IFDC

Volume 11, No. 2
June 1986

ISSN 0149-3434

Report

an update on the work & progress at the International Fertilizer Development Center

Headquarters—

Nationals Design Blueprint for Africa's Agricultural Future

In the closing address of the African Workshop on Fertilizer Sector Development held at Headquarters during June 16-27, IFDC's Managing Director Dr. Donald L. McCune, reflected on the past year's famine in Africa.

"I knew quite well that had fertilizers been playing their rightful role that many who died as well as those who suffered so much need not have done so," McCune said.

The Director asked for the assistance of the African delegates in charting a new course for Africa's agricultural future. "Now let us all commit and dedicate ourselves to start doing all in our power to not let famine happen again because of a lack of the proper use of fertilizers," he said.

Twenty-one senior-level administrators from 18 African countries participated in the workshop, the goal of which was to formulate action guidelines for improving the cost effectiveness of the various components of the national fertilizer sectors.

The workshop, supported by the United Nations Development Programme, addressed several issues. Among them were strategies for improving the effectiveness of yield- increasing technology transfer to farmers; research involving farmers in problem identification and solution development; and components of a successful fertilizer program integrating research, extension, and marketing.

One of the delegates, Henry Ogola, President of MEA, Ltd., of Nakuru, Kenya, found the information on private-sector fertilizer marketing of particular interest. "USAID has emphasized the need for the private-sector approach in fertilizer marketing," Ogola says. "It is of great interest to me to see IFDC not only advocating the same approach but also outlining the means of accomplishing it."

During the workshop various constraints to fertilizer marketing such as low margins, transportation, and financing, were highlighted, and serious attempts were made to find solutions. It was recognized during the workshop that a marketing system must be cost-effective; in other words, a system must adequately remunerate those involved in performing various services to supply fertilizer to farmers.

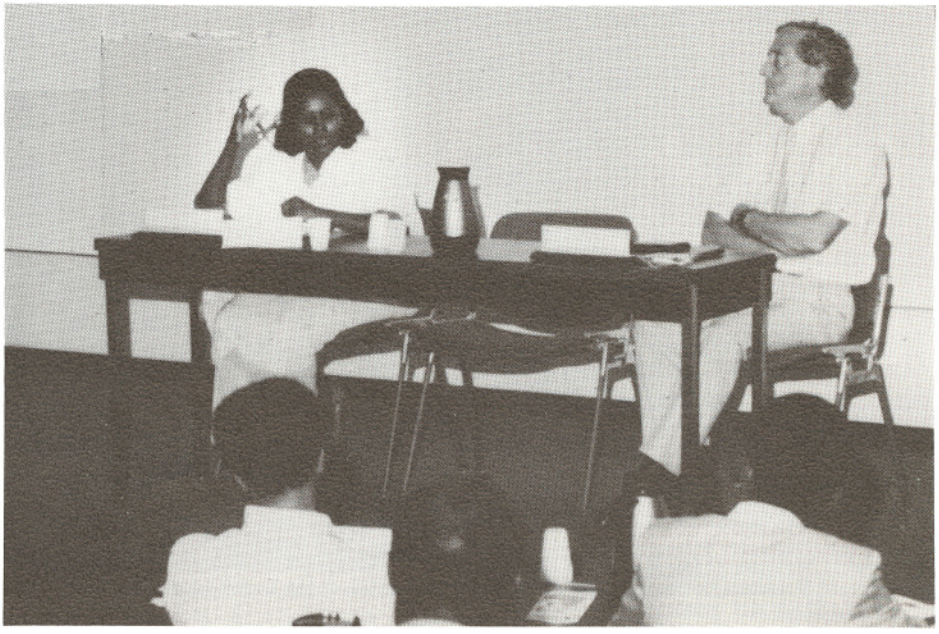
The delegates also identified those problems that prevent the efficient use of fertilizer by farmers such as the high cost of marketing and inadequate information on use. They arrived at specific recommendations to overcome these problems by developing a marketing system that integrates fertilizer marketing, research, and extension.

For Ogola the highlight of the program was the opportunity of meeting delegates from so many countries, discussing with them the various constraints identified during the workshop, and deriving tangible recommendations on how to solve those problems.

