists, engi-
neers and documentation experts participated, including the President and some of the Presidium's members of the NCTD. The project has been approved by the plenary session of the NCTD in October 1963 and shall be submitted to the Council of Ministers late in 1964.

4.1 General Principles of Organisation

4.11 Responsibility

The underlying principles of the future organisation of documentation included first of all the overall responsibility of each minister directly concerned with implementing technical development in production in serving the documentation needs of all institutions attached to his ministry according to directions issued by the NCTD. The NCTD's responsibility extends to overall direction and guidance, in the first line to establish the division of labour between the various documentation organs and to some authoritative decisions necessary to insure co-ordination of documentation activities throughout the country.

It proved itself to be necessary to endow the ministers not only with responsibility in respect to their own institutions but also with national responsibility in respect to all institutions and individuals interested in the services rendered by his ministry's documentation organs notwithstanding their authoritative subordination. This new principle aims at evading unnecessary multiplication of work in documentation.

4.12 Centralisation or Decentralisation

It has no definite meaning to speak in general about centralisation or decentralisation of the organisation of documentation. No centralised organisation exists without some functions decentralised to the members of the organisation, and, on the other side, every decentralised organisation includes necessarily centralised aspects usually in more than one way. In order to characterise the organisation of documentation as centralised or decentralised, it is necessary to examine the various functions of the organisation.

It is sure that documentation services rendered for the direct use of the experts on-the-spot cannot be fully centralised, at least not in an efficient manner. The basis of the supply of information is laid on the documentation units (offices or sections or single persons) on the local level, organised in every research laboratory, industrial works, educational or other institution. This local unit has to satisfy the needs of the staff of the parent institution, and, on the other side, to report the achievements and experiences of the local staff to central documentation institutions in order to make known to others by means of the regular channels of documentation.

Besides the local services, there exist of course central documentation services as well, the use and exploitation of which can be immensely improved by the care of the local unit.

The same bifurcation concerning centralisation and decentralisation applies to documentation processing as well. Since Bradford's fundamental findings related to scattering of scientific and technical literature in journals, nobody denies - at least in principle - the advantage of centralised abstracting, whereas other forms of processing, for instance the preparation of comprehensive reviews of literature is more suited to decentralised, local handling.

The one-sided problem of centralisation versus decentralisation is better to be substituted by a fundamental problem of the organisation of documentation, namely, the division of labour between different types of documentation units. This broader terminus embraces all aspects of co-operation and co-ordination between documentation units including the notions of centralisation and decentralisation as well.

According to the Documentation Development Project the determination of the effective division of labour between the DU's on various levels and in various subject fields is one of the most important tasks of the NCTD.

4.13 Organisational level of Documentation

Another basic principle of the project consists of a three-stage organisation of documentation including a national centre, branch information offices (BIO) and local information units (LIU) (see Table 1 and 2).

The functions of a national centre shall be executed by the CTLDC under the direct supervision of the NCTD and in respect to library work under the functional supervision of the ME.
The BIO's shall be organised as departmental units in the competent research institutions or large industrial establishments equipped with research laboratories and scientific staff. The efforts for effective documentation shall be concentrated in the BIO's providing documentation services not only to institutions under the supervision of their own ministry but also to outward institutions having objective interest in their services. About 40-50 BIO's are to be set up in course of 2-3 years embracing all major fields of science and industry where documentation services are needed. To delimit exactly the field of activity of and to determine the most suitable parent institutions for the BIO's is an obligation of the NCTD in consent with the interested ministries.

The BIO's are documentation organs with a nation-wide responsibility in their special field whose task shall be chiefly documentation work proper. They should not bear any administrative responsibility for the work of the LIO's within their branch but should participate in the methodical guidance, offered to the LIO's by the ministries' CIO's.

The CIO's are to be developed in respect to documentation in the ministries' central organs for implementing the R & D & P policy of the ministry by means of the lower-stage documentation units of the ministry. Documentation activity in the ministries should be by and by decentralised into the BIO's and LIU's, the only task in this field remaining with the CIO's is the direct information of the ministries' central staff. The CIO's may of course continue and develop information work, in other fields of scientific and technical information (exhibitions, films, etc.).

