

UNIVERSIDAD NACIONAL
AUTONOMA DE MEXICO



CENTRO DE RECURSOS MINISIS
PARA AMERICA LATINA



CENTRO DE INFORMACION
CIENTIFICA Y HUMANISTICA

123545

Mexico City, June 23, 1993

Information Sciences and Systems Division
International Development Research Centre
Ottawa, Canada

93-4403-01

Attention: Ms. Martha Stone, Director General

Re: Report of Consulting Contract

A consulting contract (93-4403-01) was established between the International Development Research Centre and the Centro de Información Científica y Humanística at the Universidad Nacional Autónoma de México. The objectives of this consultancy as outlined in the contract are related to the self-sufficiency of the MINISIS Resource Centres. For this consultancy Enrique Barreto performed the actual work. He visited the three MINISIS Resource Centres in China, India and Egypt and made a visit to the offices of IDRC in Ottawa. Also he contributed his own comments from the MINISIS Resource Centre in Mexico City.

In this final report there is information for the six objectives outlined in the contract for each MINISIS Resource Centre visited. At the end of the final report there is also a conclusion for each of these six objectives.

Enrique Barreto
MINISIS Resource Centre Coordinator
Latin America

Final report of the consulting contract (93-4403-01) between the International Development Research Centre and the Centro de Información Científica y Humanística carried out by Enrique Barreto in May of 1993 related to the self-sufficiency of the MINISIS Resource Centres.

In this final report there is information for the six objectives outlined in the contract for each MINISIS Resource Centre visited. At the end of the final report there is also a conclusion for each of these six objectives. The MINISIS Resource Centres visited were: STIC in China, SNDT in India and ALDOC in Egypt. Also there is information from CICH in Mexico.

1. Visit to the Scien-Tech Information Centre (STIC) in Beijing, China, from 3 to 4 of May, 1993. A talk took place with Mr. Jiang Xiangdong, the Main Engineer, and Ms. Fu, Assistant Engineer. Finally, a visit to Oracle's office in Beijing was done.
 - 1.a Now there is a general change in China for Government Institutions to try to obtain their own resources. In that sense, STIC is currently in a position to increase the self-sufficiency of its MRC. They believe that this change gives STIC an opportunity to have the MRC. They do not see any constraints on their mandate to raise funds from users. STIC has experience selling information to industries that could help them in the future when trying to sell services to the MINISIS users in China. They seem to be confident to offer the necessary services to the community of MINISIS users in China but they said that if the MINISIS software is free of charge, there will be too many users in China and STIC will not be able to provide services to all of them. At this time there are three persons dedicated to the activities of the MRC but STIC has plans to have two more persons for the support of version H of MINISIS. They foresee that in two or three years there could be 1,000 to 2,000 MINISIS version H users, taken from the estimate that there are currently 1,000,000 MS-DOS based micro computers in China.
 - 1.b According to STIC, there is a public and private market for MINISIS and MINISIS applications in China. To Industries and Companies a full price for the MINISIS software and services can be charged. To Information Centres, Libraries, Research Institutions and Universities half the price or even less can be charged. Users with no financial resources can obtain a free copy of MINISIS version H initial package. There is a practice in China to sell copies of western software (pirate copies) and the attitude of computer users in general is to buy the computers and the software and not to pay for the services. These are the main reasons that could put in question the self-sufficiency of the MRC if only services are sold and software is not.

