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AGRICULTURAL MARKETING AND TRADE INFORMATION RESOURCES IN HUNGARY

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U.S. AID REPORT

BY

AGRICULTURAL COOPERATIVE DEVELOPMENT INTERNATIONAL

John J. VanSickle
Agricultural Economist, Ph.D.

and

William W. Carter
Communications Specialist

November 1991

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I. Background

A. Hungarian Agriculture

Hungarian agriculture is the most advanced and successful of the Eastern bloc countries. Modern farming technology, and production at near capacity have led to sizable exports for Hungarian agricultural products. Many of those products were exported to COMECON countries, especially the Soviet Union. Since the recent problems experienced in many of the COMECON countries, exports have fallen dramatically.

Prior to democratization, agriculture was a vertically integrated system with agricultural research, input supply, production, processing, marketing and export coordinated and largely owned by the state.

With a total land area of 9.3 million hectares, of which approximately 70% is arable and some further 18% is suitable for forestry production, Hungary is well placed to feed both its population of 10.2 million residents and to export surplus commodities. In total, the agricultural sector employs some 4.5 million people with one in five of the total population fully employed in agriculture. Structurally, the agricultural sector is broken down into four components.

- state farms
- cooperative farms
- privately owned farms
- part-time backyard farmers

There are currently 135 state farms characterized by their extremely large size, averaging 8,000 hectares (U.S. 19,760 acres). They control a major portion of the arable land. These farms are primarily involved in large-scale cereal production, but also in livestock including dairy, poultry, beef and pork. These state farms have had little difficulty obtaining access to required inputs needed for their operations.

Officially, there are 1,247 cooperative farms in Hungary, also farming a large portion of the arable land. In addition to farming communally, members are usually given 0.5 hectares for their personal use.

Full-time privately owned farms, ranging from 10-40 hectares, are emerging in Hungary. While still small in numbers, the privatization of the agricultural sector has caused an increase in private farm ownership.

Part-time farming is practiced by a large segment of the population, some 1.5 million persons. While many people have moved into urban jobs, many still farm on a part-time basis, largely for economic reasons.

One of the important issues arising in the agriculture sector is that of land ownership. Collectives and state-run farms control a large part of the arable land in Hungary. As part of the democratization process, the Hungarian government put forward a compensation law which establishes a process for former owners to recover their own lands or receive ownership shares in privatizing companies or state securities. The government has estimated that private ownership of land will increase to 70-80% of arable farmland in the near future.

B. Objectives

In November 1991 ACDI completed a review of the agricultural sector which identified needs for improving the marketing efficiency of the Hungarian agricultural industry. Within that review, ACDI identified a critical lack of market information available for use by marketing managers. Quoting from the ACDI report:

> "Because of the lack of market information currently available in Hungary, it is difficult to provide a detailed list of each item, quality/quantity of processed food products, specific potential markets for each item, estimated market value, etc. It is felt the information exists, but it is held in a variety of locations and our impression was that is not used by decision makers."

No database of information about products which Hungary produces and has available for sale could be identified.

The objective of this project is to assess the market information system currently being used in Hungary and to make recommendations for change, which may lead to improvements in marketing Hungarian agricultural products. Many issues fall within the scope of this project. First, the information currently collected and distributed must be assessed for the value it does or may provide to Hungarian producers. Second, information which is collected and not currently made available to producers and marketers must be assessed for its potential value for improving the decision making of producers and marketers. Third, the system used for distributing this information must be reviewed to determine the accessibility of the information and whether more cost effective means exist for distributing the information.

II. Status of Current System

A. Current Information Systems Used in Marketing Hungarian Agricultural Products

1. General Discussion

The different types of farms in Hungary have led to different requirements for market information. Requirements for large state-owned farms differ from those of cooperative farms because of the sophistication of the managers and types of products which are important in their operations. State-owned farms have been large producers of cereal grains in Hungary. Grain has historically been marketed through various milling operations for feed and the excess was purchased by the 'Grain Trust' at a minimum fixed price as required by the government. The Grain Trust was a state-owned monopoly which has since been abolished in the development of a free market economy and has left farmers searching for new ways of marketing their excess crops. Agrimpex was the government monopoly which marketed most of the grain in the former Soviet Union.

Agrimpex has since been privatized and now operates as a joint-stock company. It still exists as a marketing outlet for the majority of excess crops but does not share the information structure it operated with for the last several years. State and cooperative farms have thus been left to their own means for developing a new market information system. The Budapest Commodity Exchange has been one of the few developments that have helped in this process of establishing a market information network.

Livestock farmers have been affected by the change in economic systems much like the grain farmers have. Loss of established marketing channels and markets has left a void of market information for many. Terimpex was the state-owned monopoly for marketing meats and cheese. While it has been privatized, it has not shared the information it acquires in the markets it serves. The Budapest Commodity Exchange has helped in filling this need.

Produce farmers also need an information system for efficient marketing of produce within Hungary, as well as for export. STAGEK is a market information network which has been developed by the Ministry of Agriculture with the assistance of the EC-PHAR group. This system collects and disseminates produce information needed in the domestic market. A rival system being managed by Zoedker, a private firm, also assists in the domestic produce markets.