4.2 Chief duties of the National Committee for Technical Development and of the Information Units

4.21 NCTD

1 Working out an effective division of labour between the DU's, delimitation of their field of activity.
2 Working out directives for the development of documentation, determination of the DU's specific requirements in staff, material and finances.
3 Issuing directives for organisation and methods of documentation.
4 Elaboration of a comprehensive training system for documentation and qualification system for the staff of the DU's.
5 Recommendations regarding proposals concerning establishment or cessation of a DU.
6 Recommendations on authorisation (license) for publications containing documentation material.
7 Coordination of international relations in documentation and representation of Hungarian documentation in the international field.

4.22 CTLDC

1 LIBRARY AND DOCUMENTATION SERVICES

1 Traditional Library services provided by the Central Technical Library of Hungary.
2 Documentation services and publications, first of all central abstracting and indexing of published literature and issuing of abstracting and indexing periodicals and card services;
literature searches and subject bibliographies in every field of science and technology; and
reviews of literature on subject themes of a central importance or of a complex character.
3 Translation services in every field of science and technology and in every language.

2 RESEARCH, DEVELOPMENT AND ORGANISATION

1 Documentation of literature on information.
2 Research on basic problems on documentation especially with a view of preparations for the introduction of mechanical aids and automatic devices in all phases of documentation work.
3 Development of efficient methods and new devices.
4 Publication of materials on R & D in documentation.
5 Methodical assistance to documentation organs of every type.
6 Organisation and supervising of training in documentation.

7 Preparation of organisational directives for the NCTD and for the ministries. Assistance to the ministries in the organisation of their network of DU's.

8 Developing the newly organised National Film Information Centre.

9 Preparation for extending the CTLDC's field of activity to other forms of information besides documentation and films.

3 AUTHORITATIVE FUNCTIONS

1 Management of the National Register of Translations and issuing permits to applicants for translations.

2 Any other functions to be delegated to the CTLDC by the NCTD.

4.23 CIO (of a Ministry)

1 Organisation, coordination and control of the work of all documentation organs attached to the ministry according to the directives issued by the NCTD.

2 Planning and evaluation of the work of the network of DU's.

3 Permanent control of the effective use of documentation in the central organs, research institutes, industrial establishments and other institutions of the ministry.

4 Providing direct library and documentation services for the central staff of the ministry.

5 Organisation of publishing information materials especially trade catalogues, etc.

6 Development of central and local information facilities in other forms of information apart from documentation.

4.24 BIO

1 Exhaustive organisation of scientific and technical literature of all kinds relating to the branch's needs and forming a central stock of literature and data.

2 Highly differentiated library and documentation services for all interested institutions and individuals utilising efficiently the service facilities offered by the CTLDC, the other BIO's and any other documentation organ at home and abroad in addition to the own documentation processing activity, with special emphasis for detailed reviews of literature embracing scientific, technical and economic aspects as well.

3 Publication of all kind of information materials especially literature reviews, trade catalogues, reports on research work, on experiences and results achieved in institutions and industrial works belonging to the branch.

4 Assuming the functions of a LIU in regard to the parent organisation.

5 Methodical guidance and assistance to the branch's LIU's.

6 Assistance to the CIO in the control of the effective use of documentation within the branch.

7 Development of information activity in other forms of information apart from documentation.

4.24 LIU

1 Selective acquisition of scientific and technical literature of all kinds relating to local needs and forming a local stock of literature and data.

2 Highly differentiated library and documentation services to the parent institution with a minimum effort on documentation processing and efficiently relying upon documentation services of other institutions at home and abroad.

3 Organisation of an information network with information officers appointed in each major department, workshop, etc.

4 Guidance to the information officers and other staff workers in preparing reports and other materials describing results and experiences found in the parent institution.

5 Presentation to the competent BIO of all documents prepared by the parent institution's staff on results and experiences.

6 Control of the effective use of documentation.

7 Development of information activity in other forms of information apart from documentation.
4.3 Finance and Personnel

The estimated costs of the Development Scheme scheduled for the next five years amount to raising the present level of yearly expenditure in acquisition costs, salaries and overhead costs in the relation of 2:1 in the case of the CTLDC and the CIA's, and in the relation of between 4:1 and 5:1 in the case of the ministries' documentation sub-networks. Besides these cost elements, the Project provides for directives concerning

a) the most important reprographic machinery and equipment for the documentation organs on the various levels; and

b) investments for suitable location, reaching and working facilities for the national, central and branch units.

