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COUNTRY AND INTERCOUNTRY PROGRAMMES AND PROJECTS

Supplementary assistance for a global project

Research and Training in Fertilizer Technology and Utilization (GLO/82/005)

Recommendation of the Administrator

Estimated UNDP contribution:	$3,200,000
Duration:	Three years and six months
Executing agency:	United Nations Development Programme (UNDP)

I. BACKGROUND

1. The International Fertilizer Development Centre (IFDC) was established in October 1974 on the initiative of the United States Agency for International Development (USAID) and the International Development Research Centre (IDRC) of Canada. By July 1975, IFDC was functional as a private, non-profit organization with headquarters in Muscle Shoals, Alabama. The building programme for IFDC was initiated in April 1975 and two buildings totalling some 80,000 square feet were completed and occupied in August 1977. These buildings were financed by USAID and consist of offices, laboratories, a modern training centre, two greenhouses, and space for pilot plants. USAID also furnished grant funds for specialized capital equipment and five pilot plants. IFDC now has the capability for research, development, and training in almost all aspects of fertilizers. In 1977, IFDC was accorded, by the United States Government, all of the privileges and immunities granted to international organizations. The Board of Directors of IFDC (presently with 13 members) includes persons from both developing and developed countries, and its members are outstanding in world development efforts, agriculture, and fertilizers.

2. IFDC has about 130 full-time staff members, of whom about 70 are scientists or engineers from 20 countries. IFDC now has 12 senior staff members stationed overseas: in Colombia, with the International Centre for Tropical Agriculture (CIAT); in India and the Niger, with the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT); in the Philippines, with the International Rice Research Institute (IRRI) in collaboration with the fertilizer company PHILPHOS; in Bangladesh with the Bangladesh Agricultural Development Corporation (BADC); and in Indonesia, on a project with the Australian Development Assistance Bureau (ADAB). In 1987, two or three experts will be outposted to Togo on a special project, as detailed in paragraph 9 below. Visiting scientists from around the world are welcomed and integrated into the IFDC research and development programme.

3. Major funding for IFDC comes from USAID, IDRC, ADAB, the World Bank and UNDP. Funding for specific one-time projects has been made available from several countries, including the Netherlands, the Federal Republic of Germany, Norway and Brazil. Special project work provides about 25 per cent of the IFDC budget.

4. The mission of IFDC is the development of fertilizer technology and know-how needed to sustain and increase food production in the developing countries. More specifically, the IFDC goal is to develop technology that will keep fertilizer costs down through improvement in fertilizer efficiency, adaptation of capital and energy-saving technology, and, wherever possible, use of indigenous raw materials and local personnel. Equally important are efforts aimed at the identification of constraints of fertilizer use and the development of policies that will lead to their relaxation or removal. Training of adequate personnel in the developing countries is recognized as critical to the IFDC mission and, therefore, received major programme emphasis.

5. IFDC recognizes that it cannot carry out its mission alone but that it requires considerable assistance and must co-operate with many international, regional, and national institutions. Technology developed by IFDC scientists and engineers as well as by experts from other institutions must be tested under a wide range of conditions before its applicability can be established for a given area and the technology eventually transferred to specific producers, distributors, and users. IFDC works with existing institutions either at the international or national level to ensure that the relevant fertilizer problems are identified, technology developed, personnel trained, and technology transferred to meet the needs of developing countries. IFDC works closely with a number of the international agricultural research centres (IARCs) in planning and carrying out fertilizer research and tailoring it to specific crops and geographic areas. To date, agreements have been developed with the International Centre for Agricultural Research in the Dry Areas (ICARDA), ICRISAT, IRRI, the International Institute for Tropical Agriculture (IITA), and CIAT. IFDC has also developed close working relationships with the Food and Agriculture Organization of the United Nations (FAO), the United Nations Industrial Development Organization (UNIDO), the World Bank and UNDP. Experts from these organizations participate in the planning and execution of specific IFDC activities. IFDC has major programmes dealing with research, training, and technical assistance and its research programmes are aimed at solving problems that have broad applicability. A major focus of IFDC has been on developing solutions to problems related to nitrogen, phosphate, and constraints

to fertilizer use. Additional efforts are under way to identify problems related to sulphur, potassium, calcium and magnesium.

