

**Evaluation of IDRC Project's
Developmental Impact in Egypt**
A Synthesis Report

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List of Acronyms

AUC	:	American University in Cairo
CAPMAS	:	Central Agency for Public Mobilization and Statistics
CISE	:	Cattle Information System - Egypt.
DDC	:	Desert Development Center.
DHIS	:	Dairy Herd Improvement System.
ERSAF	:	Economic Reform and Structural Adjustment Programme.
ITCU	:	Industrial Technological Support Unit.
LFSS	:	Labour Force Sample Survey.
LIS	:	Labour Information System.
MALR	:	Ministry of Agriculture and Land Reclamation.
RCRD	:	Regional Center for Research and Development.
SMME	:	Small, Micro and Medium Enterprises.
VEW	:	Village Extension Worker.

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Abstract

The Evaluation Unit of IDRC is undertaking several initiatives to assess the impact of Centre-funded research projects. Within this context, the present study was conducted in Egypt, where the outcomes and impact of ten out of some 250 IDRC development research projects in Egypt were evaluated. The evaluation study aims at clarifying whether IDRC support through these projects has made a difference, for whom and how, for the purpose of improving future efforts.

The ten projects were assigned to individual experts with the requisite background. (Annex (1)) Guided by a framework developed by the IDRC Evaluation Unit, the experts conducted their separate evaluation on the basis of reviewing the project reports and other relevant documents, interviewing project leader, the project team key researchers and conducting field trips. These individual reports were integrated into this synthesis reports. The common experiences, outputs and impacts were highlighted, the lessons learnt were drawn, and recommendations to enhance the outcome of the projects were suggested.

The projects selected may be classified into five main clusters: food security; equity in natural-use/biodiversity conservation; sustainable employment; strategies and policies for healthy societies; and information and communication. In addition, those projects had a number of interesting common features: (a) targeting a broad sector of the Egyptian society; (b) together covering the entire geographical area of Egypt; (c) involving targeted beneficiaries directly in the project activities and management; (d) interacting synergistically with the infrastructure of universities and R&D institutions; (e) feeding into the process of policy formulation.

Inputs into the ten projects were both in money and in kind. In addition to the funding in money, IDRC provided no less valuable inputs in kind: expert advice,

knowledge transfer, its good offices and political support, logistical support, etc. Recipients' contributions varied from one project to another, with a general pattern: physical and sometimes even political support by governorates, related ministries and government departments; providing additional space; professional expertise, and dedicated leadership and missionary zeal. The experience of individual projects show very clearly that success hinged on a combination of *both* sufficient pecuniary resource *and* suitable non-pecuniary inputs.

Activities within the ten projects included workshops, seminars, training courses, surveys/data collection and analysis, and testing new concepts and models. Implementation mechanisms ranged from networking to steering committees. Information and communication technologies (computers, photocopiers, fax machines, etc.) were also important common inputs.

The outputs of the ten projects also varied with respect to form, quantity, quality, relevance, innovativeness, timeliness, availability and accessibility. It proved difficult in some cases to judge quantity or quality of output because of the lack of relevant information, but in most cases the outputs were considered relevant. There are some examples of innovative and timely outputs.

Regarding reach, projects assessed had several groups of beneficiaries. Mechanisms of reach included conferences, workshops, seminars, publications (flyers, leaflets, magazines, research papers, booklets and books), establishing an NGO, community-action groups and training. Evaluated projects also varied considerably with regard to the accessibility of their outputs to various users/beneficiaries.

Impacts of the projects included capacity building, policy changes, income generation, raising the awareness and society which resulted in changing the society's attitude and improvement of quality of life. But outcome could be enhanced if more attention was given to documentation, follow-up, dissemination of information and cultivating success ingredients. To ensure this, a set of recommendations is included at the end of the report.

1. Introduction

1.1. Background

Over the past twenty five years, the International Development Research Centre, (IDRC) has supported over five thousand research projects throughout the developing world (about 250 of them were executed in Egypt). Considerable resources have been invested in conducting these activities.

IDRC feels it is important to understand the impact of the research it supports: to know better the kinds of influences it is having on the development agenda and research capacity of developing countries; and the factors that make such impact positive and effective. This knowledge will contribute towards improving the performance of IDRC; and to inform its international partners and the Canadian public of the quality of its work. For this, the Centre needs to deepen its understanding of whether and how its support to development research contributes to social and economic development in the Third World.

The Evaluation Unit of IDRC has undertaken several initiatives to assess the impact of Centre-funded research projects. This includes a Survey of Completed Projects, encompassing studies on IDRC's programming across the regions in the following areas: commercialization; public good/quality of life; policy; and information and communication technologies.

As the need arises to evaluate these projects and to analyze their outcomes and impact on target beneficiaries and on the development of their societies, a multi-pronged approach to impact assessment was launched, consisting of studies that focus on specific facets of impact as well as geographically-focused studies. In the latter category, one study is conducted in Egypt, where the impact of ten project case-studies representative of the activities of IDRC in Egypt was evaluated.

1.2. Objectives of IDRC undertaking

The overall objective of IDRC evaluation study is to assess the results of the center investments over the years and to enable the institution to fulfill more efficiently its role as a knowledge broker. The evaluation study aims at clarifying whether IDRC-support has made a difference, for whom, and how for the purpose of improving future efforts.

Specifically, the objectives of IDRC undertaking are:

- a) to document and analyze the outcomes of IDRC-supported development research;
- b) to identify factors that have facilitated or hindered the application of research results;

- c) to identify research outputs resulting from IDRC funding which have led, or could lead, to significant impact on target beneficiaries;
- d) to generate recommendations for application, commercialization and/or for further development of specific research outputs;
- e) to identify and document IDRC projects whose results provide material for IDRC's public information strategies;
- f) to identify factors which facilitate the beneficial application of research outputs; and
- g) to develop a framework for assessing the impact of development research.

1.3. Specific objective of this synthesis report

This synthesis report aims at evaluating the impact of IDRC projects in Egypt on the basis of 10 case studies dealing with developmental issues in various parts of Egypt. The synthesis is concerned with evaluating how the inputs, outputs, within the context and the environment of the project have affected the reach and impact on beneficiaries, the community and the society at large. The report documents the detailed outcomes of these activities in terms of outputs, reach and impact of these projects. It also aims at extracting the lessons learned and derive recommendations for future undertakings to enhance the impact of IDRC developmental activities.

1.4. Criteria for choice of case studies

The Egypt study was based on choosing ten research-developmental projects out of some 250 IDRC - supported projects conducted in the country. The projects chosen cover various themes: food security, biodiversity conservation, sustainable employment, health and sanitation, and information and communication. The projects were chosen to cover developmental activities which affect the society at large, whether via enhancing its productivity, quality of products, better use of resources, better use of services and adapting modern information technologies towards policy reforms. Also this sample of projects was selected to represent a broad base of delivery agents who are aiming at making a wide impact on the society. These projects were implemented in provinces geographically covering the entire area of Egypt, starting from the north of Egypt (Alexandria), the Delta region (Ismailia, Dakahlia, Sharkia, Menoufia and Kalyubia), the Capital (Cairo), and South of Egypt (Aswan). Most of these case studies (80%) were conducted in regions mainly outside the capital which are deprived from adequate services and received little governmental attention. Table (1) lists these projects, while figure (1) shows a map of their locations.