- 1.c There is CDS/ISIS for micro computers in China. Its English version is free and its Chinese version is charged to users for around 3,000 Yuans or about 520 USD. There are around 1,000 CDS/ISIS users but not all of them have purchased it since some of them have obtained pirate copies of this software. Also, there are around 10 users of a Japanese software for the automation of libraries in China running in Japanese computers and handling the Chinese Language. The main advantage of MINISIS in China is that there are not available several options of software for the automation of full text applications handling the Chinese Language. For MINISIS handling the Chinese Language represents a very good advantage. Also it is known in China that MINISIS supports very big data bases and it is fully relational when managing several data bases in an application. Also there is a feeling at STIC that the Integrated Library System will represent for MINISIS an edge when ready. An issue arose for the promotion of MINISIS in specialized literature in China, as in ads in the Chinese version of ComputerWorld, for potential users to learn the advantages of MINISIS for full text applications.
- 1.d From conversing with Mr. Xiang and visiting Oracle's Office in Beijing an impression of how this commercial software stays in the local market was obtained. In 1986 Oracle began its operations in Beijing. In 1990 they began working in Shanghai and in that same year a training center began its operations in the Beijing area. The initial price of Oracle includes software and services for one year. Training courses are charged separately. The basic course takes 10 days and is offered in Beijing. The advance course takes place only in Hong Kong. Oracle is sold in separate modules. The Oracle version for micro computers costs around 4,000 USD and is less expensive than in the U.S. according to one representative of this software. This micro version is sold through dealers in China but Oracle versions for main frames and work stations is sold directly through Oracle's office. The micro version works using the Chinese version of MS-DOS. There are more than 60 users of this software but most of them use the micro version of it. More than 20 persons work as staff for Oracle. This software is used for the development of commercial applications, as payrolls and inventories and MINISIS can be used for the automation of full text applications. Besides, MINISIS will have the advantage of its price when compared to the price of acquiring a software like Oracle.
- 1.e The MRC can obtain money selling the initial package of version H of MINISIS together with one year of services for the equivalent in Chinese currency of 500 USD. This initial package will include the software, the manuals and the self training material. All of them in their Chinese version. Services to users will be the answer to their technical questions and sending them a periodical newsletter. Outlined in point 1.b is the policy of pricing this package according to each kind of user the MRC has classified them.

Beginning the second year, users will pay the equivalent of 200 USD per year for these services. Besides, the MRC can obtain additional funds charging users for basic and advanced training courses and by developing applications to users who ask for them.

- 1.f The Chinese MRC does not have to deal with several countries and does not have the problem of receiving from abroad different kind of currencies. In China there are different regions with users with different purchasing levels. In this sense the MRC will have different pricing as outlined in point 1.b to try to balance the distribution of MINISIS to all kind of users.

Additional comments:

In China only the compiled code is necessary to have in the MRC for them to be a national distributor of MINISIS. It is not required to have the source code of MINISIS in the MRC.

2. Visit to SNDT Women's University in Bombay, India, from 7 to 8 of May, 1993. First a session took place with Mr. Matthew T. J., the Engineer in charge of the Computer Centre. Later there was a talk with Ms. Harsha Parek, the Deputy Librarian, and three librarians from SNDT Library. Finally it was a meeting with 2 potential users of MINISIS from Bombay.
 - 2.a There are several constraints for SNDT to raise funds from MINISIS users. SNDT is allowed to sell training courses and consultancies but not the software because as an University it is exempt from paying taxes to the Government. For this reason, SNDT is only allowed to recover costs and as soon as it begins to make a profit it will need to pay taxes. To cover the demand for the necessary services for version H of MINISIS they plan to have 2 more computer specialists, but for this there is a problem. In India, people pursuing a job expect to find a permanent one and SNDT is not in a position to offer a permanent job for these two computer specialists working for the MRC, only temporary positions. To solve this problem SNDT is planning to hire temporarily two new undergraduates to fill these two positions, knowing that sooner or later they will look for another job and if this happens, this cycle should start again. SNDT foresees that in three years its MRC could be from 30% to 40% self sufficient.
 - 2.b From SNDT's point of view, there is a public market for MINISIS mainly from academic institutions but for them it is difficult to say the potential of the private market. When distributing MINISIS to academic and other public users, given SNDT's restriction to sell software, they can handle this situation as donations. Also, at this moment there is not a way for them to sell MINISIS

to private users, although there could be two situations to solve this problem. Firstly, SNTD could create a commercial company to handle the selling of MINISIS to private users. As an alternative solution, in India it is beginning a new relationship between Universities and Industries and SNTD could explore this way to see if it is the solution to sell MINISIS to private users. On the other hand, SNTD perceives that the price of training courses to users from academic institutions should be low because these institutions usually do not have enough financial resources.