6. At its twenty-sixth session in June 1979, the UNDP Governing Council approved assistance amounting to $2,695,000 for a three-year project, the main purpose of which was to carry out, in collaboration with selected international agricultural research centres, studies on the efficiency of nitrogen fertilizers, and to develop and implement an expanded programme of training in fertilizer production, distribution, marketing and use. Also included in the project was an evaluation component to measure the effectiveness of the various training programmes. During the special meeting of the Governing Council of May 1982, a second phase of the project was approved to expand the activities of Phase I to other geographic regions and to intensify the training effort. The funds earmarked for this project (GLO/82/005) were $3,716,000 for a five-year period, scheduled for termination in June of 1987. The progress made in the project is encouraging. As many as 1,350 individuals will have been trained through group training programmes by the end of March 1987, covering an ever-increasing number of areas of the fertilizer sector. The research programme has led to some important recommendations for fertilizer use in the semi-arid tropics (SAT) and dry areas (DA) which are ready for adaptive field testing. A recent UNDP consultant mission, which evaluated the project, has highly commended IFDC for the effectiveness of the project, and has strongly recommended the continuation of further support in order to capitalize on the training and research infrastructure now in place so that maximum benefits will accrue to the developing countries.

7. The task of developing more effective fertilizer supply systems for the developing countries is a complex endeavour which involves the development and transfer of technology, increased investments in support, systems, and more effective utilization of existing and/or improved technology in three areas: (a) fertilizer production; (b) fertilizer marketing, including distribution; and (c) fertilizer use. Success in these areas will require the availability and effective utilization of trained personnel.

8. Although some gains are evident, fertilizer-use efficiency remains low, losses in distribution and marketing are high and fertilizer production is only 50-70 per cent of rated capacities in the developing world, compared with 85-90 per cent in the developed world. The most important factor contributing to these low efficiencies is probably the lack of trained personnel. Many developing countries lack the experience and facilities, as well as the economic means to train personnel to the levels and in the numbers that will be necessary. Once these inefficiencies are corrected, the production costs will be reduced and improved response to applied fertilizers should be forthcoming. Farmers should benefit from the improved availability and quality of fertilizers and this, combined with improved economics of use, will lead to greater demand and wider use.

9. Over the past five years, the demand for IFDC training of individuals from the developing world has steadily increased, signifying a continued need as well as a perceived competence on the part of IFDC. Cognizant of these facts, IFDC plans to strengthen its training programme with continued UNDP support, and to intensify its focus on Africa by the recent establishment of an Africa Centre in Lomé, Togo. With

a separate grant of $125,000 from the UNDP global programme, IFDC organized a workshop at Muscle Shoals, Alabama, during 16-27 June 1986, in which 21 senior-level administrators from 18 African countries participated. The workshop focused on 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 programme integrating research, extension and marketing. Participants also formulated action guidelines for improving the cost effectiveness of the various components of the national fertilizer sectors. All the workshop participants enthusiastically endorsed the creation of the African Fertilizer Centre. In the research area, IFDC wishes to extend its activities to include adaptive research to verify the soundness of the recommendations that emerged from the UNDP-sponsored research and to address some of the issues on fertilizer efficiency yet unanswered. Moreover, the project should initiate the process of transferring this technology to various national programmes. In view of the fact that the current UNDP project is scheduled for completion in June 1987, IFDC has approached UNDP for supplementary financial assistance for an additional period of three years and six months, starting 1 July 1987.

II. THE PROJECT

10. The main objective of the supplementary assistance grant is to enable IFDC to undertake urgent preparatory work for the African Fertilizer Centre in Togo and to continue, expand, and intensify the reserch, training and technology transfer programme for the fertilizer sector in the tropics and subtropics, in order to increase and sustain food production in these regions of the world.

11. Specific objectives of the follow-up programme are:

(a) to train an additional 1,200 individuals within the developing countries who can acquire and transfer knowledge to others with the aim to improve production, marketing, research and extension skills;

(b) to transfer research findings to national programmes through continuation of research on SAT problem soils and by this means to improve nitrogen availability to food crops; and

(c) to facilitate the establishment of the African Centre in Togo in order to better serve the needs of tropical Africa.

12. The above programme will be directed by IFDC and involve scientists stationed at IFDC headquarters, Niger and Togo.

13. Approximately 58 per cent of the funds required from UNDP will be utilized for direct training costs.

14. In line with established procedures, UNDP will, in consultation with IFDC, undertake a review of the accomplishments of the project to be carried out by a team of independent consultants.

15. The proposed UNDP contribution is $3,200,000, of which $3,000,000 will be for subcontracts, while direct costs will account for the remaining $200,000.

III. RECOMMENDATION BY THE ADMINISTRATOR

16. The Administrator recommends that the Governing Council approve this project.