Table (1): IDRC Funded Projects Targeted for Egypt Impact Study

Theme / Project Title	IDRC No.	Duration	Delivery/Collaborating Agents	Location
I. Food Security				
1. Desert Farming Systems, Phase III	85-0193	1986-89	American University in Cairo, Desert Development Centre (DDC)	South Tahrir, Sadat City
2. Integrated Pest Management	89-0318	1990-97	Alexandria University, Faculty of Agriculture	Beheira Governorate
3. Structural Adjustment and Agriculture	91-0079	1991-95	Centre for Agriculture and Economic Studies Cairo University	Dakahlia / Sharkia / Aswan / Menoufia/Benisuef
II. Equity in Natural Resources Use / Biodiversity Conservation				
4. Environmental Management of Fuelwood Resources in Wadi Allaqi	92-1001	1992-95	South Valley University / Trent University (Canada) / Glasgow University	Wadi Allaqi / Aswan
III. Sustainable Employment				
5. Sponge/Cast Iron Technology Transfer-Phase II	92-0808	1993-96	Central Metallurgical Res. and Dev.Inst.	Helwan / Greater Cairo
6. Industry Technology Support System-Dakahlia	94-8602	1994-97	RCRD (Regional Centre for Res. and Dev.)	Dakahlia Governorate
IV. Strategies and Policies for Healthy Societies				
7. Communication Process : An Avenue for Sustaining Improved Health and Sanitation	91-0080	1992-94	American University in Cairo	Shanawan / Menoufia Governorate
8. Community Participation in Health Promotion at the District Level, Phase II	91-0240	1992-94	Suez Canal University, Faculty of Medicine	El-Tal Al-Kabir, Sharkia Governorate
V. Information and Communication				
9. Labour information System	86-0182	1987-91	Central Agency for Public Mobilization and Statistics (CAPMAS)	Country at large/ Cairo
10. Pilot Cattle Information System	88-0285	1989-95	Cairo University / Faculty of Agriculture / Ministry of Agriculture	South Tahrir / Menoufia / Sharkia

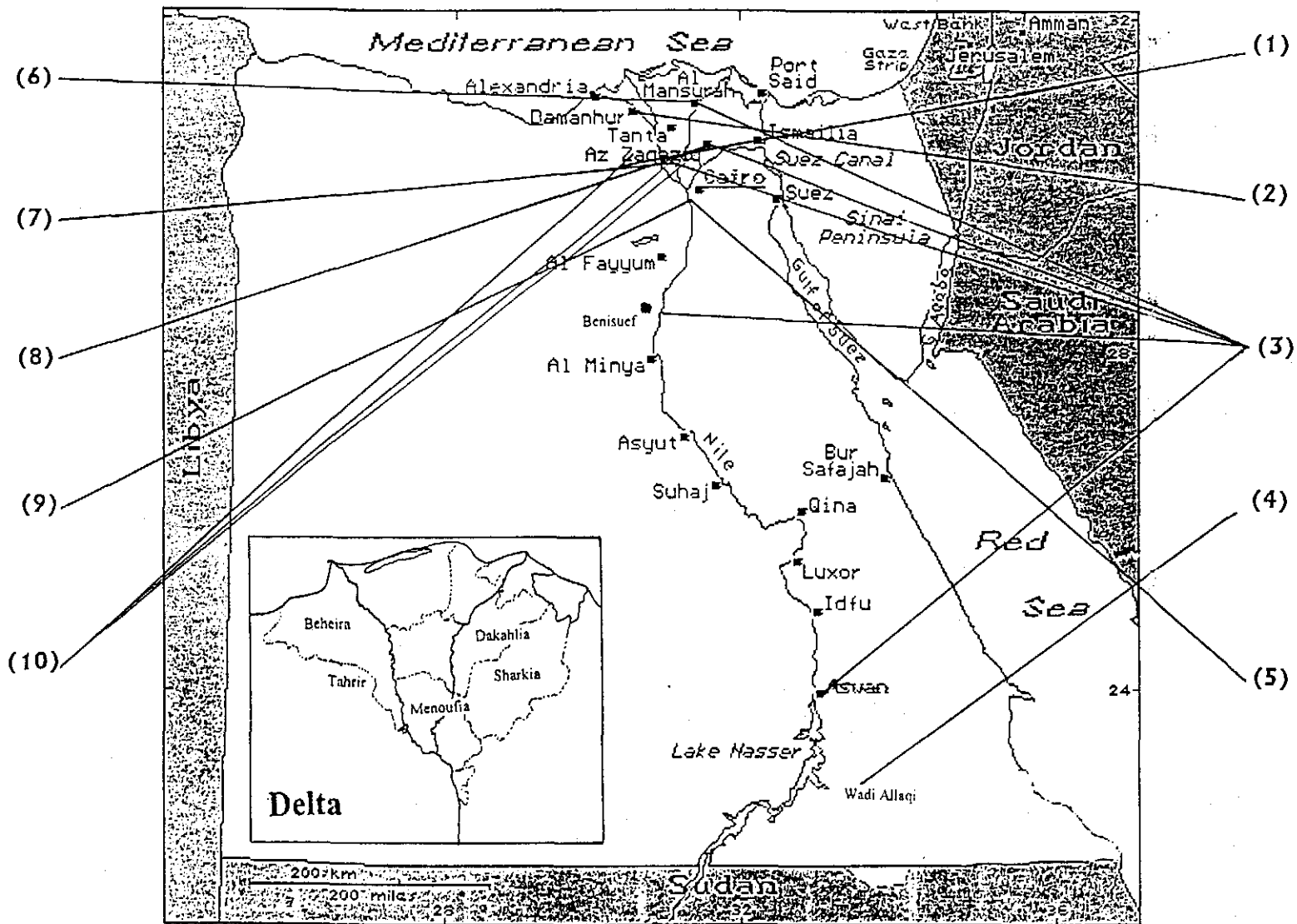


Figure (1): Location of IDRC funded projects in Egypt

II. Methodology and Resources

To conduct this study:

- The ten projects chosen were assigned to individual consultants/evaluators (see annex 1) who are experts in a field relevant to the respective projects. In general terms, each study sought to identify outcomes of the project and to identify the outputs generated; their use or application; the groups touched by the project; impact that can be discerned; and factors that have facilitated or hindered the application of research results. The individual studies examined whether there exists any potential for application/or commercialization of the research outputs and identify any particular lessons and success stories that could be used by IDRC in its programming and/or public information strategies.
- Individual consultant/evaluators conducted their separate evaluation studies based on reviewing the project reports and relevant documents as well as interviews and meetings with the principal investigator (PI), the project team, key researchers of the delivery and the collaborating agencies. Each evaluator made field trips to the location and the premises at which the work took place. The research, team personnel who are working at the field were also interviewed. In addition, evaluators had discussions with beneficiaries and relevant personnel for the various projects.
- The consultants' work largely followed the framework suggested by IDRC, where the contribution of inputs, activities and outputs/deliverables to the impact of the project was examined. Also the outcomes of the projects were assessed in terms of outputs, reach and impact. The lessons learned were then drawn and recommendations were suggested to enhance the impact of the project. Moreover the evaluators looked for materials for public relations through these case studies to highlight the impact and facilitate replication of IDRC projects.
- In the course of the work, regular meetings were held by the consultants/evaluators and attended by the regional director of MERO/IDRC. In these meetings, the evaluators compared notes, exchanged their findings and pointed out their preliminary assessment of the impact and outcomes of these projects. These meetings proved extremely valuable; they insured homogeneity of approach to case studies and enhanced synergistic attitude for the approach and analysis of individual evaluators.
- A team workshop was held to verify interpretations and to clarify the findings. Moreover the information was aggregated into a larger picture. Based on the discussion which took place in the verification workshop, each evaluator then presented his/her final evaluation in a report for the allocated case study(s) according to the agreed framework.

- These individual reports, which are attached to this report, were forwarded to the coordinators, who incorporated them into this synthesis report. The common experiences, outputs and impacts were highlighted. The lessons learned were drawn and the recommendations to enhance the outcome of these projects were suggested. The synthesis report was discussed in a feedback and verification workshop which was attended by representatives of research institutions, consultants, coordinators and the regional director of MERO, IDRC (see Annex 2). The comments and intellectual input of participants were included in this synthesis report.