Similar growth rates of 2:1 and 4:1 or 5:1 are provided for the personnel of the national, branch and local units, taking into consideration first of all the establishment and development of the BIO's. There is a need for high-qualified experts to be invited to work in documentation. As these experts cannot be expected to leave in hundreds their existing jobs and take over jobs in DU's, a solution must be found in receiving assistance from these experts and their respective institutions on a basis of part-time work or home work, though a limited number of full-time experts is absolutely necessary for the quick and safe development of documentation in respect to quality as well as to quantity.

The goals set by the figures showing the increase and qualification distribution of the personnel determine the future development of training of the documentation personnel. A separate Documentation Training Development Project has been elaborated on the basis of the requirements set out in the Documentation Development Project.

4.4 Directives for improving the Utilisation of Documentation

4.41 Control and Evaluation

Documentation is not an end in itself; on the contrary it has to be one of the most important tools directed towards the development of the country, first of all towards the scientific and technical development. Out of this follows that the general functions, tasks, concrete methods, techniques as well as the organisation of documentation has to be determined by the requirements of economic development, first of all by the demands of scientific and technical development.

This has to be specifically stressed upon because of at least two reasons. First of all, it is a well-known fact that literary production has already reached too vast quantities to be easily controlled by traditional methods of documentation and, moreover, the yearly increase of literature exceeds the measures up-to-date documentation methods can cope with. The second - and not less important - reason consists in the fact that the means at disposal for documentation are limited, so that we are forced to organise our work in a most efficient manner.

Now there arises the question, what is to be meant by efficient. Efficiency in general means the results, the output of an action related to the corresponding input. It is quite clear that it is impossible to measure the efficiency of documentation directly. The results of documentation present themselves only after a time-lag and through a transformation into achievements in R & D & P. It is rather doubtful if the efficiency of documentation in general could ever be calculated. That does not contradict the possibility of determining the effectiveness of single measures based upon hints received from information materials prepared by some documentation centre or unit nor does it disprove the possibility to recognise the trends in improving or hampering efficient utilisation of the documentation services.

The Documentation Development Project prescribes therefore directly to the CIA's of the ministries to control and evaluate permanently the utilisation of documentation services throughout the institutes, works and other organs attached to the ministry. In this activity the CIA's are to be supported by the BIO's having a direct feeling with the users in all institutions within their branch. The principles and methods of such control are to be determined by every ministry independently.

4.42 Users' Differentiation in Documentation Services

The striving at maximum effectiveness, the manifold needs of the users (actual and
potential) have to be taken into consideration. Documentation has to be selective and specialised, ready-tailored to the information needs of scientists, engineers, economists and other experts. These needs originate in the user's position, job specialisation, field of activity, qualification, experience, etc. as listed in Table 3. The task of supplying documentation to a Chief of Department in the Planning Commission, dealing with problems concerning investment planning in any branch of the fuel industry is quite different from supplying documentation for instance to a research worker with a background of chemistry and physics of ceramic materials engaged in research in electrical insulation or to a plant engineer having to run an independent workshop with say 1,000 workers and having or having no experience in works and job organisation. How differentiated the real circumstances are is shown by the fact that for instance, out of the whole group of mechanical engineers only 22.5% were engaged in the engineering industry, other 13.8% held jobs in governmental offices, research and education institutions and 11.8% in building industry in 1960, on the other side the technical staff of the chemical industry was composed of 69% of chemical engineers and 23% of mechanical engineers.

4.43 Measures for Improving the Utilisation of Documentation

4.431 Direct Measures

Direct measures promoting the use of documentation may be taken first of all in industrial production where new results described in documentation services are to be applied directly. It is a specific obligation of the LIU's and BIO's to consider the possibilities for the direct and quick application of new information, to prepare analysis and suggestions for the effective utilisation of literature and to exercise regular control over the fulfilment of these suggestions. The CIO's are responsible for the working out and the consultation of comprehensive and detailed literature reviews in the following phases of R & D:

- Determination of targets to be included in R & D projects;
- ratifying R & D plans;
- preparation of project reports and final reports on R & D projects;
- evaluation of a new construction's prototype;
- introduction of a new technological process;
- application for import licenses; and
- application for and decision of investments.