The Sudanese delegate Miss Faiza Mirghani Mohamed Ali, Agricultural Economist, Ministry of Finance and Economic Planning, was grateful for the chance to participate in the Workshop and gained many useful ideas that she plans to put into action in her job.

In an interview at the Workshop's conclusion, Miss Ali summarized the constraints that exist in the Sudan fertilizer sector. "The main constraint that we face is getting fertilizer when it is needed," she said. "The Government does not subsidize fertilizer; therefore, the farmer has trouble in getting fertilizer. In fact, fertilizer is not even used in the rainfed areas—the main areas of food production."

The results of the Workshop will find a practical application in Sudan since that country is presently conducting a study on agricultural inputs. "When I return to



The Sudanese delegate to the African Workshop, Miss Faiza Mirghani Mohamed Ali, makes a farewell speech at the conclusion of the Workshop (Dr. Dennis H. Parish, Director of the IFDC Outreach Division, is seated on the right).

my country, we will implement the Workshop recommendations by making them the main part of the inputs study."

Miss Ali gained other ideas on ways to improve fertilizer marketing in her country. "We need to centralize the agencies that procure fertilizer and control the quality and type of fertilizer that is acquired. A coordinating unit needs to be established between all government agencies to estimate the specific demand for fertilizer."

"When I return I plan to recommend that the extension institutions be coordinated with the research organizations. We must initiate a program for educating our farmers on the proper use of fertilizers and their benefits," Miss Ali said.

An interesting sidelight to the program was provided by a 2-day field tour of the southern United States. The first visit was to a profitable catfish farm in Corinth, Mississippi. The next was a visit with an extension agent in Marion, Arkansas, where the extension programs that are offered to farmers were discussed. The third and fourth stops were at the University of Tennessee experiment stations at Milan and Jackson, Tennessee. At Milan the highlight of the tour was the rain simulation research; the delegates observed that four inches of water per hour produced practically no erosion or loss of soil. At Jackson, Tennessee, experiments on no-tillage crops were inspected, and the potential application for African crops was discussed.

In addition to IFDC core staff participation, several internationally renowned agricultural experts contributed to the success of the Workshop either by addressing the delegates, chairing various sessions, or participating in the discussions. Among them was Dr. William K. Gamble, former Director General of the International Service for National Agricultural Research, who gave the keynote address. Others included Dr. William T. Mashler, former Senior Director of the Division for Global and Interregional Projects, United Nations Development Programme; Claude Joly, Regional Leader, Fertiliser Programme for Africa, Food and Agriculture Organization of the United Nations; Dr. P.F.J. Van Burg, Director, NMI Zoutmanstraaf, Netherlands; Dr. George W. Cooke, Consultant, Rothamsted Experimental Station, England; Dr. Pratap Narayan, Executive Director, The Fertiliser Association of India; S. Venkataraman, Division Chief, Industry Department, the World Bank; G. Ramaswamy, Transcontinental Fertilizer Co.; Lewis Sullivan, former Market Development Director, Agrico Chemical Company; and Alieu M. Salleh and Dr. Hussien Idris of the UNDP Africa Bureau.■

Headquarters—

Bangladesh Project Gets Added Boost

On a recent visit to IFDC, the Chairman of the Bangladesh Agricultural Development Corporation (BADC), Col. (Retired) Syed Ali Ansar, praised the technical assistance project that IFDC has been conducting since 1979 in cooperation with his organization.

"The project has done much to help us as we strive to provide the Bangladesh farmer with a fertilizer that he can afford on a timely basis," Col. Ansar says.

The purpose of Col. Ansar's visit was to finalize an agreement with IFDC extending the project through 1986. The overall objective of the consultancy services program is to assist BADC in relaxing or removing the marketing and distribution constraints to increased, efficient, and equitable use of fertilizer in the most expeditious and cost- effective manner. The purpose of phase VI of the contract, which is to be completed by December 1986, is to further refine and institutionalize the improvements made in the privatized new marketing system.

Dr. Donald L. McCune, IFDC Managing Director, and Col. Syed Ali Ansar, Chairman, Bangladesh Agricultural Development Corporation, mark the continuation of the technical assistance project with a handshake.

BADC is doing its share to create a brighter future for Bangladesh. It is improving the distribution of fertilizer so that the farmer gets the type of product he needs at the right time, in the proper quantity, and at the right price.