- 2.c There are several packages of software in India for the automation of full text applications. Most of them are oriented to run in micro computers but some of them also run in main frames. Some, even have all the modules needed to automate a whole application similar to the Integrated Library System. In India the handling of a special Language is not a restriction because English is the Language that prevails but Foreign DBMS for automation of libraries are very expensive for the Indian institutions. Some examples of Indian made software are SLIM and LIBSYS. SLIM is a software that runs in micro computers and LIBSYS runs both in micro computers and in main frames. LIBSYS costs around 40,000 rupees for a single user in a micro computer and approximately 140,000 rupees for a main frame. CDS/ISIS is also available in India but its support is almost unexistent. Its support mainly is done by user's groups in the main cities of India. CDS/ISIS is distributed by the Ministry of Science and Technology. To strongly support the dissemination of MINISIS version H in India it is suggested that a marketing and promotion campaign take place. Another good point for the future success of MINISIS in India is going to be the Integrated Library System. The MRC point of view is that because already in India there are some software packages that offer something similar to the ILS, without it MINISIS is going to be out of the competition. The ILS is a must for the MRC in India, according to them.
- 2.d Oracle, Ingres, Informix and Unifile are available in India for Micro computers and main frames. The market for this kind of software is developing. Hardware is still a problem to obtain in India but software is not. For main frames Informix is around 350,000 rupees and Oracle around 1,000,000 rupees. Oracle for micro computers is from 15,000 to 20,000 rupees for a single machine and from 25,000 to 30,000 rupees for a LAN version. These are commercial prices and Educational Institutions can have a 10% discount. There are more than 250 main frame users of Oracle. Training courses of Oracle take from 3 to 5 days to accomplish and cost from 2,000 to 4,000 rupees. There are training facilities of Oracle in the main cities of India. Ingres costs 300,000 rupees for 1 to 8 users under a LAN using SCOUNIX and 1,000,000 rupees for a RISC computer. The MRC contemplates a place for MINISIS in India for the automation of full text applications because commercial software packages do not cover this kind of applications.

- 2.e The opinion of this MRC is that the initial bundle of MINISIS version H should include the software, manual, workbook, training course for 2 persons, membership to the local MUG, subscription to the newsletter for three years, fixes to the software for three years and trouble shooting for three years. The price of this bundle should be around 9,000 rupees and if an institution should want to send another trainee it will cost 2,000 additional rupees. These prices are for Educational organizations with some financial resources. For users with scarce financial resources the price of the initial bundle will be 5,000 rupees, just enough to recover the expenses. The opinion of the MRC is that all of the users should pay something because in this way there will be a compromise from them to use the software. It is better to have a few users with quality than to have a lot of users frustrated with the software. For Private institutions, if it is going to be possible to support them, the price of the initial bundle should be 12,000 rupees. The main source of resources will be the training courses and money coming from the development of applications to users is seen as an exception.
- 2.f The MRC in Bombay does not have to deal with several countries and does not have the problem of receiving from abroad different kind of currencies. Besides they perceive the whole country of India in a similar economical situation.

Additional comments:

There are no legal requirements for an Indian software distributor to have the source code of the package that is sold in India but a legal license for distribution of software is required and SNDT needs to check this situation to distribute and sell version H of MINISIS.

SNDT wants to know if a contract of MINISIS is going to be held between the user and SNDT or between the user and IDRC. Also they want to know who is going to maintain these licenses. The question of who is going to duplicate the software also arose.

SNDT has the opinion that if IDRC wants the MINISIS software to be free to users then IDRC needs to finance the MRCs to produce and send the packages of the software to users.

3. Visit to the Arab League Documentation and Information Centre (ALDOC) in Cairo, Egypt, from 10 to 12 of May, 1993. First an introductory meeting with Dr. Saoud Abdelaziz Zebidi, Head of ALDOC, took place. Later, talks with officers Jaafar and Gasmi were carried out.