The recent changes in political structure have led to hardship in Hungary because of the loss of export markets, and the country has difficulty in identifying new markets. The development of a free market economy and the privatization of state-owned marketing companies has led to an increase in companies involved in international trade for agricultural products from about 100 to over 1,200 firms. Another example of this trend is the fruit and vegetable industry. Hungarofrucht was the state-owned monopoly for marketing excess fruits and vegetables. That function is now being performed by several firms. Market information has become an important function in the export of fruits and vegetables.

The growing importance of international trade has inspired the development of other sources of information. Kopint-Datorg is another project that assists in international trade of all agricultural products by collecting data from customs clearance forms. It is developing a data base of agricultural products being traded in the international market. In addition to this project, it also collects information from the German wholesale market for distribution to international traders.

The organization also gathers information from other international sources that could assist in international trade.

In addition to the market information providers, several firms have been developed to assist in matching firms in trade. Several sources manage offer/demand programs which give producers and buyers opportunities to advertise their products or needs to others. Some of these programs are being managed as simple advertising programs (e.g., the offer/demand program of STAGEK) while others are sophisticated to the level of matching companies (e.g., Company Line Hungary).

Many ag marketing and trade information systems are currently available within Hungary. The following analysis first considers primary sources of data in terms of the information content and dissemination mechanism. Then networks which focus on further dissemination of information collected from the primary sources are described. An evaluation of further needs is then presented.

2. Market Information Data Sources

Budapest Commodity Exchange. Within Hungary, the Budapest Commodity Exchange has been developed for the purpose of marketing spot and futures contracts for livestock and grain. While lacking the sophistication of the commodity exchanges in the Western commodity markets (e.g., Chicago Board of Trade and Chicago Mercantile Exchange), these markets have continued to grow through time and expand in the number of contracts traded. The Budapest Commodities Exchange is organized to trade livestock commodities on Tuesday mornings and grains on Wednesday mornings. One pit exists for all commodities being traded in one session. Confusion among traders and on the floor is not unusual, given the large variety of products traded (especially considering the number of commodities and trading months in one pit.) After each trading session, the exchange publishes a summary report for that day and disseminates that information by fax and mail. The exchange is not currently configured to provide computer access to the summary information or to the activities during the trading period. The published information from the Exchange is captured by several agricultural news sources and published in many other outlets, including print, television and computer media.

The Exchange is currently considering means of reorganizing which may lead to less confusion during the trading and to more efficient means of disseminating their trading reports. Currently, information from the Exchange plays an important role in establishing prices for grain and livestock in Hungary. It is expected that this role will become more important as the Exchange grows.

Because the Exchange is not dynamic, since the trading session only takes place once a week, the importance of this data is diminished. However, prices established on the Exchange are important in fixing prices within Hungary. Additional trading in contract volume on the Exchange and extended sessions will cause this information to become more important to the

livestock and grain markets in Hungary. The information from this Exchange could be improved, if it were augmented with information, available by computer, from the commodity markets in Chicago, which trade Monday through Friday.

STAGEK Market Information System. Stagek is a department within the Ministry of Agriculture which has the obligation to collect and disseminate market information from 15 wholesale and consumer markets in Hungary. They hope to expand their coverage of markets to 30 when an upgrade of the reporting system is completed. Prices and volumes of product brought to the market are collected daily by market reporters. Volumes represent those that are reported by the traders as available in the market that day. Prices represent those being reported by the traders as offer prices.

STAGEK augments its information with that from other sources which it feels would be of interest to its users. STAGEK includes reports from the Budapest Commodities Exchange and hopes to include information from the International Trade Center for prices of produce items in the European market.

Many criticisms have been voiced of the data collected by STAGEK. Volume data represent the volume available for sale that day, and consequently, involve multiple counting of some products not sold within a day's time. Prices reflect those that are being asked by the traders on the market and do not necessarily represent trading prices. Many products are sold at prices discounted from the posted price on the market.

Other individuals have criticized the data because it is collected by market employees, and as such, training is inadequate and quality of the data is variable. One company, Zoedker, has developed its own market reporting function on the Budapest wholesale market, a direct duplication of the STAGEK market reporting in Budapest, simply because it does not trust the data being reported by STAGEK.

The STAGEK system is currently being redesigned by the EC-PHAR Market Information System Project into a format that will increase the efficiency for reporting information into and from the network. It will also improve some of the reliability of the data since it will replace some of the data processing functions currently being performed at the markets by the market reporters with computer processing at the central headquarters. The system will still be vulnerable to the criticisms of the data collected since it will not change the types of data collected. Long-term goals of the project are to improve the data by including quality observations about the produce which is being reported.