Reviews for these purposes shall reveal the top achievements throughout the world in general and the state of scientific and technical achievements in the countries being of interest in regard to the theme of the project. No decision should be taken without prior consultation of these documentation materials.

4.432 Indirect Measures

The reviews should be prepared by the DU's drawing the competent experts into this activity. By this a complementary effect may be achieved in addition to the direct measures for improving the utilisation of documentation. Experts working in R & D & P will develop a better understanding for documentation and will have a better opportunity to propagate the use of documentation in their institutions and expert circles. This subjective approach is not to be underrated as any individual approach to documentation is necessarily highly subjective.

As it is to be seen, indirect measures for the improvement of utilisation of documentation strive at the enlargement of the experts' capacity to receive information. Training in documentation is supposed to be the major key to this end.

Scientists, engineers and other experts usually have only very vague knowledge of documentation and are not in a state to appreciate the advantage they might take of documentation methods and services. Efficiency of documentation could strongly be improved
If the potential users knew where and how to ask for and how to use documentation.

It is out of this reason that university and college students should be made to know the elements of documentation. They should be obliged to take a compulsory course in documentation for two semesters. The introduction of such courses at the Technical University of Budapest is in preparation.

As to informing and teaching practicing experts on documentation various other possibilities exist, for instance special courses or lectures are given by the CIO's or BIO's. Recently the Institute of Post-graduate Education of Engineers, Budapest organised two courses for engineers dealing with methodology and organisation of documentation. Each course was attended by forty engineers.

5 CONCLUSIONS

A small country with limited resources is faced with nearly the same volume of scientific and technical documents published all over the world as any big country with ample resources. But the task is in some cases aggravated by language difficulties which are more likely to arise in small countries than in larger ones playing a major or leading role in many branches of science and technology. Apart from that particular feature of the language problem specific to Hungarian conditions, out of the course of development of documentation in Hungary some conclusions may be drawn for the development of documentation in developing countries.

5.1 Documentation is an organic part of R & D growing into an independent activity of literature experts including librarians, bibliographers, information officers and high-qualified experts of various professions.

5.2 The organisation of documentation as a part of R & D lies within the responsibilities of the governments and should be based upon the organisation of R & D in the country.

5.3 Documentation must be strongly differentiated according to the obvious or latent needs of the various categories of users.

5.4 To wake up latent but objective needs in documentation is one of the most important tasks which the organisation for documentation has to face. Outside experts participating in various phases of documentation processing and services can be the best allies in that campaign amidst their collaborators in scientific and technical institutions.

5.5 Documentation has to be taught to and learned by all experts who work in documentation processing and services and who simply use documentation services.

5.6 Development in documentation has to be planned carefully and incorporated into the national plans of development.
Table 1: Distribution of Functions between Governmental Bodies and Documentation Organs on Various Levels.

<table>
<thead>
<tr>
<th>Function</th>
<th>National level</th>
<th>Ministerial and local level</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NCTD</td>
<td>NCTD</td>
</tr>
<tr>
<td>General direction</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>Administrative direction and supervision</td>
<td>x²/</td>
<td>-</td>
</tr>
<tr>
<td>Functional supervision</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>Direction in methods</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>Information work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Documentation</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Other</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Research and development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>Organisation</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>Authority gestures (authorising etc.)</td>
<td>x</td>
<td>-</td>
</tr>
<tr>
<td>Advisory functions, expertise</td>
<td>-</td>
<td>x</td>
</tr>
</tbody>
</table>

1/ By delegation. 2/ In respect to CTLDC. 3/ In respect to special libraries. 4/ Conferences, exhibitions, scientific and technical films, broadcasting, television etc. 5/ A special Film Information Centre set up with CTLDC.