- 3.a Already there is a practice in ALDOC to charge non filial organizations to the Arab League (AL) for MINISIS courses and special consultancies. These non filial organizations are from the public sector in the Arab Countries. By mandate ALDOC does not deal with private organizations and does not have experience selling the software and services to this kind of organizations although there are some private users of MINISIS in two Gulf countries. Right now there are 3 engineers taking care of MINISIS and CDS/ISIS in ALDOC and they are planning to have 2 more engineers to deal with the extra demand for services that version H of MINISIS will have.
- 3.b According to ALDOC, there will be a big demand for MINISIS version H from public users, especially for its LAN version. About the demand from private users, ALDOC already knows that most of this demand will come from the Gulf countries. To deal with public users, ALDOC wants to offer free of charge the initial package of version H of MINISIS to all public organizations in the Arab Countries and even to offer free the trouble shooting requests when the answer to them are done by phone or fax. ALDOC wants to charge the non filial organizations to the AL for courses, special consultancies and the design of applications. Organizations filial to the AL will pay only for the traveling and accommodation of ALDOC specialists because that is part of an agreement that already is in place. Two considerations were thought to deal with private users. First, already there are some private users in the Gulf countries and the suggestion is that IDRC continues selling MINISIS to them as in the past. The second solution could be that ALDOC could try to obtain the AL council authorization to sell MINISIS and make a profit from it.
- 3.c ALDOC has an agreement with UNESCO to distribute and support CDS/ISIS. ALDOC developed the Arabic Language interface for CDS/ISIS. There are several users of CDS/ISIS in the region but the feeling is that MINISIS version H will be a better software for the automation of full text applications. The policy to distribute and support CDS/ISIS is similar to the one used for MINISIS. Also there are some commercial software packages in the region. STAIRS is from the U.S. and runs in an IBM main frame. DOBUS LOBUS is from Germany and MISTRAL is from France. There are only a few users running these software packages. The advantage of MINISIS is the handling of the Arabic Language that puts it apart from the competition. Also, ALDOC estimates that the Integrated Library System will represent a true advantage for Version H of MINISIS.
- 3.d Oracle running in UNIX has access to an Arabic Language handler but ALDOC does not have an idea of how many users in the Arab countries exist. Also, they have no idea concerning prices, policies and services the dealers offer to users of this software. It is not clear how to compare MINISIS with Oracle.

3.e ALDOC already has a practice to charge users 150 USD per working day. If a course takes 5 days the total charge is 750 USD. If a consultancy takes 3 days they charge 150 USD for it. ALDOC can make money from courses, consultancies and the development of applications to non filial organizations to the AL. For private users ALDOC suggests to charge them for the software from 12,000 to 50,000 CAD depending the configuration of MINISIS. Also it will be a maintenance fee to private users from 3,000 to 8,000 CAD per year. There is the idea that all users should pay something for the services, for instance, in poor countries of the region users could pay only for the local accommodation of the trainers.

3.f ALDOC is a regional organization for the Arab countries and no problem exists to deal with organizations in these countries because by mandate ALDOC can do it. There is still the matter of trying secure money in hard currencies from countries like Syria, Irak and Algeria and because of it consultancies to organizations inside these countries are not easy. UNESCO has solved this problem with UNESCO tickets that users buy in their countries at UNESCO offices paid with national currencies. For the distribution of MINISIS there is not a problem because in AL headquarters there are representatives of all the Arab countries that use diplomatic ways to send MINISIS to each country. To balance the situation in the region, money collected from users with financial resources can be used to attend users with scarce resources that could pay only part of the expenses. Also, money from users who buy MINISIS in the Gulf countries can go to the MRC to finance its operations.

Additional comments:

It is a suggestion that before the final release of version H of MINISIS a meeting of MRCs should take place to discuss two points. The first issue will be to decide new policies for the distribution and dissemination of MINISIS that could take two days. The second issue will be a technical workshop to cover the conversion from version G that could take three days.

Also there is the suggestion to have a protection for the software to avoid an uncontrolled copying of it.

4. Opinions from the Information Centre for the Humanities and Science (CICH), at the National University (UNAM) in Mexico City, Mexico.

4.a At CICH it is possible to have projects to raise funds. For the past 4 years the UNAM has encouraged Faculties, Research Units and Service Centres to search for projects to increase the flow of income since the main budget has

not been increased enough by the Central Mexican Government to match the expenditures for the whole University. CICH has broad experience in generating income. Information from International data bases and from its own produced data bases is sold to users using different prices depending the type of user. Special MINISIS and CDS/ISIS courses and consultancies have been developed and charged for users who have asked for them. Other kind of projects related to Information Science have been handled by CICH that have retributed revenues. To offer the necessary services related to MINISIS, CICH has the installations and equipment, but there is a salary problem to keep staff. Computer specialists in Mexico are in great demand and outside CICH they are paid higher salaries. To keep them working at CICH for MINISIS their salaries should be close enough to what these are at commercial organizations.