Zoldseg-Gyumolcs (Zoedker) Market News. Zoedker collects wholesale market news for fruits and vegetables at the Budapest wholesale market. It duplicates the news collected by STAGEK. Zoedker is a cooperative trading company for 13 fruit and vegetable companies in Hungary. Zoedker rents storage for produce at the wholesale market and attempts to find buyers for their members in the domestic market. Information is another asset they find of value in supplying to their members. Zoedker uses their own employees to walk the market and to measure the

prices of and volume of products being traded. They associate quality with the prices they observe and evaluate the market for trends and other factors which could impact the market in the near future. They also use information from other sources which includes to include a market information newsletter they publish. They publish a market information newsletter which includes information from other sources such as the Budapest Commodity Exchange and the Hungarian Newsletter (Green Paper).

Wholesale market information is collected on Monday afternoon and again on Tuesday morning and then distributed by fax or telex Tuesday afternoon. It is again collected Wednesday afternoon and Thursday morning and distributed Thursday afternoon. Users of the information include their own members and others who pay for the service.

Kopint-Datorg. Kopint-Datorg is an economic research, marketing and computing company, which processes data related to foreign trade. Kopint-Datorg has been contracted by three separate organizations of the Hungarian government to develop a database related to international trade. The Customs office, Central Office of Statistics and the Ministry of International Economic Relationships contract with the Kopint-Datorg company to collect customs data and process it into a database. Currently, Kopint-Datorg receives data from customs in the form of the bill of lading and export certificate for all foreign transactions. They process that data into a database and pass the information to each of the three government organizations by magnetic tape. The database contains origin, value, volume and destination for all imports and exports in Hungary. No computer access is currently given directly to this database. The National Technical Development Commission is in charge of developing technical aspects for access requirements to the computer database.

Kopint-Datorg also collects information from other sources. Their program is geared to developing information for firms involved in international trade. They have also completed several studies for the World Bank on different agricultural areas and foodstuffs. This is a major activity for the organization. The additional information collected includes German wholesale market information and information from the major commodity exchanges in the U.S.A. This information is databased into a computer format for their purposes. The German wholesale and retail prices are an important part of this information, but a delay of two weeks is incurred before this information is received and then entered into the computer by Kopint-Datorg employees. Foreign commodity exchange information is received from Reuters News Association, but is also keyed into their database. While this information is considered vital in the international market for Hungarian agricultural products, a delay of two weeks in making the data available to Hungarian citizens is usual. This delay weakens the value of the data for international trade purpose.

3. Other Market News Providers

Beyond the several organizations that collect data for dissemination are the many organizations that take that data and disseminate to a special group within the agricultural community. Some of those providers may augment the data in some way, but for the most part, they simply obtain the data they need from the various information providers and package it in a manner that they feel is best for their users. A listing of organizations which fit this mold follows, with a short discussion of their operations.

National Association for Horticulture. This is a national association of fruit and vegetable growers with a membership of 6,000. They have access to STAGEK information but do not use it because they feel it is unreliable. Their members meet monthly at the various wholesale markets in Hungary to discuss the problems they are facing. They are members of the Association of German Traders and get German wholesale market news as a member of that organization on a delayed basis. As such, the value of that data is considered diminished. They also collect information on the Soviet market and product standards required for the European market. They also collect some information by personal contact in selected other international markets. They publish a newsletter which is sent only to the largest members because of the cost involved. This newsletter is published twice each month.

National Association of the Hungarian Farmer Groups. There are 150 farmer groups organized in Hungary with a membership of 20,000 farmers. Their goals are to represent growers with the government, coordinate offers and demands, and to collect and disseminate information important to Hungarian farmers. They use the STAGEK market information system to gather information for dissemination. Information is disseminated by telephone and facsimile. They also collect some information from their members about production plans for the following season. Very little is done with this information because of a lack of knowledge of how to use it. They would like to develop more information to give better indications of production for each crop.

Hungarian Canners Association. (?) The Hungarian Canners Association is an association of canners operating throughout Hungary. The Association collects information on the quantity and prices of vegetables bought by members. They use this and other information collected from other sources (e.g., Budapest Commodity Exchange) for their members. They say they will not release this information to non-members because they feel it is valuable market information. They will publish the information in summary form at year-end.

Magyar Mezogazdasag. This is the Hungarian Agriculture magazine which is commonly referred to as the Green Paper. It has a circulation of about 15,000 and is a weekly, published on Wednesdays.

The Green Paper uses the STAGEK market information for wholesale prices of fruits and vegetables and the Budapest Commodity Exchange for prices of cereal grains and livestock.

They gather some prices for fruits and vegetables in international markets from firms trading in the international market.

The Green Paper is a good source of information for many farmers who have no other means of getting market information. Its circulation size insures broad distribution of market news.

B. Critical Review of Current Information Network

Dissemination of unbiased market information in Hungary is an evolving technology. Some industries within the agriculture industry have progressed in their development of an efficient market information network. The fruit and vegetable industry has progressed further than most with the development of the STAGEK program with the aid of EC-PHAR. Many criticisms have rightfully been leveled against the STAGEK program. The worst of these is the unreliability of data. Market reporters are employed by the individual markets who are reporting in the network. They are poorly trained and not reporting reliable data into the system. As one user group has reported, unreliable market news can be worse than none at all. This reliability problem has lead to an industry group duplicating some of the market reporting of STAGEK.