Looking toward the future of his country, Col. Ansar had this to say, "If we can control the population, the future looks bright. Our country is quite rich in natural resources, and in time self-sufficiency will come. But, if we do not control the population (presently about 100 million), the reverse will be true."

Col. Ansar's BADC is doing its share to create a brighter future for Bangladesh. It is improving the distribution of fertilizer so that the farmer gets the type of product he needs at the right time, in the proper quantity, and at the right price.■

Cameroon—

Fertilizer Sector Study Conducted

At the request of the Government of the Republic of Cameroon, the U.S. Agency for International Development commissioned IFDC recently to conduct a fertilizer sector study in Cameroon. To determine the most appropriate strategy for operating the fertilizer sector, this study covered three interlinked areas: fertilizer use, marketing, and supply.

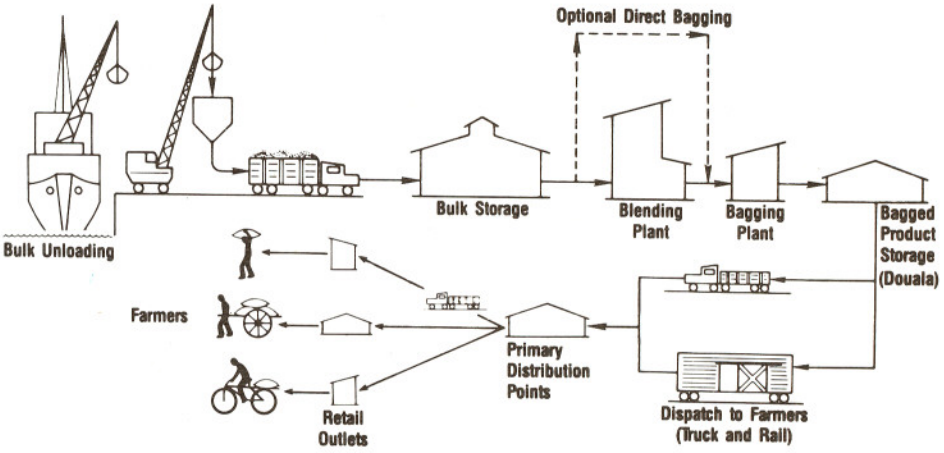
A study team composed of Dr. Dennis H. Parish, Director, Outreach Division; Dr. Victor L. Sheldon, Marketing Specialist; L. B. Williams, Regional Coordinator—Africa; G. T. Harris, Economist; Pierre Rosseau, Tropical Agronomist; N. D. Le, Chemical Engineer; and J. J. Schultz, Engineering Coordinator, visited Cameroon to evaluate the present system and to propose any improvements.

The objective of the use component of the study was to determine the most appropriate types and quantities of fertilizer needed for principal crops on the basis of agronomic and economic criteria.

The marketing aspect concentrated on the amount and kind of fertilizers being consumed, the physical distribution methods used, the farmer educational system, pricing methods, and fertilizer subsidy. The IFDC staff determined the cost of fertilizers delivered to farmers and identified constraints to use.

As for fertilizer supply, that study group focused on the evaluation of the production economics of five alternative production schemes. These schemes include (1) the domestic production of urea and diammonium phosphate (DAP) based on locally available natural gas feedstock and imported phosphoric acid, (2) world-scale urea and small DAP plants, (3) importation of finished bagged products, (4) importation of finished products in bulk with local bagging, and (5) bulk blending of compound fertilizers using imported raw materials.

Recommended Completely Integrated Fertilizer Supply and Distribution System



Cameroon workers harvest beans.

The study team proposed an integrated marketing and supply system for the subsidized fertilizer sector to overcome existing fertilizer sector constraints. The system would transfer the management of the subsidized fertilizer sector gradually to separate self-supporting commercial organizations; establish a fully integrated marketing system, which features the establishment of 350-500 independent retailers; provide a strong educational program in crop production for farmers; and establish an efficient management system. During the 5-phase startup period when 326,000 tons of fertilizer would be managed, the sector system would allow savings in procurement, bagging in Cameroon, and bulk blending as well as cost reductions in marketing. It also provides for savings to the Government of Cameroon from a subsidy reduction.