- 4.b In Latin America there is a demand from public users to have software tools to automate their full text applications. For the private market, the MRC has detected some demand but it is not very clear how many users from this part of the whole market could it be. CICH can sell the software and services related to MINISIS as courses and an annual maintenance fee to private users. To disseminate MINISIS to public users the software, its documentation and a training material can be free of charge but courses, consultancies and trouble shooting can be sold. For private users the price of services can be greater than to public users. In the case of services to public users there could be different prices according to their financial situation. The range of prices for public users could be from recovering costs plus a profit to just recovering costs. The recovering of costs includes costs of materials and payment of salaries and traveling if any.
- 4.c In Latin America there are available several packages of software similar to MINISIS. Free of charge there is CDS/ISIS in all Latin American countries with great number of users. In Mexico there is one package free of charge that runs in micro computers called SIABUC developed by the Universidad de Colima and that currently has several users. Also in Mexico there is a commercial package that runs in micro computers called LOGICAT that is used by some users. All of these three packages have their limitations when tried to be used with applications that have more than 10,000 records. There are also commercial packages in the region for mini computers and main frames. At this time there is known to be some users that have three American packages: NOTIS, Star and Dynix. The last two packages run in UNIX and cost around 100,000 USD. Dynix is known to have all modules similar to the ILS. The handling of characters in Latin America is not a problem and MINISIS could be one tool to benefit the local information community providing that it is up to date with the latest technology in hardware and operating systems. Users expect that the speed and volume of

their applications should be of a reasonable response and size. Also, MINISIS should have all the necessary modules to fully automate a library as it is going to be the case of the ILS. The documentation of the software and the material to learn how to use it should be clear and in an adequate quantity and quality. Also, users would like to have a way to develop their own applications when necessary. Courses, trouble shooting and the development of applications are considered to be essential to users. A promotion campaign in Latin America is seen as a good point to boost the demand of MINISIS in the region.

- 4.d Oracle, Ingres and Informix are very popular in Mexico and other countries in Latin America. Oracle in Mexico costs 29,040 USD for a Microvax version configured for 12 development users and 26,400 USD for a Novell version configured for 16 development users. CICH gets a 50 % discount from these prices but must to pay an annual technical support fee of 2,200 USD in the first case and 2,400 USD in the second case. All modules of Oracle are included in these prices. Oracle, Ingres and Informix offer courses and the development of applications for its users. A public University in Mexico, user of MINISIS, has developed using Oracle an application for the automation of its library. This application is known to lack a good design because its designers are very young and with no experience in the development of this kind of applications. Another public University, user of MINISIS also, in Mexico has developed using Informix an application to automate its library but it is no knowledge of its performance. A third public University in Mexico has developed using Informix an application to automate its library but comments from specialists that have seen this application are not favorable. Currently, some potential users of full text applications in Mexico who have seen these in-house applications are reluctant to try themselves this path and are either hoping to have the budget to buy an specialized package or waiting until MINISIS version H is released. Because the automation of full text applications is very specialized, MINISIS can fill a need for institutions having these kind of problems.
- 4.e Introductory and advance version H MINISIS courses can last 1 week, each one of a duration of 40 hours. Each course can cost 500 New Mexican Pesos (NMXP) per student and it is projected to have 200 new version H MINISIS users per year during the first 3 years of this software. For consultancies and the development of applications an amount of 500 NMXP per day can be charged to users who ask for these services. For public users from educational and research and development institutions, an optional one year fee of 2,000 USD for trouble shooting can be charged. For private users MINISIS can be sold in 40,000 USD and one year maintenance fee of 4,000 USD can be charged. MINISIS can be free of charge for users from educational and research and development institutions.

- 4.f Support for MINISIS in the region can be done using several trainers in different countries besides de ones in the MRC at CICH. Already there are two MINISIS trainers in the region outside CICH. One is in a University in El Salvador and the other one is in an Information Center in Brazil. It is expected to identify more trainers in other countries due to the increase of demand for version H of MINISIS. Commercialization for MINISIS in the region can be done directly from CICH in Mexico City. CICH already has experience selling several information products to institutions in Latin American countries. Checks and money orders in US dollars are sent to CICH from different countries in Latin America. It could be that from the poorer countries in the region is difficult to send checks in US dollars abroad but this difficulty is due more to the lack of financial funds than to regulations. Financial resources collected from users in countries with better economies can be used to finance MINISIS courses and support to users in countries with lesser economies. There is not a problem to send MINISIS software from Mexico to users in other Latin American countries. Currently, when users obtain MINISIS free of charge it is handled as a donation and it is not necessary to pay taxes. In the future, when MINISIS is sold to private users in Latin America, taxes will need to be paid.