In addition to the poor reporting in the fruit and vegetable industry, other industries are experiencing gaps of information. In agriculture, five companies were responsible for marketing virtually all agricultural products out of the local areas before the development of free market economies. The number of companies has grown and the market share controlled by them is shrinking, but there has been a lack of market information services developed to assist in this transition period. The successes in the free market transition have been experienced without the aid of good information services.

Continued success in the transition to a free market economy may depend on the development of adequate market information services. Additional information services need to be implemented and international data need to be included if Hungary is to enter the international market. These include access to commodity markets in Chicago for grains and livestock and possibly the International Trade Center database for fruits and vegetables in Europe.

III. Data Dissemination Practices in Hungary

There are several methods currently being used in Hungary to disseminate and collect market information data: telephone, telex, and fax. It is the team's recommendation that these methods continue to be used and that others be incorporated, based on need, cost and availability. It must be understood, however, that these systems all rely on a very old and unreliable telecommunications infrastructure and other, more reliable means of information dissemination should be considered. (For example, using a PC based E/mail program called Seadog or FidoNet, electronic information can be sent from PC to PC, automatically, at night. See Appendix A for a more complete description.)

Hungary's communication systems, like other emerging democracies in Eastern Europe, is generally antiquated, unreliable and is not available to or affordable by the general populace. The telecommunication system is currently controlled and owned by the government Post, Telegraph and Telephone (PTT) Ministry and it consists of equipment that ranges anywhere from 1940 style mechanical switches, private branch exchanges and phones to state-of-the-art cellular and satellite systems.

A. Voice

For most of the country the PTT ministry system only offers voice lines and telex, neither of which is very reliable. In areas of major commercial activity (i.e. Budapest) the proliferation and quality of phone lines is better and other services such as cellular phones, international voice/data links, and satellite services are available. This is not to say that cities are communication bliss, but rather a hodge-podge of the old and the new. For example, calling from Budapest to London, or Washington, DC, is usually no problem and requires only one or two attempts, but a local call across town can take all day to connect.

The government realizes that a limited telecommunication system will severely hamper the efforts to modernize their economy and is working to resolve this problem. Several areas which the government is pursuing are the creation of a national public data network, permitting private joint ventures in the establishment of cellular transmission facilities, installation of two inmarsat transponders in Budapest for international links and planned privatization of the PTT ministry to begin in 1992.

B. Electronic Data (Public Data Network, FAX, Telex)

Public data networks are operated by competing telephone carriers and other private companies, although their services and rates are subject to some degree to government regulation. PDNs in Europe are generally government monopolies operated by each nation's post, telegraph and telephone (PTT) ministry. Each PTT offers on-demand, usage-based, data communications supporting asynchronous and X.25 transmission; some support synchronous and IBM 3270 protocols. Most EEC and some Eastern European countries allow privately owned PDNs to operate their own access points.

In 1989 the Hungarian PTT started operation of a limited public data network called PLEASE Data Communications Ltd. With the lifting of the COMCOM restriction in 1990, PLEASE was able to upgrade and expand the public data network. The PLEASE X.25 DATEX-P network is currently accessible in 20 cities with an additional 19 cities to be added by 1993. PLEASE offers most of the standard PDN services such as asynchronous access, interconnects with other international PDN services (i.e., Sprintnet, BT Tymnet, Infonet and others), bisynchronous access and virtually private networks.

The Hungarian government plans to privatize PLEASE sometime in late 1992. Privatization of PLEASE is critical to its future success. In two short years, PLEASE has established a

technologically sound foundation for being competitive in the growing local PDN market but lacks experience in management, support, marketing and sales. PLEASE is the only provider of X.25 'point-to-point', services domestically. Internationally, PLEASE must compete with highly successful international X.25 service providers, BT Tymnet and Infonet, both of which have opened offices in Budapest.

Infonet, a privately owned, internationally accessible PDN, was one of the first private data communication firms to establish their own access in Budapest. Infonet has access points in over 50 countries. BT Tymnet, owned by the British PTT, currently does not have a node in Hungary but is negotiating with PLEASE to provide this service.

FAX use, while not as prevalent as in the U.S. or the EC, is growing. This is primarily due to the fact that Fax machines are fairly inexpensive and more importantly, easy and cheap to use. As a means of data dissemination, fax does have one major drawback: it requires the use of the local phone system, which has limited penetration in the country. The poor quality of the phone system results in longer transmissions and, therefore, higher costs. Often organizations have only a single phone line.

Telex use in Hungary for domestic communications is fairly high, relative to more industrialized countries. This is due in large part because a widespread telex network exists throughout the country. Telex, as a means of data dissemination, has several drawbacks, such as cost, limited access to telex machines, and the requirement for data to be re-keyed into a PC.