III. Profile of Egypt's Case Studies

3.1. Areas and themes of studies

The ten case studies chosen covered the following themes (Tables 1 & 2):

- Food security.** (3 projects) Where desert constitutes 95% of Egypt's total area, desert farming is an important avenue for developmental research. Initiating and implementing a desert-farming system will enhance capacity to produce food. Moreover, economic policies and pest management are other areas of research which reflect on both the quality and quantity of the food products in a country striving to be self-sufficient in food.
- Equity in natural-resource use / biodiversity conservation.** (1 project) Environmental management of resources would improve the quality of life of people living in remote areas, where the availability of conventional resources might be limited.
- Sustainable employment.** (2 projects) This was addressed via strengthening the small-scale industries or innovation of new technologies using available materials.
- Strategies and policies for healthy societies.** (2 projects) Methods were developed for community participation in health promotion. The issue of water and sanitation is important to the well-being of the population.
- Information and communication.** (2 projects) This applied to the labour information system and pilot cattle information project.

The themes and classification of the ten studied projects as well as the delivery, the collaborating agents and the locations of these projects are illustrated in table (1).

3.2. Profiles of Egypt's 10 projects

Project 1. (ISN : 14150)

Desert Farming System (Egypt) - Phase III

Egypt's fertile land constitutes no more than 5% of its total area. A major development programme has taken place to bring desert under agricultural production. In the first two phases of this project, research focused on the development of suitable farming system for desert soil where cropping patterns and agronomic practices that make efficient use of limited resources were identified. In phase III of this project, researchers conducted on-farm trials to test promising crop rotations and agronomic practices with farmers in the South Tahrir area. Researches also evaluated tillage practices.

This project resulted in the implementation of crop rotation, and application of agronomic and tillage practices in seven participating farmers' fields. The on-farm demonstration programme encouraged farmers to follow 3-4 year crop rotations with a variety of alternative crops; to implement proper pest and weed control programmes; to apply appropriate types and amounts of fertilizers; to minimize tillage to reduce soil erosion; and to irrigate fields for two hours every four days. Research results were disseminated at conferences, workshops, and through publications. Local farmers and Desert Development Centre staff, working with researchers, increased their knowledge of agronomic practices and were encouraged to spread information to nonparticipating farmers due to the absence of extension services.

The American University in Cairo (the delivery agent) received 373,800 CD from IDRC: Funding unit AFNS Crop and Animal Production Systems-Farming Systems. Ford foundation and Near East foundation acted as co-funding agencies. The project took place between 1986-1989.

Project 2. (ISN 14150)

Integrated Pest Management (Egypt)

Maize is the most important summer cereal crop in Egypt. It is used as feed and food, particularly in rural areas for bread making. Corn residues are also of great importance to small farmers who use them as a major source for fuel in rural houses. The introduction of high-yielding varieties (HYVs) and hybrids, and their associated technological packages of increased chemical inputs, fertilizers, and pesticides has resulted in the destruction of natural enemies of insect pests and the development of insect pest resistance to chemical pesticides. This has subsequently resulted in important pest outbreaks and consequent yield losses. One of the alternatives to chemical pesticides is integrated pest management (IPM), a crop protection system that uses a variety of control procedures rather than relying only on chemical

insecticides. This project supported IPM-technology generation, and conducted research activities in three important agro-ecological zones of the country. An in-depth study of farmers' strategies related to pest management was performed. Collaborative farmers offered their land for experimentation while cooperative farmers applied the IPM package in their fields. The agriculture extension department at El-Beheira governorate acted in close cooperation with the research team as extension officers who participated in the project activities. Training materials for farmers and extension workers were developed. The project resulted in developing a package of agricultural practices which was reflected in an increase of the crop productivity. The developed system integrates cultural, biological, chemical and other control methods.

The project was undertaken by the University of Alexandria, and received 210,410 CAD from IDRC, Funding unit: AFNS - Crop Production Systems - Integrated Pest Management. The project took place between 1990-1997.

Project 3. (ISN 14686)

Structural Adjustment and Agriculture

Serious economic imbalance have obliged the Egyptian government to undertake a major programme of structural adjustment. Agriculture, as one of the main sectors suffering from the imbalance, has been among the first sectors to undergo wide-ranging reforms, and the preliminary effects are now beginning to appear. This project assesses the reforms and attempts to determine the impact of structural adjustment on both efficiency and equity, and the degree to which modifications may be warranted. It evaluates the recent policy changes in terms of their impact on the national treasury; the country's trade balance; the rate of growth of the agricultural sector; food security; and the well-being of farmers and landless labourers. Particular attention is given to the effect on small farmers and landless labourers: the poorer members of rural society. Five governorates, representing two different agronomic regions of the country were selected as representative of rural Egypt, and fresh data were collected for 700 farmers and 300 landless labourers selected by a random sample in the five governorates. Such data were analyzed to shed light on impact of Economic Reform and Structural Adjustment Programme (ERSAP) on various socio-economic groups. A multisectoral general equilibrium model was built to analyze macro impacts of ERSAP. Research results were disseminated through workshops, seminars and the publication of a book based on the final report.

The project was carried out by the Center for Agricultural Economic Studies (CAES) at Cairo University, which received a grant of 115880 CAD from IDRC funding unit SS-Economic Policy. It was implemented during 1991 - 1995.

Project 4. (ISN: 15056)

Environmental Management of Fuelwood Resources in Wadi Allaqi, (Egypt)

Wadi Allaqi is the largest Wadi (desert river) on the eastern shore of Lake Nasser in Egypt, where fluctuation in the level of the lake have enriched the ecology of the lake shore. This project examined energy use and conservation to serve as an entry point for the creation of a sustainable-management plan for this ecologically sensitive zone. Fuelwood is a particularly important local resource which is used by local residents to produce charcoal for sale to the camel caravans passing through the Wadi. Research has focused on current patterns of energy use, their variations with changes in population, and income and validity of other energy sources. The results were discussed with residents, and were disseminated nationally and internationally. With participation of Trent University (Peterborough, Ontario, Canada), The project investigated physical and chemical characteristics of fuelwood species; abundance and distribution of acacia and other trees; biomass of Tamarix shrubs; commercial value of fuelwood species; patterns of fuelwood collection and use; property rights to fuelwood species; and conservation and management issues. Project researchers pointed the need to clarify the rights to local resources, particularly trees and bushes, by nonpermanent desert residents; and the cultivation of species that have significant commercial and/or subsistence value to desert residents, e.g. dome palm. Project researchers recommended the construction of special stoves that utilize wood more efficiently; as well as exploration of the possibilities of developing solar and/or wind energy. A six-day "Workshop on Sustainable Development and Fuelwood in Wadi Allaqi" was organized in December 1994 with participants from different Egyptian and international institutions, and funding agencies.

The project which was conducted by the University of South Valley, Aswan as the delivery agent, received 163,472 CAD from IDRC, Funding Unit: ENR-Value of natural resources. Trent University worked as a collaborating agent and contributed 4000 CAD for the project, which took place between 1992-1995.

Project 5: (ISN 15891)

Sponge / Cast Iron Technology Transfer (Egypt) Phase II

The small and medium-size metal sector in Egypt employs about 80,000 workers and produces 150,000 tones of castings per year. Hematite and high purity pig iron is regularly imported, since locally produced pig iron is unsuitable for foundry purposes because of its high content of manganese and phosphorous. The first phase of the project used sponge iron, which is produced at a rate of 800,000 tones per year, as a substitute for imported pig iron for the benefit of local foundries. Appropriate industrial practices for the production of ductile iron from sponge iron were developed. The technical and economic viability were evaluated for two alternative processes; *the first* by producing high purity pig iron for the production of engineering

quality gray iron and ductile iron castings, while *the second* is concerned with producing ductile iron castings directly from sponge iron. The second phase of the project was concerned with the implementation of the new technology (developed through phase I) and transfer it to Egyptian foundries. Phase II of the project was intended to spread the commercialization of the resulting technology with a saving potential of about 30% to 40% in the production of ductile castings. This technology was successfully demonstrated and introduced in five Egyptian foundries. But unfortunately, locally produced sponge iron has experienced upward move in its price, which has upset the economic viability, and hence the impact of the project. However the capacity-building and infrastructure build-up have remained, and could be redeployed if the price of sponge iron fell.

The project which was undertaken by Central Metallurgical Research and Development Institute received, for phase II, a grant of 245,000 CAD from IDRC (Funding unit: MERO CAI - research utilization programme). The recipient contributed 150,600 CAD and the project took place between 1993-1996.