The Ministry of Agriculture cannot solve the fertilizer sector problems by itself. The recommended strategy calls for the establishment of government-wide policies relative to (1) continued soil fertility research, (2) fertilizer subsidy reduction, (3) food crop production emphasis, (4) improved marketing system for food crops, (5) the nature of the separate self-sustaining fertilizer sector organization, (6) rural road construction priorities, and (7) the commitment of adequate foreign exchange to purchase sufficient fertilizers to meet the farmers' needs.■

Headquarters—

UNDP Mission Evaluates Research and Training Components

An evaluation mission appointed by the United Nations Development Programme to assess the progress of a global project on research and training in fertilizer technology and use visited Headquarters during June 21-30, 1986.

The mission members included Dr. G. W. Cooke, Honorary Scientist at Rothamsted Experimental Station, Harpenden, United Kingdom (Team Leader); Dr. P.F.J. Van Burg, Director, Netherlands Fertilizer Institute, the Hague, the Netherlands; and Dr. Pratap Narayan, Executive Director, the Fertiliser Association of India.

UNDP has supported IFDC's global project since 1979. In addition to evaluating the current status of the project, the mission made recommendations on the future of the project.

According to the group's report, "The Mission is very impressed with the excellent progress made by IFDC in fulfilling the objectives of the project."

The main objectives have been (1) research to improve the efficiency of nitrogen fertilizers and (2) training of those who are involved in the production, marketing, and distribution of fertilizers in extending the results of research to ensure their efficient use on farms.

As for the nitrogen research portion of the project, the Mission stated, "The research, which IFDC has done, and its practical application has provided several major contributions to the solution of this problem."

The mechanisms of nitrogen loss have been thoroughly investigated by research in laboratories and greenhouses at Headquarters and also in collaborative field experiments at the International Crops Research Institute for the Semi-Arid Tropics in India and the International Center for Agricultural Research in the Dry Areas in Syria.

UNDP Evaluation Mission members put the finishing touches on their report. Shown from left, they are Dr. Pratap Narayan of the Fertiliser Association of India; Dr. George Cooke of the Rothamsted Experimental Station (U.K.); and Dr. P.F.J. Van Burg of the Netherlands Fertilizer Institute.

"All of the experimental work done has confirmed the great importance of using nitrogen fertilizers to increase crop yields in developing countries, notably maize, sorghum, millet, wheat, and barley," the Mission said. "The experiments have emphasized the importance of fitting the form of nitrogen fertilizer used to the type of soil, and the method and timing of the applications to the rainfall and/or irrigation practices, as well as to the cropping systems used.

The Mission emphasized "its respect for the high quality and worldwide importance of the research and training activities conducted by IFDC.

Turning next to the training component, the Mission stated that it was "very impressed by the wide range and effectiveness of the training program which IFDC has developed."

From 1982 to 1987, 55 programs on general topics and 51 programs on specialized topics will have been held. Altogether, 1,716 participants will have received training, and they will have come from 81 countries in Africa, Asia and Latin America.

The Mission recommended that UNDP support the program for a further period of 5 years beyond 1987. "This is justified because there is a need to extend the investigations. . .to other regions and climates, and particularly to widen the work in Africa. In addition, the work in regions where collaborative research is established should be strengthened by further work on cropping systems and fertilizer management."

In conclusion the Mission emphasized "its respect for the high quality and worldwide importance of the research and training activities conducted by IFDC....a continuation and even an increase of the support is fully justified as we are certain that this will lead to the extended and more efficient use of fertilizers, and, therefore, to increased food production in developing countries." ■

Anaheim, California (U.S.A.)—

IFDC Managing Director Receives U.S. Public Service Award

Dr. Donald L. McCune (third from left) receives congratulations from NFDC's Manager, John T. Shields (right), on receiving the U.S. Public Service Award. Adding their congratulations are Charles H. Davis, Assistant Manager of NFDC, and Mrs. Marjorie R. Brashier, IFDC Administrative Director. Mrs. Brashier holds the Steuben crystal bowl, which McCune was presented at the award ceremony.

Dr. Donald L. McCune, Managing Director of IFDC received one of five 1986 U.S. Public Service Awards presented in Anaheim, California, on April 13.

The awards conferred by the American Society for Public Administration (ASPA) and the National Academy of Public Administration are presented annually to about five people who have exhibited the "highest standards of excellence, dedication, and accomplishment." This year 149 people were nominated for the award. McCune was nominated jointly by the National Fertilizer Development Center (NFDC) of the Tennessee Valley Authority (TVA), his former employer, and IFDC staff.