IV. Recommendations

In order to maximize potential usage of a market information system, methods of dissemination as wide and diverse as possible should be employed. The reasons for this approach, rather than focusing on a smaller number of channels of dissemination are:

- potential users differ greatly in their circumstances and ability to receive information in certain forms;
- users differ in their preferences and requirements for data transmission/receipt;
- dissemination technologies and the availability of means of receiving information are changing rapidly and the system employed should be able to accommodate these changes.

Specifically, the team proposes that information be disseminated through the media listed below:

- Local agribusiness periodicals
- Newspaper and Newsletters
- Telex

- Fax
- Computer networks (E/Mail, PC to PC using SEADOG)

The amount of information appropriate to each dissemination method will have to be determined based in part on available budget and the target audience. It is felt that to achieve optimal usage of any marketing information system, dissemination efforts should focus on low tech and easily accessed communications media (such as newspapers, newsletters, and telex) and not entirely on high tech communications systems (such as E/mail and On-line information systems). Each dissemination channel should be kept under review to determine effectiveness and whether it could be improved in some way.

It is also recommended that, in addition to making available "raw" market data, there should be appropriate training for managers on management decision tools to help in the interpretation of the data and the use of it in the organization. In order to make the information widely available and accepted, it should be offered at the lowest possible price.

The team also recommends that ACDI consider forming a close relationship with Kopint-Datorg and STAGEK. Since KOPINT-DATORG and STAGEK are currently in the process of creating a market information system, it is recommended that ACDI could work closely with these organizations to:

- promote usage of the STAGEK and KOPINT-DATORG systems;

- determine information areas which these organizations do not address and provide support in these areas (specifically international market and trade information, transportation);

- determine and promote more cost effective means of data collection and dissemination (i.e., Seadog, Radio Packet Switching, Public Data Networks).

Appendix A:

SEADOG

The "SEAdog" software is a full-featured electronic mail system based on the personal computer and using standard telephone lines. It is designed to be easy to use, yet powerful. But above all, it is inexpensive to operate. It can be used to send and receive messages and/or files. Any sort of file can be sent using SEAdog, including programs, word processor files, binary data files, and spreadsheets.

SEAdog is a sophisticated store-and-forward mail system with automatic message routing and redundant backup. Unlike some mail systems, the end user need never concern himself with technical details of mail routing and delivery -- it all happens automatically. The user just enters and reads messages, the system takes care of the details.

The following hardware is needed in order to use SEAdog:

- An IBM PC, XT, AT, or compatible, with 256k of main memory and a floppy disk drive. A fixed disk is highly recommended, but not required. Any IBM compatible display may be used.

- A Hayes command set compatible modem.

- A telephone line with access to an outside line, and which can be reached by direct dialing from outside. An internal PBX system can be used if no outside access is required.

A machine does not need to be dedicated to SEAdog; it operates during spare time.

SEAdog uses the FidoNet Electronic Mail Protocol, as defined in the document, A Basic FidoNet Technical Standard, published by the International FidoNet Association (IFNA).

The heart of SEAdog is the network mail server, MAILER.EXE. This is the program that places and receives phone calls, handles message routing, and so forth. It is left running when normally the machine is turned off.

Most people turn off their machine set the end of the day when they go home. The machine is then idle until morning. With SEAdog, the machine is left on and runs the mailer. The mailer waits until the early morning hours when phone rates are cheapest, and then begins placing phone calls to other SEAdog systems to pass them the outgoing mail. In the morning, one "takes down" (i.e. terminates) the mailer ands reads the mail.