Project 6. (ISN 15646)

Industry Technology Support System - Dakahlia Governorate

This project aimed at establishing a sectorially oriented industrial technological support unit (ITCU) for small, micro, and medium-sized firms (SMMEs) in the metalworking industries in the governorate of Dakahlia in Egypt. The unit comprised representatives of the organizations which are interested in developing small industries as a strategic means to develop and balance the industrial sector and Egyptian economy. The unit was jointly directed by the Regional Centre for Research and Development (RCRD), which acted as the delivery agent, while the Businessmen Association (BMA) in Dakahlia Governorate worked as the collaborating/beneficiary agent. The organizations in the unit worked collaboratively to assist firms to identify technological needs; secure technological solutions to meet those needs; and help firms to evaluate, acquire, adapt, and adopt technologies to improve their efficiency and increase their productivity. They also carried out research on market development; business development in SMMEs; and technical and financial management. The project realized that institutional problems were of prime importance to small industries, and constituted the main obstacle hindering their development. The project also extended its activities to areas other than metal industries. Requests for technology beyond capacity of local resources was conveyed to Canada and other developed countries. The project has helped small industries to enhance their productivity, improve the quality of products and helped them through facilitating financing procedures, providing marketing awareness, and eased their dealings with governmental institution. Moreover an eye was kept on cleaner environmental practices.

The project which was conducted by the Regional Centre for Research and Development at Mansoura received 248,100 CAD (Funding Unit: corporate affairs and initiatives) and was conducted between 1994 and 1997.

Project 7. (ISN 13431)

Communication Process: An avenue for sustaining improved health and sanitation

This project stemmed from activities begun under two phases of an earlier IDRC-funded research project: Women, Water and Sanitation. Findings of these previous projects pointed out the need for establishing and testing a model of partnership between village, Markaz and village levels as means for sustaining health and sanitation programs implemented at village level.

The ultimate aim of the project was to focus on the role of communication to enhance sustainability of improved health and sanitation practices.

A series of workshops were held at different administrative levels and dealt with the different phases of the project life cycle. The village teamwork was divided into three groups which together identified garbage collection and village cleanliness as the immediate objective to pursue in collaboration with decision makers at Markaz and governorate levels. Based on the experience gained, the project research team, in collaboration with village teamwork, produced and distributed a manual for village development, which created demands by several international donors and local authorities for applying the same approach in other parts of Egypt. The activities initiated by the village team contributed to improving the level of village cleanliness and garbage disposal. The project ended with establishing an NGO for purpose of sustaining the outcomes reached throughout the project life. But the NGO is facing a number of difficulties in fulfilling its objectives due to shortcomings in funding and membership.

The project was conducted in Shanwan and Kafr Shanwan of Menofia governorate. It was implemented during the period 1992-1994, and carried out by the American University in Cairo, which received IDRC funding of 139,777. CAD. (Funding Unit: H-S-Health and the Community / Water Supply and Sanitation). The project was implemented during the period 1992-1994.

Project 8. (ISN 14852)

Community Participation in Health Promotion at the District Level(Egypt)Phase II

The Community Participation in Health Promotion at District level was conducted in El-Tal El-Kibeer (TK) District, Ismailia Governorate. The governorate of Ismailia is located 100 Km to the north east of Cairo and stretches along the west bank

of the Suez Canal. There are 12 districts in Ismailia, El Tal El-Kibeer is the most western one. Traditionally TK has been part of the adjacent Sharkia governorate, it has been annexed to the newly created Ismailia governorate in 1990. Farming is the occupation of the majority of TK population. They are mostly beneficiaries of land reform laws enacted in Egypt during the period 1952-1962, with the prevalence of small sized holdings.

The *Community Participation in Health Promotion*, was a two-phase project consisting of the identification, implementation and evaluation of the health promotion programmes. The philosophy of the project was based on close partnership between the community, the governmental sector, and the university. The project represents part of a long process of collaboration between El-Tal El Kibeer community and the Suez Canal University. Phase I was implemented during 1989-1992.

Phase I aimed at identifying the socio-cultural characteristics of the local community to provide basis for the second and third phases, and identifying environmental health problems of the community. In phase II, the conceptual foundations of the project were to involve and coordinate with other sectors, intervene to address environmental health hazards, strengthen collaboration between actors, and to establish Health Information Systems (HIS)

The general objective of phase II was: to promote and monitor health interventions that have been identified in phase I, in collaboration with the community and concerned agencies". This general objective was specified in implementing actions required to achieve the community health priorities as identified in phase I and to establish a health information system to document health activities and to refine validate a conceptual model for the community participation in health promotion. The project has a wide range of activities, and was also targeting a wide range of beneficiaries. In order to meet the project objectives a multidisciplinary and multisectoral cooperation was established between the Faculty of Medicine of Suez Canal University on one side and officials and decision makers of the Ministry of Health in Ismailia governorate on the other. The project provided an example of a comprehensive community development program based on the initiatives of local citizens.

The project was carried out by the Suez Canal University, (Ismailia) and received an IDRC grant of 346,160 CAD (Funding Unit: HS-Health System Research. The recipient contributed 51,528 CAD. The project was implemented during 1992-1994.

Project 9. (ISN 12872)

Labour Information System (Egypt) Phase (I)

Researchers began by conducting a comprehensive, critical review of literature relevant to unemployment, the informal sector, earning structure, construction of labour markets, and productivity. They redesigned the Labour Force Sample Survey (LFSS) to extend and deepen the measurement of employment, unemployment and underemployment. This survey was considered the key vehicle for monitoring unemployment levels. Two complimentary studies were carried out: an earnings study was based on a sample of governmental institutions, and public and private enterprises (150 in all); and an informal sector study based on a questionnaire applied at the level of the economic unit. Other small-scale surveys covered the construction sector, the informal sector, productivity in the manufacturing sector, and earning patterns. The principal statistical databases resulting from the surveys were designed and implemented on both PC's and a mainframe computer. Research results were disseminated to researchers, government officials, and representatives of other organizations at the "Employment Information" conference held at Central Agency for Public Mobilization and Statistics CAPMAS in January 1990. Demonstrations of databases constructed on the PC and mainframe were presented during a second conference in January 1991.

This project was conducted by CAPMAS and received a grant from IDRC of 341,400 CAD (Funding Unit ISS - Socioeconomic information/ information tools and methods / economic and rural development / population). The recipient contributed 306,000 CAD. It took place between 1987 and 1991.

Project 10. (ISN 13673)

Pilot Cattle Information System (Egypt)

The majority of dairy animals in Egypt are raised in small herds, yet only large farms keep records on their performance and health. Furthermore these records are scattered and are not being used for any cattle improvement programme at the national level. Reliable system for national milk recording in Egypt is needed for genetic improvement and delivery of effective technologies to dairy herds. This project has developed a pilot cattle information system designed to provide statistically representative, adequate data for cattle breeding research and for the future development of national breeding programmes under local conditions. Adequate data processing laboratory has been established. Data processing staff, 6 offices and 87 village extension workers, VEW's, have been trained on milk recording and dairy extension. Adapted software, based on the Canadian once a month test date system has been developed. The research led to the genetic improvement of both milk and meat producing cattle and buffaloes in the country. A data collection and updating system was established for over 5000 animals belonging to 365 small, medium and

large farms in 6 governorates. An effective service network has been implemented and operated. Effective service packages, based on needs assessments of enrolled farmers were delivered and databases were built and are being used by farmers, researchers and decision makers. An effective service network has been implemented and operated. The information and services of the project were disseminated through system network, workshops, conferences and by a newly established CISE center at Cairo University. The support of Food and Agriculture Organization (FAO), International Livestock Centre for Africa (ILCA), International Committee for Animal Recording (ICAR), World Food Programme (WFP), European Union (EU) and United States Feed Grains Council (USFGC) enhanced the project impact.