Abbreviations:
- NCTD = National Committee for Technical Development.
- DC = Documentation Committee.
- CTLDC = Central Technical Library and Documentation Centre.
- ME = Ministry for Education.
- ASTS = Association of Scientific and Technical Societies.
- CIO = Central Information Offices of the Ministries.
- BIO = Branch Information Offices of the Ministries.
- LIU = Local Information Units in research laboratories, industrial works etc.
Table 2: Distribution of Work and of Responsibilities between Documentation Centres and Units on various Levels

<table>
<thead>
<tr>
<th>Published 1) literature</th>
<th>Unpublished 2) literature</th>
</tr>
</thead>
<tbody>
<tr>
<td>(books, periodicals, etc.)</td>
<td>(reports, trade literature, etc.)</td>
</tr>
<tr>
<td>National</td>
<td>Branch</td>
</tr>
</tbody>
</table>

| Acquisition | Selective | Exhaustive | Selective | - | Exhaustive | Selective |
| Processing | Library processing | According to holdings |
| Bibliographic listing | Exhaustive 3) | - | Selective | - | Exhaustive | Selective |
| Abstracting | Selective 4) | - | Highly selective 8) | - | Selective 5) | - |
| Reviewing | Selective 6) | Selective 7) | Highly selective 8) | - | Selective 7) | - |
| Translating | All-embracing 9) | Selective 10) | Selective 10) | All-embracing 9) | Selective 10) | Selective 10) |

| Services 11) | Special bibliographies | All-embracing |
| Literature lists | All-embracing |
| Abstracting & indexing journals and card series | Selective 4) | - | - | Selective 5) | - |
| Reviews of literature | Selective 6) | Selective 7) | Highly selective 8) | - | Selective 7) | - |

| Translations | All-embracing 3) | Selective 10) | Selective 10) | All-embracing 9) | Selective 10) | Selective 10) |

| Technical services (reprography) | According to needs and means. |

1) Commercially available. - 2) Commercially not available. - 3) Central listing of new acquisitions. Partly fulfilled by a central list published since 1962 by the Széchenyi National Library, Budapest in two parts; Science and Technology; Social Sciences and Humanities. - 4) About 100,000 abstracts per year embracing most branches of science, technology and industrial economics. - 5) The necessity of abstracting is not yet cleared. - 6) Subject themes of central importance or of a functional character, e.g. general questions of research organisation, scientific and technical education, mechanisation and automation of production processes, etc. - 7) Subject themes of branch importance. - 8) Subject themes of local importance. - 9) Central Bureau of Translation. - 10) Compulsory central registration of translations. - 11) National and branch services for country-wide use; local services for local use only.

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Table 3: User's position, job specialisation, field of activity etc.

1. **Administrative level differentiation**
   - Ministries
   - Planning Committee
   - Ministerial Departments
   - Ministerial Committees
   - Research institutions
   - Educational institutions
   - Industrial establishments etc.

2. **Hierarchical differentiation**
   - Director
   - Manager
   - Chief of Department or Section
   - Chief of Laboratory
   - Chief of Works
   - Chief of Workshop
   - Technical Officer
   - Administrative Officer
   - Foreman etc.

3. **Differentiation according to job specialisation in Research, Development and Production**
   - **Research Work**
     - Basic Research
     - Applied Research
     - Experimentation
     - Measurements etc.
   - **Development**
     - Construction of new apparatus
     - Working out new technological processes
     - Investment and renewal
     - Scientific and technical documentation etc.
   - **Industrial Production**
     - Workshop practice
     - Production planning
     - Production control
     - Plant engineering
     - Power and heat supply
     - Maintenance, repair
     - Safety etc.

4. **Differentiation according to field of activity**
   - **Mining**
     - Fuel
     - Ore
     - Minerals etc.
   - **Energy Supply**
     - Power production and transmission
     - Gas production and transmission

5. **Differentiation according to qualification of the user**
   - **Science**
     - Mathematician
     - Physicist
     - Chemist
     - etc.
   - **Engineering**
     - Mechanical engineer
     - Electrical engineer
     - Chemical engineer
     - Mining and Metallurgy Engineer
     - Public Works Engineer
   - **Economics, etc.**
     - General economics expert
     - Industrial economics expert
     - Planning expert
     - Financial expert
     - Foreign trade expert
     - etc.