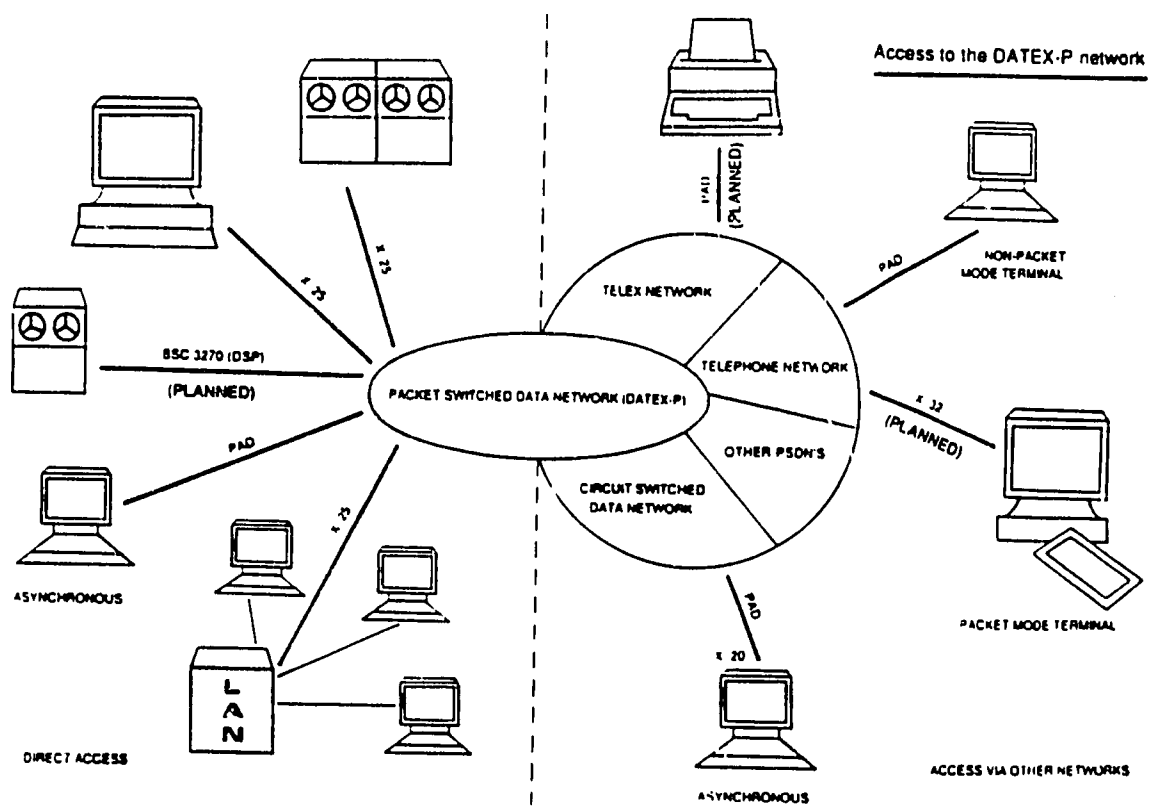
Appendix B

PLEASE Ltd.

PLEASE
Data Communications Ltd.

Main features of the Hungarian Packet Switched Public Data Network (DATEX-P HUNGARY)

- connecting different data processing systems;
- high service reliability;
- negligibly small probability of error;
- services meeting the demands of small, medium and big users;
- information exchange between equipment originating from different manufacturers and operating at different speed;
- services confirming to International Standards;
- favourable utilization of communication path;
- acceptable tariffs.



The public packet-switched data transmission service started its operation in 1989 on the basis of national development. By lifting of restrictions regarding advanced technique (COCOM List) it became possible for us to put into operation a high-capacity, in its facilities wide-ranged system between 1991-1993.
The digitalization program of the Hungarian Telecommunication Company, the packet-switched system developed by Siemens are the guarantee that the data transmission demands of remote data processing could both regarding quantity and quality be satisfied.

OUR PRESENT SERVICES

The packet-switched data network makes possible a direct connection to packet mode (X. 25) terminal equipment
at speeds of

- 2400 bps,
- 4800 bps, further
- 9600 bps.

The asynchronous terminals have access to the network
as speeds of

- 300 bps,
- 1200 bps, further
- 2400 bps.

Data transmission equipment operating on telephone network can reach the packet-switched network at speeds of

- 300 bps (with V. 21 modem) and
- 2400 bps (with V. 22 bis modem);

while the asynchronous terminals of the circuit switched data network at the speed of

- 300 bps

following the call of the so-called PAD-s. For the reaching of the transitions an identification (NUI) registration necessary.
The network renders to the directly connected subsribers the facility of multiple acces (16 logic channels at a maximum) as an extra service.

IMPROVEMENTS OF THE NEAR FUTURE

A very considerable quantitative and qualitative expansion of the packet-switched data network will take place from autumn 1991 on. In Budapest, further in another 19 cities of the country small, medium, or high capacity exchanges will be installed in conformity with the demands. The network is capable to receive from any part of the country the subscribers.
The system makes possible a direct connection for the packet mode (X. 25) terminals at a speed of

- 64 000 bps too, from local networks.

The asynchronous terminals have access to the network
at speeds of

- 4800 bps and
- 9600 bps too.

The facility is ensured also for the direct connection asper process

- BSC 3270

of the synchronous (non-packet mode) terminals at speeds of

- 2400 bps,
- 4800 bps, further
- 9600 bps.

The telephone network and circuit switched data network transitions become two-directional, i.e.

a dial-out and dial-in can also take place.

The function of the telephone network PAD-s is essentially expanded. the establishing of connection with telephone network terminals of speeds of

- 1200 bps (with V. 22 modem),
- 2400 bps (with V. 32 modem),
- 4800 bps (with V. 32 modem) and
- 9600 bps (with V. 32 modem)

of non-packet mode, further-asper recommendation

X. 32

with telephone network packet mode (X. 25) terminals of speeds of

- 2400 bps,
- 4800 bps, further
- 9600 bps

is made possible too.