The project achieved capacity building of the researchers, officials, VEW's and computer technicians. It also has potential positive impact on income generation and improvement the quality of life of the collaborating farmers. Services of the project are being marketed to large farms and development agencies. Successful running of the system (since 1990) initiated a cooperation project (TCP/EGY/4557) among Ministry of Agriculture Land Reclamation, FAO and CISE to plan a national Dairy Head Improvement System. It is planned that NGO's (Buffalo and Cattle Breeders Associations) will be responsible for running the national system to insure its sustainability

The project which was undertaken by Cairo University received 197,724 CAD from IDRC (Funding unit IS-science and technology information - agriculture). The project was conducted between 1989 - 1995.

3.3 Common features for 10 projects

All the assessed projects showed a number of interesting common features:

- a. **Wider Impact:** These projects had a common aim: to exert an impact on the development of as a wide sector of the Egyptian society as possible, whether in food security, biodiversity conservation, sustainable employment, public health or information and communication. They did not aim at narrow groups of beneficiaries. They were designed to reach groups of beneficiaries that can act as the driving force to exert a wide impact on societal development.
- b. **Marginalized Areas:** Most of these projects were located outside the capital and touched upon parts of the society which are marginalized and receiving little developmental funding by the local governments. Nevertheless they covered together the entire geographical area of Egypt extending from Alexandria, North of Egypt, through the Delta, to Wadi Allaqi South of Egypt.
- c. **Beneficiary Participation:** They targeted local beneficiaries through involving them directly in the project activities. In most of these projects beneficiaries had an

active role in running the actual programmes and implementing the projects outputs, which ensured better reactivity and sustainability.

- d. **Inter-disciplinarity:** They involved interdisciplinary teams of experts / researchers. Invariably, project teams included engineers, scientists, economists, agronomists management specialists, sociologists and information specialists.
- e. **Institutional Strengthening:** They were designed to interact synergistically with the infrastructure of universities and research and development institutions, thus benefitting from this infrastructure and adding to it a great deal. This included providing needed equipment and instruments, additional compensation for researchers, and furnished the opportunities for international exchange of approach and expertise
- f. **Developmental Stance:** They helped integrate universities and research institutions in community development, thereby mobilizing the resources of such institutions to serve the public at large.
- g. **Policy Relevance:** These projects were invariably aimed at feeding into the process of policy formulation. Their reach and impact were, in some cases, integrated into the various public policies of developments, thus bringing results of field research to bear on policy making.

IV. Inputs

Inputs into the ten projects were both in money and in kind. IDRC contributed financial support, while recipients, delivery agents and collaborating agents made contributions either in money or in kind. Exceptionally, their contribution was in both. In some cases, the project attracted funding from other donating agents.

Table (2) summarizes direct inputs in money and in kind. IDRC financial contribution ranges from about 116,000 CAD to some 374,000 CAD, with an average funding of a little over 240,000 CAD per project. Although it is difficult to document fully, IDRC also provided no less valuable inputs in kind: expert advice, knowledge transfer its good offices and political support, logistical support, etc. The data in the table indicate also that recipients / delivery agents or collaborating agents all made their own contribution by providing inputs either in kind or in money.

Such inputs had a positive reflection on the institutions infrastructure and capabilities and provided many critical equipment.

Although the specifics of such contribution exhibit variations from project to project, some general pattern emerges from the assessment of individual projects:

- physical and political support was provided by governorates, related ministries and government departments; that was evident in projects 1, 3, 6, 7, 8, 9, 10 (representing 70% of the projects).

Table (2): Inputs into IDRC Projects of Egypt Impact Study

Theme / Project Title	IDRC No.	IDRC Contribution CAD	Contributions of Recipients & Other
I. Food Security			
1. Desert Farming Systems, Phase III	85-0193	373,800 (15.7%)	Co-funding agents: Ford Foundation /Near East Foundation/ Maxi Projects by FRCU/ Building was provided by AUC / attracted 14 M LE for extra funding / participants offered farms for Demonstration
2. Integrated Pest Management	89-0318	210,410 (8.8%)	University laboratories were used / Farmers allowed their fields to be used / Attracted future funds by the European Community 200,000 L.E.
3. Structural Adjustment and Agriculture	91-0079	115,880 (4.9%)	Cairo University contributed land and funding for building new premises for CAES Received Support from the Ministry of Agriculture
II. Equity in Natural Resource/ Use Biodiversity Conservation			
4. Environmental Management of Fuelwood Resources in Wadi Allaqi	92-1001	163,472 (6.9%)	75,000 CAD by South Valley University / 4,000 CAD by Trent University / in kind support of Glasgow University
III. Sustainable Employment			
5. Sponge/Cast Iron Technology Transfer II	92-0808	245,000 (10.3%)	CMRDI contributed 150,600 CAD in kind/ Offered Foundry and analytical facilities / Beneficiaries offered premises, facilities and raw materials
6. Industry Technology Support System-Dakahlia	94-8601	248,100 (10.4%)	The collaborating agents offered facilities for small industries / The Governorate / University helped in running the project
IV. Strategies and Policies for Healthy Societies			
7. Communication Process: An Avenue for Sustaining Improved Health and Sanitation	88-0001	139,777 (5.9%)	AUC contributed 49,110 CAD/Decision makers supported the project / NGO was formed to follow up implementation
8. Community Participation in Health Promotional at the District Level, Phase II	91-0240	346,160 (14.5%)	Suez Canal University contributed 51,520 CAD / Governorate of Ismailia and Ministry of Health offered in kind support to the project
V. Information and Communication			
9. Labour Information System	86-0182	341,400 (14.3%)	CAPMAS contributed 306,000 CAD in kind / Support was received from the Ministry of Planning and Ministry of Labour Force and Training
10. Pilot Cattle Information System	88-0285	197,724 (8.3%)	Building construction by recipient / NARP provided equipments / World Food Program provided 75,000 LE / Other donors provided support
Total		2,381,723 100.0%	

- Additional space, or land for building office space and laboratory facilities, to accommodate research activities was provided by delivery / collaborating agents or other funding (projects 1, 2, 3, 4, 5, 6, 10 representing 70% of the projects).
- dedicated leadership and missionary zeal were some of the most important non-pecuniary inputs provided by delivery agents.

A wide distribution of IDRC finance presents itself in a number of directions. On the one hand there is a distribution of IDRC funding among various recipients: the American University in Cairo (22% of the total), followed by the Suez Canal University (15% of the total), while Cairo University's share was 13% and Alexandria 9% while the share of South Valley University (Aswan) was 7% of the total. Meanwhile 34% of the funding was directed towards Research and Development Institutions and governmental and private sector agencies. A slight bias was noted in favour of privileged institutions (Cairo and Alexandria) against the under privileged, such as the upper Egypt institutions generally. Nevertheless this wide spread of funding insured wider reach and impact of the activities of IDRC.

Another direction of wide spread of inputs is the sector distribution of projects. Agriculture claimed 20% of the projects and 37% of the funds, while industry claimed 20% of the funds. Health and social aspects as well as communication claimed 43% of the budget and 60% of the projects. As industry is viewed as a sector with the largest potential creating additional economic activity and employment, it appears that more attention should be given to industry. However once more this wide distribution of financial inputs among activities had a positive impact of the projects' outcome.

Finally, in terms of the **Five** themes illustrated in table (2): food security, equity in natural resource use, biodiversity conservation, sustaining employment; strategic and policies for healthy societies and information and communication, food security rates highest (29%), while equity in natural resource use ranks lowest (6.7%). the other three themes carry relatively the same weight each (about 20-22%).

These financial inputs were mainly used for salaries, allowance and incentives, foreign consultants, publications, conferences and workshops, training, travel (international and national), capital equipment and other support services. In view of limited governmental budget, this input is an imperative thrust which helps supporting innovative ideas and creative groups.

The experience of the various projects in this sample show very clearly that the combination of **both** sufficient pecuniary resources **and** suitable non-pecuniary inputs is vital for the success of the project in making an impact. One of the most important non-percuriary inputs is the direct involvement of beneficiaries, such as in projects 1,2,4,5,6,7,8,10 which represent 80% of the projects). The symbiotic relation between the delivery agency, the project team and the beneficiaries is also crucial for determining the outcome of the project. One vivid example in the project of "Industry Technology Support System" where the officials of governorate department realized that the project is helping them conducting their job and insure safety in industrial processes. They become involved and supportive of the project.