In a statement, ASPA said, "McCune has been a driving force in encouraging increased fertilizer use, developing more efficient fertilizers, and introducing new fertilizer processes. His leadership, technical expertise, and dedication have contributed to increased food and fiber production in the United States and around the world."

Educated as an agronomist and plant physiologist at Ohio State and Purdue universities, McCune began his international career in Chile with the Rockefeller Foundation. His work there led to the development of two major experiment stations and the development of competent staff to operate them.

Gaining international recognition for his work in Chile, McCune joined NFDC/TVA first as Assistant Director of the Center's agricultural programs and later as Director of its international fertilizer programs.

In 1974 the U.S. Secretary of State proposed to the United Nations that an International Fertilizer Development Center be established to help solve the food production problems of the developing world. McCune was selected to develop and direct the Center. Under his guidance, the Center has helped serve the fertilizer needs of more than 60 countries around the world. Since its inception the Center has trained over 2,700 people from more than 100 countries in fertilizer production, marketing, and use.

In directing the IFDC mission of reducing world hunger by developing improved fertilizers and fertilizer practices, McCune has been on short-term work assignments in more than 30 developing countries. ■

Headquarters—

Outreach Division Director Receives FAO Medal

On the occasion of the 25th anniversary of the Fertiliser Programme of the Food and Agriculture Organization of the United Nations (FAO), Dr. Dennis H. Parish, Director of the Outreach Division, recently received a commemorative medal in recognition of his work as FAO Regional Leader for Africa and Asia.

The present FAO Regional Leader for Africa, Claude Joly, on a visit to IFDC, presented the medal to Parish.

The objective of the FAO Fertiliser Programme, which began in 1960/61, is to "improve crop production and farmers' incomes through the efficient use of fertilizers." FAO attaches the greatest importance to the Fertiliser Programme because a more productive agriculture is the only way to meet the growing food requirements of the world population.

The recipient of a Ph.D. degree in agronomy from Queens University in Belfast, Ireland, Parish has an extensive background in agricultural research and extension. He has approximately 20 years' experience in the management of research programs involving a multidisciplinary team of scientists.

In his present position at IFDC, he administers and supervises a team of fertilizer experts on technical assistance projects, fertilizer sector studies, field research programs, and human resource development programs.

Prior to joining IFDC, Parish supervised the FAO fertilizer programs in Africa and Asia. In these capacities, he developed and initiated new projects related to the expansion of the fertilizer programs within the regions.

Parish's resume outlines a broad background, including such positions as Professor and Chairman of the Department of Soil Science and Agricultural Chemistry at Makerere University in Uganda; Chief Chemist, Sugar Research Institute, Mauritius; and Scientific Officer-Lecturer, Belfast University, Ireland.■

Dr. Dennis H. Parish, Director, IFDC Outreach Division, receives a commemorative medal from Claude Joly, Regional Leader, Fertiliser Programme—Africa, Food and Agriculture Organization of the United Nations. The medal was in recognition of Parish's work as FAO Regional Leader for Africa and Asia. The occasion of the award was the 25th anniversary of the FAO Fertiliser Programme.

Headquarters—

Research Geneticist Addresses Century Club Banquet

"World Hunger and the Green Revolution" was the subject of the keynote speaker for the IFDC Century Club's eighth annual banquet recently. This year's speaker was Dr. Glenn Burton, Research Geneticist with the Agricultural Research Service of the U.S. Department of Agriculture in Georgia.

The Century Club, composed of community leaders and IFDC staff, is an organization that serves as a link between IFDC and the adjoining communities.

Along with his associates, Burton has developed some 39 improved forage and turf grass varieties. He is also credited with creating new varieties of millet and sorghum (the basic food crops for millions of people in Africa and Asia) and forage grasses for animals.

In his address Burton illustrated the impact of the Green Revolution on U.S. agriculture. " In the 40 years from 1940 to 1980, the Green Revolution increased the production of 18 of our most important crops by 142% using only 3% more land," he said.

According to Burton the developing countries have increased food production by 2.7% per year during the past 10 years. He predicts that during the next 5 years, those countries must increase food production by 3.7% per year or they will need an extra 85 million tons of grain in the "good" years or 120 million tons of grain in the "bad" years.