The existing network transitions are expanded. The dial-out and dial-in

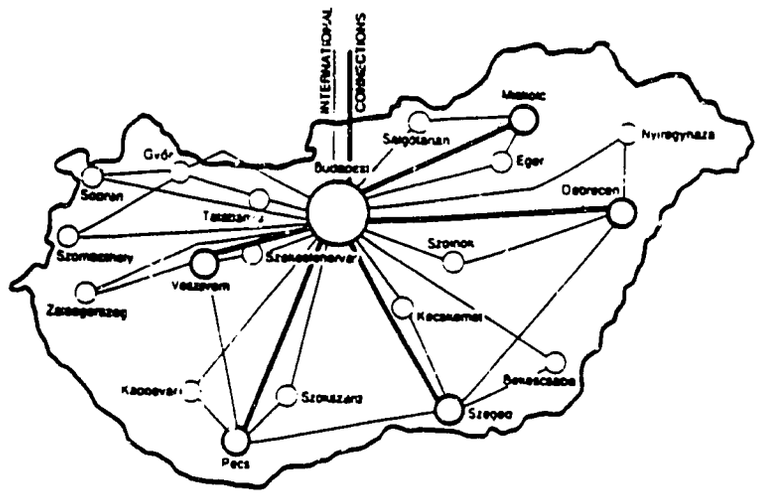
- in the telex network and
- from the telex network

become possible.

The scope of services is also considerably expanded, among others by the following elements:

- permanent virtual circuit (PVC);
- closed user group (CUG);
- call redirection;
- reverse charging;
- charging information for the subscribers;
- fast selection;
- setting-up of virtual private network.

The packet-switched data network covers the whole country



medium-speed connection
high-speed connection
exchange (NODE)

INTERNATIONAL RELATIONS

More and more companies and enterprisings establish offices or representations abroad. The foreign firms operating in our country require international relations as well.
In compliance with this – as a result of our developments – increasingly more possibilities present themselves to us to have access international data bases and electronical post office boxes etc. via DATEX-P network.

Already by now, the network is connected – directly or indirectly – with a number of European and overseas packet-switched data networks.
We are going to expand our international relations also in the future continuously.

Regarding the packet-switched data transmission service

PLEASE

Data Communications Ltd.

can supply further information.

Our address:
H-1146 Budapest XIVth, Hermina út 57–59.
Phone: +36 1 117 7262; +36 1 251 7676
Fax: +36 1 252 1363

Appendix C

Kopint-Datorg

KOPINT-DATORG

Institute for Economic, Market Research and Informatics Ltd.

Budapest, Dorottya u. 6. H-1051
Letters: Budapest, P.O.B. 133 H-1389
Telephone: (361)1186126, (361)1186722,
Telex:22-5646 Telefax: (361)1186483
Account No: 202-45588, Hungarian Creditbank Ltd.

Joining the KOPINT Institute for Economic and Market Research (founded in 1964) and the DATORG Foreign Trade Data Processing and Organizing Co. Ltd. (founded in 1968), KOPINT-DATORG was established in 1987.

MAIN ACTIVITIES

- applied economic research on world and national economy
- commodity market analyses, market studies and marketing services
- information on domestic and foreign businesses
- information on world economy and trade
- computer services
- development and sale of individual and standard software; adaptation
- consultancy on customs tariffs, taxes, investment, law, foreign trade, business management and company strategy
- trade and investment contacts, joint venture establishment
- training courses on foreign trade, marketing and computer usage
- national trade library and documentation center
- editorial and press activities
- sale of office equipments and computer

PUBLICATIONS

in foreign languages

- Business Partner Hungary - quarterly in English, French, German and Hungarian
- The New East Europe - in English and Hungarian
- Hungarian Business Brief - in English
- Economic Trends in Eastern Europe - in English, German and Hungarian

ASSOCIATED COMPANIES AND OTHER INTERESTS

AGROMARKETING Co. Ltd. 66.6%
Address: Budapest, VIII., Luther u. 6. H-1087
Phone: (361)113-7236 Fax: (361)133-6114

ARTHUR ANDERSEN AND CO. 40%
Accounting & Tax Consulting Co.Ltd.
Address: Budapest, II., Völgy u. 30. H-1021
Phone: (361) 116-7641 Fax: (361)176-2521

KOPCONSULT 64%
Foreign Trade Consulting Ltd.
Address: Budapest, V., Váci u. 17. H-1052
Phone: (361)118-2587 Fax: (361)118-2591
Telex: 22-3590

KOPÉP Co. Ltd. 50%
Marketing Agency for the Building Industry
Address: Budapest, V., Dorottya u. 6. H-1051
Phone: (361)117-1975 Fax: (361)118-6483
Telex: 22-5646

KOPI-KER Trading Ltd. 100%
Address: Budapest, V., Kálman u. 27 H-1054
Phone: (361)111-2083; 132-4392
Fax: (361)132-2544

KOPINT-DATORG 100%
Customs Consulting Ltd.
Address: Budapest, XI., Bocskai u. 9. I. 5. H-1113
Phone: (361) 182-0126 Fax: (361) 182-0126

KOPINT-DATORG 80.65%
Training Center Ltd.
Address: Budapest, XI., Villányi út 11-13. H-1114
Phone: (361)166-7399 Telex: 20-2791

Regional Business Center Ltd., Miskolc 46%
Address: Miskolc, Mszb tér 3. III.308. H-3501
Phone: (361)46 50-211 ext:148 or 149
Fax: (361)46 47-285

REPRESENTATIONS

ITALY:
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Appendix D

Europaritas

EUROPARITAS

Management Consulting Limited Company

BACKGROUND AND EXPERIENCE

BUDAPEST V. Kossuth ter 11.
Room 450/a-b.
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(Hungary)

Telephone 36-1-131-3549
Fax: 36-1-111-6878

EUROPARITAS's clients include department of the Hungarian Ministry of Agriculture, large and small scale enterprises in the Hungarian agricultural and agroprocssing sector (cooperatives, state farms, food processing and trade companies, private firsm). **EUROPARITAS** was a subcontractor of World Bank.