The interdisciplinary nature of the research team manifested itself in projects 1,2,3,4,6,7,8,10 (80%) which was a notable input that positively affected the outputs of the projects.

It should also be added that one of the most critical ingredients of success of these projects (measured by the achievement of its intended objectives) is *largely intangible*. By this we mean the ability of project leader to mobilize support for the project by users / beneficiaries, community / local leaders, government officials, etc. This is supported by evidence from projects 1,2,3,6,7,8,10, which represent 70% of the cases.

Activities within the ten projects included workshops, seminars, training courses, data collection, constructing databases, establishing NGO's and analysis and testing of new concepts and models. A novel input was organizing an exhibition where a collection of posters concerning the industrial practices and environmental issues in industry was displayed in various locations in Dakahlia. Implementation mechanisms ranged from networking, to steering committees.

Information and communication technologies (computers, photo-copiers, faxes, etc.) were important inputs in the case of almost all 10 projects. Such inputs supported the institution's infrastructure, and had a positive impact on their performance.

V. Outcomes

Table (3) summarizes the outcomes of the ten studies selected for evaluation. The outcomes in this context are regarded as the agglomeration of outputs, reach and impact.

5.1. Outputs:

Outputs of the ten projects also varied in terms of form, quantity, quality, relevance, innovativeness, timeliness, availability and accessibility.

Forms of output were several, even for the same project. Some of the outputs were in the form of information (such as data sets or databases). Other outputs took the form of know-how and information packages and/or knowledge base or training. Many of the outputs were in the form of technical service or advise based on accumulated experience. Examples are the results of testing of five long term crop rotations over 5-6 years, through the Desert Farming System Project, where three were found promising and the rotation cycle was determined. Technical services were provided under the Industry Technology Support System, while know-how and technology transfer services for producing cast iron from sponge iron was the output of Sponge / Cast Iron Technology Transfer Project. Methods of tending plants were

Table (3): Outcomes of IDRC Funded Projects Targeted for of Egypt Impact Study

Theme / Project Title	IDRC No.	Output	Reach	Impact
I. Food Security				
1. Desert Farming Systems, Phase III	85-0193	Information on rotation were obtained / Fertilization practices / Techniques and frequency of irrigation / Demonstrations / Seminars / Conferences	600 graduate farmers and 1000 settlers benefited from services / 1274 trainees (graduates) / constituted a model for replication	Farmers yield of groundnut increased to 800% attracted 14 M LE for establish a training centre / NGO was formed / Benefited and furnished for other projects
2. Integrated Pest Management	89-0318	A package of agriculture practices for corn production/ Agriculture extension bulletins/ Conferences / Training and knowledge on Pest Management	Research team, 27 farmers increased to 64 collaborators and 264 cooperative farmers / Bulletins and leaflets were distributed in 14 districts	Corn productivity increased 150% / Production cost decreased / Encouraged many initiatives / Helped the scientific community and supported infrastructure of the university / Influenced policy changes for conserving the use of pesticide
3. Structural Adjustment and Agriculture	91-0079	Published book / New data / Set on socio-economic conditions in agriculture/ Workshops/ Conferences M.Sc. and Ph. D. dissertations	Research Community / Policy makers: Ministry of agriculture / Faculty of agriculture staff and students / Public-opinion makers	Fresh knowledge on conditions in rural Egypt / Proceeding into policy debate on structural adjustment / Training of staff and students / Project, timely with new law on agriculture tenantry
II. Equity in Natural Resources Use / Biodiversity Conservation				
4. Environmental Management of fuelwood Resources in Wadi Allaqi	92-1001	127 kinds of fuelwood were recognized in Wadi Allaqi / A stove was designed to use / Training activities	The local inhabitants acquired knowledge and applied better practices for dealing with natural resources/energy	Stimulated other project management of natural plants / Raised the conscious of inhabitants / Applied a technology to maximize benefit of fuelwood
III. Sustainable Employment				
5. Sponge/Cast Iron Technology Transfer II	92-0808	Technical Know How / Training activities / Industrial practices	Egyptian foundries / Metallurgists in Egypt and Africa	High Technical level / Capacity buildings / Enhance the infrastructure of the CMRDI and the Metallurgy Research
6. Industry Technology Support System -Dakahlia	94-8601	Technical services/ Institutional support / Training / Technical and guidance leaflets / Posters	Small industries in Dakahila / Businessmen association/The government departments dealing with small industries	Raising the technical conscious / Practices of small business / Improving institutional set up / Changing government department attitudes and polices / Interaction between University and Industry

Table (3): Outcomes of IDRC Funded Projects Targeted for of Egypt Impact Study - Cont.

Theme / Project Title	IDRC No.	Output	Reach	Impact
IV. Strategies and Policies for Healthy Societies				
7. Communication Process: an Avenue for Sustaining Improved Health and Sanitation	91-0080	Manuals for village development Workshops / Conferences	Decision makers and the village population were reached Women and children were instrumental / Team workers were also reached by the project	Improve habits for sanitation / Increased awareness of villagers of garbage problem / Cleaner village / Job opportunities / Team acquired skills relevant to sanitation / NGO was formed
8. Community Participation in Health Promotional the District Level, Phase II	91-0240	Identify Hazard problems / Behavior change / Video presentation / Training programs / Workshops / Publications	The inhabitants for Tal -Al Kibeer and the staff of faculty of Medicine and collaborating staff have benefited of that project	Awareness of health problem / Behavior change / Self reliance and mobilization to initiate other projects / Participation of community (via NGO) is a change of cult
V. Information and Communication				
9. Labour information System	86-0182	6 Databases on employment, unemployment / Construction productivity in manufacturing, Earnings and information / sector / 9 special studies, Ph.D.'s	Research community in Egypt & abroad / Policy makers / training 20-25 CAPMAS staff / individual ministries	Better date and information / Analytical studies / Ability to plan and cope with emergencies / Enhancing earning capacity of CAPMAS
10. Pilot Cattle Information System	88-0285	Building a database / Training Workshops / Establishing a unit providing technical services / Designing dairy records / New Software / Enrolling herds / Establishing a system network	Farmers who are breeding herds / Training 92 Village Extension Workers (VEW's) 12 computer specialists, 365 farmers / Research team / National Development Agencies	Established a network included in the government activities / CISE has become a permanent community service center of the faculty of agriculture. The output of milk has increased the infrastructure was supported / Capacity building in database and software presentation / 5000 herds were registered with 30% increase since 94

demonstrated through the Wadi Allaqi project, moreover an oven was designed to implement the research results. Training was an integral output in most of the projects, either for the delivery agent or beneficiaries. The Pest Integration System is an example where training reached farmers and the research team. The project held an international conference where exchange of experience and knowledge took place. The conference proceeding was published and widely distributed.

Some critical outputs were provided either free of charge or at cost recovery prices which are significantly below market prices. But the most frequent outputs were perhaps publications and workshops; all projects have produced publications, and organized workshops to disseminate the research results.

It was difficult in some cases to judge **quantity or quality** of outputs because of the lack of relevant information, and in the absence of a suitable yardstick. However, in some cases we may judge the quantity as adequate and the quality as reasonable (LIS database). In some other cases, quality may be good, but quantity is not adequate. One case is the services provided through the CISE project. In that particular case, the decision to transfer cattle heads from registered state farms to university graduates and retired employees, led to increased demand for those services, which CISE could not accommodate. In most cases the outputs may be considered **relevant**. This certainly applies to the **databases** established in the course of various projects. For the CISE project, a data processing laboratory was established. The **manuals** produced either as instruction aids or as media of information varied in terms of relevance from project to project. Technical services were by and large very relevant. That applies to training as well.