Additional comments:

Only the compiled version of MINISIS is necessary in Mexico for CICH to be a distributor of software.

Conclusions

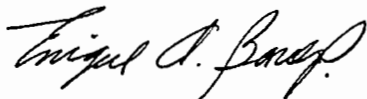
- a. There are some differences among the views from the four MRCs interviewed concerning the constraints they face in the context of their self-sufficiency. The main difference is that two of them (STIC and CICH) are allowed to raise funds from private users and the other two (SNDT and ALDOC) have by mandate some limitations in this sense but are eager to try to find a solution for this situation. Three of these MRCs (STIC, ALDOC and CICH) already have experience selling some courses, consultancies or other services. Also there are some similarities. All of them agreed to be able to raise funds from public users and are willing to expand their staff to attend the increase of services expected for version H of MINISIS. For two MRC there is a problem to hire computer specialists to support MINISIS because in one case (SNDT) it is not possible to offer permanent positions and in the second case (CICH) salaries are lower at the MRC than in the job market.
- b. All the 4 MRCs coincide that there is a public market of MINISIS in their regions and that it is going to grow due to the release of version H of

MINISIS for LANs. For the private market it is not very clear how it is going to be for three MRCs (SNDT, ALDOC and CICH). STIC has the idea to sell even the software to public users with financial funds but offer it free to public users with no financial funds. SNDT wants to sell a MINISIS initial package to each public user. This package will include a MINISIS course for two trainees, trouble shooting for three years, a newsletter and fixes. The software will be free of charge for public users in three MRCs (SNDT, ALDOC and CICH). ALDOC has the idea to charge only MINISIS courses and consultancies but not for the trouble shooting. CICH has a similar idea than ALDOC but also wants to offer as an option and charge for it, the trouble shooting.

- c. It is clear that MINISIS has the advantage in China and in the Arab Countries of handling the local languages because not many options are available to users to automate their full text applications. In India and in Latin America there are several options available for the automation of full text applications because handling Roman characters is not a problem. Still, the high cost to obtain these software packages remains to be the main problem for public users in universities and in research and development institutions in these two regions. A promotion campaign of MINISIS is suggested to take place in the regions of three MRCs (STIC, SNDT and CICH). The impression in the four MRCs is that the ILS is going to boost the demand of MINISIS but especially in India and in Latin America. The LAN version of MINISIS will mean for the four MRCs an increase of demand of the software. In all four MRCs there are some users asking for a UNIX version of MINISIS and it is expected that in the future there will be more users for this operating system.
- d. In three MRCs (STIC, SNDT and CICH) it was possible to determine the existence of commercial DBMS such as Oracle and Informix. First, prices in local markets are expensive for public users although vendors offer courses and technical support to users. These vendors perceive their markets as growing but MINISIS has the advantage of being oriented to the automation of full text applications that commercial DBMS do not cover very well as demonstrated by some users in Mexico who have developed their own applications using commercial DBMS. Courses, trouble shooting and technical consultancies are thought to be essential to benefit the information communities in the 4 regions.
- e. Each MRC has its own ideas about possible charges that can be made for MINISIS support services for public and private users. Also prices are different for the MINISIS software in each region for private users. It is clear that each MRC fixes these prices according to their own regional context.
- f. Only two of the four MRCs visited have to deal with different countries

(ALDOC and CICH). The impression is that STIC perceives different economic regions in China especially the South as to have more users considered to be treated as private users and the rest of the country to have more users to be treated as public users. SNDT perceives India as to be one region with no economic differences. ALDOC will try to use money collected from users with more financial funds to assist MINISIS users with scarce monetary resources. The same will be applied in the case for Latin America. ALDOC sees some problems to send money abroad for a few countries in the region and CICH does not see problems for this given that now there is a trend to open the national economies in Latin America.

As viewed by the author of this consultancy, the MRCs will be faced with a new way to deal with MINISIS matters as it used to in the past and currently. The MRCs seem to be optimistic to face their self sufficiency. Nevertheless, The MRCs perceive their self sufficiency as a new path and in that sense it is possible that they are not ready to face it suddenly in a 100 % scale but that it need to be approached in a step by step process. This means that it could take some years from now to see that the MRCs are fully self sufficient.



Enrique Barreto
Mexico City, June 23, 1993