EUROPARITAS has a permanent team of specialists in agricultural and agroprocessing finance, marketing management, farm management, farm information systems analysis. as well as computer software design, development and implementation. To set up specific project teams, EUROPARITAS can easily contact a list of different kind of management specialists with international experience and other consultants. **EUROPARITAS** has close contacts with relevant Hungarian university, institute and research groups, which can provide expert assitance if necessary. EUROPARITAS has relations with relevant west European and American universities and business companies.

Established in 1991, **EUROPARITAS** is a privately owned company separated from MUSZI Inc. In the establishment of its basic services, **EUROPARITAS** could utilize the experience gained inthe activities started in the Ministray of Agriculture's Centre for Statistics and Economic Analyses and continued in MUSZI PARITAS during the last 10 years.

EUROPARITAS operates an office in the building of the Ministry of Agriculture.

VOROS Mihaly
managing director of **EUROPARITAS**, graduated from Budapest University of Economic Sciences as an agricultural economist, has trained in systems analysis and programming with the U.S. firm Control Data, has a PhD in agricultural informatics and attended other additional training in major west European countries as well as in the United States; he was involved in several agricultural information systems and was a government advisor in the Ministry of Agriculture's Centre for Statistics and Economic Analyses for the last 15 years; he is a consultant in agro-industrial financial management, agricultural marketing and farm management, as well as in agricultural MIS/DISS systems.

EUROPARITAS

composed of full-time and part-time experts, most of them with international experience in the following fields:

- farm management of agro-industrial companies
- management of agro-industrial companies
- agricultural marketing
- food product development and quality control

- financial analysis o agro-industrial investments
- agricultural, agro-industrial information and decision systems
- business plan preparation
- transfer of technology
- socio-economic evaluation of agro-industries
- agricultural extention development

SERVICE PROVIDED BY EUROPARITAS

PROJECT MANAGEMENT

- Assistance in agricultural and rural development project preparation, including data collection and information service.
- Organizing specific project teams for surveys and studies in Hungarian or East European agricultural, agroprocessing and rural development (marketing information, extention development, privatization, company restructuring, etc.).
- Organizing specific project teams for agricultural information system developments in Hungary or Eastern Europe.
- Developing and operating World Bank Project Monitoring and Evaluating System on microcomputer for the users in Ministry of Agriculture and commercial banks.
- Project evaluation based on Dun & Bradstreet Key Business Ratios.
- Development and adaption of project management software for planning, scheduling, control and evaluation of different kinds of projects in the agribusiness sector.

FINANCIAL MANAGEMENT

- Development and operation of PESO (Financial Analysis and Projection Service System) supporting World Bank, PHARE, and other development projects preparation and implementation.
- Conversion of Hungarian balance sheet according to World Bank requirements.
- Calculation of Dun & Bradstreet Key Business Ratios for enterprise level and for relevant agroprocessing subsectors.

- Information service on PESO-based financial analyses and projections.

STRATEGIC BUSINESS PLANNING

- Company survey and privatization program preparation.
- Elaboration of loan request materials for preparation of agricultural investment projects (identification and evaluation)
- Feasibility studies
- Market studies

INFORMATION SYSTEM MANAGEMENT

- Information systems survey
- Application software design, development and/or adaptation, implementation

EDUCATION ADN TRAINING

- Organizing of professional workshops, courses, study tours, forums
- Management training
- Marketing training
- Financial management training
- case studies
- Joint venture business forum
- Study tours, conference participation

REFERENCES

Ministry of Agriculture Dept. for World Bank Coordination

Ministry of Agriculture Dept. for Food Industry

Ministry of Agriculture Dept. for Professional Education

Ministry of Agriculture Dept. for International Affairs

Ministry of Agriculture's Centre for Statistics and Economic Analyses

National Commercial and Credit Bank, Budapest

Seed Company Ltd., Budapest

"Tapiovolgye" Agricultural Production Cooperative, Sulysap

"Szamosmenti" State Farm, Mateszalka

"EUROPALETT" Limited Company, Mende

Budapest Confectionary Co.

"HUNGAVIS" Poultry Foreign Trade Co.

Association of Poultry Producers, Budapest

Meat Products Trade Service Co., Budapest

Agricultural University, Godollo

Agricultural University's Post Graduate and Management Training Institute

Landell Mills Associates Limited Company, Bath, UK

Texas A & M University, College Station, USA

University of Minnesota, Minneapolis, USA

Oregon State University, Corvallis, USA

Aristotelian University of Thessaloniki, Greece

Appendix E

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