There are example of **innovative** outputs, such as the services provided to beneficiaries. These applies for the Industry Technology Support System Project, where a package approach which was adopted integrated technical solutions into management and financial context e.g. tax, administration, social insurance issues, i.e. it paid attention to the users socioeconomic and local environment. It also applied to the Pilot Cattle Information System Project, where effective service packages were provided free of charge to small cattle breeder. Moreover building and operating a system network, developing adapted software, as well as building a cattle database were achieved. Another example of innovative outputs is the establishment of NGOs. The Community Participation in Health Promotion Project established - "Health Promotion and Development Society" in El-Tal El Kibeer Town. This applies to 40% of the projects (1, 7, 8 and 10) who established or actively interacted with NGOs. This approach secured sustainability of the outputs and activities. Another innovative output was the display of an exhibition concerning industrial practices, safety and protection of the environment through the industry technical support system project. It became evident that the project which used innovative outputs, had a more vivid reach and effective impact for their efforts .

The outputs produced by a number of projects turned out to be highly **timely**. Mention may be made of the Labour Information System Project, the Structural Adjustment Agricultural Project, and the Environmental Management of Fuelwood Resources in Wadi Allaqi Project. As the Labour Information System Project was

approaching completion, Iraq happened to invade Kuwait, thus raising the specter of large-scale return migration by Egyptians working in Iraq and the Gulf countries - particularly Kuwait. The probable size of such population movement across several national boundaries in a very cloudy regional situation was a strategic issue **par excellence**. Much depended at the time on a reasonably accurate estimate of such movement - not the least the logistical requirements to cope with it. It was exactly here that the database and analysis conducted in the context of the project proved very useful. Thanks to such information, Egypt was able to cope with the largest external shock ever to impact on the Egyptian economy since the Second World War.

We may give another example of the timeliness of output. This is the case of the "Environmental Management of Fuel wood Resources in Wadi Allaqi" project. The knowledge and information gained in the context of this project should prove valuable, from a sustainable - development perspective, for a giant development project recently announced by the Egyptian government. This is the "South Egypt Development Project," which was announced by the President of Egypt in January 1997, and is given an extremely high profile by the government^(*). The planned project is to base the development of the South Egypt region on four main perimeters, as illustrated in Figure(2): South Kharga - Tushka Depression; East Owainat; Lake Nasser; and South Eastern Desert (which includes Wadi Allaqi and Halayeb-Shalateen triangle). The lessons learnt in the Wadi Allaqi Environmental Management of Fuel wood Resources Project may be helpful in dealing with the fragile eco-system in the area of the new projects, and in avoiding inadvertent damage to the environment of that region.

Moreover, results of the structural Adjustment and Agriculture came at a time when the issues of tenancy relations in agriculture are being widely debated on the occasion of the new tenancy law. But in some other cases, timeliness was not on the side of the project. Cast Iron From Sponge Iron was based on the activity of a local large steel company which produced sponge iron as a by-product at a low price. By the completion of the project, or perhaps **because of** the project, the price of this basic input material had increased, thereby upsetting the economic cost/benefit calculations of the project. There were other beneficial outputs and impacts of this project but an important expected economic output was not reached. A lesson from that is the need to give extreme care to the economic variables when designing a future project.

Finally, we come to the question of **availability and accessibility** of outputs. By and large we can say that outputs of various projects are available. By their very nature some outputs are accessible (publications, technical service/advice, training). Others are not accessible. The most notable example is perhaps the database and the nine special studies of the LIS project. Efforts of the evaluator of this project to gain access to this material were frustrated. Even some members of the research team in

(*) Two basic documents give testimony to this:

ARE, Ministry of Public Works and Water Resources, South Egypt Development. Cairo: The Ministry, January 1997.

ARE, The Cabinet, Egypt into the twenty First Century. Cairo: The Cabinet, March 1997.

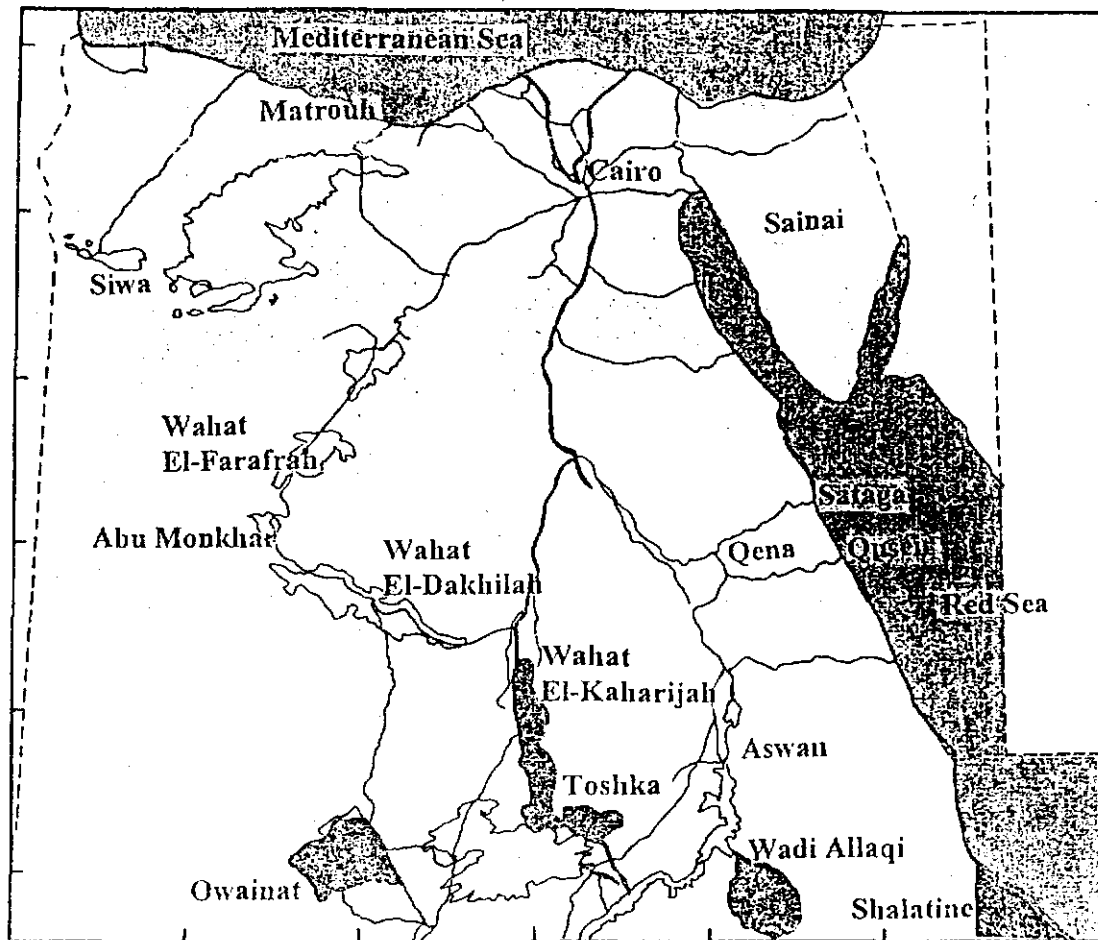



Figure (2): A map illustrating South Egypt Developmental Region 

that project were denied access to the information. Although it may be serving its purpose to the Egyptian Government, benefits could be extended to a much wider group of users: researchers, NGO's, political parties, professional associations, etc... Probably clear design of terms of reference at the beginning of the project would help avoid similar situations in the future.

5.2. Reach

The projects whose impacts were assessed had several groups of beneficiaries. They included delivery agents - members of the research teams (all projects), decision makers, policy makers (Integrated Pest Management, Industry Technology Support System, Labour Information System, and Cattle Information System projects), farmers in certain areas (Desert Farming System, Integrated Pest Management, and Pilot Cattle Information System), small industries (Sponge / Cast Iron Technology Transfer and Technology Support System - Dakahlia), and even whole communities (Community participation). The scientific community is also a user/beneficiary in all project cases. In some cases (the structural adjustment in Agriculture Project and the LIS Project) collaborating and complementary agents (government programmes and policies) did not benefit to the maximum extent possible. Some potential benefit was missed in those cases. In other cases, some of the beneficiaries will be the future generations (the case of the Wadi Allaqi Project).