Dr. Glenn Burton, Research Geneticist with USDA (Georgia), addresses the IFDC Century Club.

Emphasizing the importance of long-term solutions to the food problem, Burton said, "Give a man a cup of rice and he can eat today; teach a man to grow rice, and he can eat for a lifetime, that is, if he can find the land on which to grow it."

A frequent lecturer and consultant on plant genetics, Burton has traveled to 55 countries. Besides communicating his research results orally, he has recorded his accomplishments in 623 publications.

The recipient of 51 national and international awards, Burton is still conducting research on new plant varieties in Georgia. His current work concerns the genetic improvement of Bermuda grass, bahiagrass, and pearl millet. In the future, his work should have an even more pronounced impact since he is presently developing improved plant breeding methods; other researchers should benefit greatly from his efforts.

Another highlight of the banquet was the presentation of the 1985 Outstanding Service Award to Dr. Lawrence L. Hammond, Soil Scientist, and the Outstanding Visiting Scientist award to Dr. Bisi Ogunfowora, University of Ibadan, Nigeria.■

Headquarters—

Dollars and Sense of Fertilizer Production Explored

The long-term viability of most fertilizer production projects is largely related to the project's economic foundation. The economic viability of a project is often determined and influenced by a host of tangible and intangible factors. To address this issue, IFDC offered a new training program, "Fertilizer Process Economics" at Headquarters during June 2-20.

The goal of this 3-week program was to provide the participants with the techniques needed to determine the economic feasibility for building new fertilizer plants and modifying or expanding existing fertilizer production facilities.

The engineers, managers, and others involved in planning fertilizer supply strategies gained information, such as the sources of cost-estimating data, capital and production cost control, financing sources, and types and accuracies of cost estimates.

The basic classroom-type instruction was complemented with a number of problem-solving workshops designed to give the participants an opportunity to present data and experiences specific to their operations and to apply the basic methods used for economic assessments.

Field trips and workshops hosted by selected fertilizer companies on the U.S. Gulf Coast complemented the program.

One of the participants, R. K. Bhatnagar, General Manager, National Fertilizers, Ltd., Naya Nangal, India, assessed the program in this way: "The information will be useful for the evaluation of any new projects or schemes to be added to existing plants or for putting up new plants. Of course, the knowledge gained under production management will be handy in my day-to-day work of looking after a large fertilizer complex that produces 1,000 tons of urea per day, 900 tons of ammonia per day, and 965 tons of calcium ammonium nitrate per day."

Another participant, M. M. Glikou Ekoue, Director Administrator of Finance, Office Togolais des Phosphates, Lomé, Togo, found the field trips particularly beneficial. "It is very good for us to learn from industrial people—to gain their ideas, to see the industry from their point of view."

Glikou gained information that he can apply directly in his job in Togo. "We are planning to build a phosphoric acid plant in the near future. I now have many alternatives to consider and discuss with our partners who will build the plant with us," he said. ■

A problem in fertilizer process economics gets the attention of training participants and their leaders (from left: M. M. Glikou Ekoue of Togo; J. J. Schultz, Program Manager; R. S. Giroti, Training Administrator; R. K. Bhatnagar of India; and N. D. Le, Chemical Engineer).

Upcoming Training Programs

Program	Location	Dates
Headquarters		
Fertilizer Marketing		
Fertilizer Marketing Management Training Program	IFDC	August 11-September 19, 1986
Fertilizer Quality Control	IFDC	September 22-October 10, 1986
Fertilizer Production and Technology		
Maintenance and Production Management Training Program	IFDC	October 13-31, 1986
Regional Programs		
Statistics and Economics of Fertilizer Use (in Spanish)	Colombia	November 3-21, 1986
Fertilizer Marketing Training Program for Asia	Indonesia	December 8-19, 1986

NOTE: Dates are subject to change.

For further information on these training programs, please contact the Director, IFDC Outreach Division.

IFDC Report

Published Quarterly by the
International Fertilizer Development Center

IFDC is a public, nonprofit organization dedicated to increasing food production through the development of new and improved fertilizers and fertilizer know-how for developing countries.

Marie Thompson
Editor
P.O. Box 2040
Muscle Shoals, AL 35662, U.S.A.
Phone No. (205) 381-6600
TWX-810-731-3970 IFDEC MCHL