Mechanism of reach included holding conference, workshops, seminars, publications, creating NGO's, community-action groups and training. Networking was also one of the mechanisms of reach. But perhaps one of the most effective mechanisms of reach was the involvement of users/beneficiaries themselves. This type of mechanism seems to have been more successful in some cases (The Community Participation Project) but less successfully implemented in others (The Wadi Allaqi Project). It is interesting to identify the reasons for these different outcomes. It seems to the evaluators that one basic factor in explaining such differences lies in the attitudes of users/beneficiaries, and their perception of what the project can and cannot offer them. Extreme care on the part of the project leader so as not to give the impression that users/beneficiaries will be receiving hand-outs. Rather the message should be: "We shall help you help yourselves". Only with this perception can one expect output of various projects to be sustainable. This was evident in CISE project where training of 92 village extension workers VEW's, 12 computer specialists, 365 farmers was achieved.

One novel mechanism of reach was to rely on women and children as delivery/collaborating agents of health and sanitary information. But the issue regarding using children as delivery agents calls for careful scrutiny, since there may be a credibility problem in a given socio-cultural setting.

Projects assessed for their impact showed by and large a great deal of accessibility of their outputs to various users/beneficiaries. A controversial example

in this regard is the Labour Information System Project. Here is the curious case of a very important output which is still potentially useful but remains largely unused (the databases at CAPMAS). Such output is of good quality, relevant and useful, but it is simply not accessible to potential users/beneficiaries. The database are kept on the mainframe computer at CAPMAS, and would-be users have to go through an extremely lengthy and involved procedure: filing an application with the President of OAPMAS who, after several weeks, refers him to a senior advisor, then to a committee, etc. At the end, there is no guarantee of gaining access to information.

5.3. Impact

Projects evaluated had the following impacts

a. Capacity building:

Projects were instrumental in the capacity-building process of the recipients and delivery agents. It is clear that the positive role played by IDRC has helped to achieve this. The Desert Farming System Project established a desert farming training centre. Capacity Building was also an important impact of the Pilot Cattle Information System Project and the Structural Adjustment and Agriculture Project. Based on the assessment exercise involved here, capacity building was much more than just provision of physical and material inputs (research and communication equipment, information appliance, or even buildings, etc.). It involved also enhancing organization, work environment and motivation. The workshops, seminars, conferences, study tours were conducted by all projects. Trained cadres and experienced personnel were the outcome of these. As an example, the PI of the Pest Management Project was chosen, based on his experience which was sharpened and polished via this project, to lead a national pest company. The Pilot Cattle Information System Project has trained computer programmers who became experts, capable of producing novel software. In fact through work under CISE, researchers developed a modified version of the Canadian software programme, that was better suited to Egyptian conditions. Moreover, the project was approved by Cairo University to be "Centre for Studies on Dairy Cattle Information" as a permanent centre of the university. With no exception all projects have a distinct impact on personal and institutional capacity building.

Unfortunately, some of these results proved unsustainable after the project came to an end (The LIS Project, the Community Participation in Health Promotion Project and the Communication Process Project). Careful design from the beginning may help avert this unfortunate result. Perhaps project design and project proposal document should establish a clear link between disbursement of final portion of research grant and meeting certain requirements. Naturally, the nature and type of requirements will depend on the particular project.

b. Policy changes:

A number of projects already had an impact on policy formulation, either directly or indirectly. Examples are the Labour Information System, Pest Management System, and the Structural Adjustment and Agriculture Projects. The Cattle Information System / Egypt (CISE) helped in planning national Dairy Herd Improvement System (DHIS). Understanding the problems of small business industries in Dakahlia influenced the governorate to change its regulations and legislations which were hindering the productivity of those industries. Other projects have the **potential** of influencing policy. A candidate is the Wadi Allaqi project, now that the country is embarking on a massive project for the development of South Egypt, of which Wadi Allaqi region is part in addition to Halayeb-Shalateen triangle, the Toshka area and East Owienat area.

c. Income generation:

Some projects have a direct impact on income generation; the Desert Farming System extended the land reclaimed from 40 Feddans to 450 Feddans and the productivity has increased 8 folds in some farms. In the Integrated Pest Management Project, the productivity of the farms have yielded 70% more crops when the agriculture package developed by the project was applied. The industry Technology Support System Project helped many beneficiaries to improve quality and quantity of their products which made them more competitive. Moreover, the project facilitated financial loans which helped small business and industries to expand their activities, develop new products, and renovate production lines. The Pilot Cattle Information System Project also had a clear income-generation impact as it increased the milk production of cattle. This project provided job opportunities to young people as 92 village extension workers were employed along with 12 computer specialists and 365 farmers. Many other projects created job opportunities particularly in villages "Community participation in Health Promotion Project, Desert Farming System Projects". Other projects have a **potential** income generation impact. Such is the case of the Structural Adjustment Project if the right shift in policy is adopted. The Wadi Allaqi project also has the actual and potential impact of increasing the income of the population of the area.

d. Research and Education

Most of these projects had direct impact on research and education. Apart from the reflection of the facilities on the infrastructure of research, teaching and training, it focused the research interest on relevant problems to the development of the country. The in-depth research conducted in many institutions yielded trained researchers who acquired higher academic level and were awarded M.Sc or Ph.D degrees; which is another facet of the capacity building impact of these projects.

Titles of thesis accomplished through the Cattle Information System were "The use of different milk recording schemes for sire evaluation of dairy cattles and buffaloes under field conditions; Efficiency of some livestock production system under agriculture conditions; and Factors affecting the shape of lactation curve in buffaloes". Obviously, such interaction between the project applied deliverables and the academic research have resulted in producing useful knowledge which had an impact on the curricula of the university departments and teaching as well as providing a wealth of relevant examples / case studies which enhanced the teaching capacity and impact. A similar situation resulted in Alexandria University where not only academic degrees were granted via the interaction with the Pest Management System project, but also research papers reflecting the experience gained from the project were published in reputable international journals providing valuable information to the scientific community. International conferences were organized and attended by researchers from various parts of the world. Such an exchange of experience and knowledge would have been difficult to reach in the absence of these projects.

The project of Environmental Management of Fuelwood Resources in Wadi Allaqi for example, produced a wealth of information as far as the anthropological data and the natural resources in this area and the innovative study of the interaction among those two aspects.

e. University / Industry / Society Interaction

These projects created an outlet for universities to reach the production and service sectors within Egypt. It provided a mechanisms which was lacking to utilize the university capabilities and direct it towards tackling the community problems. These projects created a cult of understanding and cooperation between producers in industry, business, agriculture and universities and research institutes. This interaction produced mutual benefits for both sides. Small metal finishing workshops have never appreciated the value of elemental analysis of a cast until they visited the Central Metallurgical Research and Development Institute. When the problem of frequent cracking and eventually failure of castings was fully understood and remedied, the workshop owners found their way to the institute even with traveling 140 kilometers away from their home town. This indicates developing of a cult of appreciation and belief in scientific approach to solve production problems, and that the university / research and development centres could have a positive impact on the community. Moreover from the university side, the chance was provided to members of staff to demonstrate their capabilities and use fulness to the society. This reflected in a valuable experience, sense of pride and self confidence.

f. Improvement of quality of life:

This comes as a direct impact of the Communication Process Project and the Community Participation in Health Project. It is also an impact of the Wadi Allaqi project. Such projects may be good candidates for replication; for example, to replicate the Wadi Allaqi project in Halayeb-Shalateen or East Oweinat region. The environmental pollution was combated (Industry Technology Support System) which was reflected in a better quality of life.

g. Commercialization:

Three of the ten projects produced outputs that can potentially be commercialized. The Wadi Allaqi Project team designed a stove which is suitable for commercial application. The CISE Project has been transformed into a permanent community service centre; softwares which could also be commercialized have been developed. The sponge / cast Iron Technology Transfer produced a know-how package for producing cast iron from a locally produced material. Although the present economic feasibility of this technology is not in favour of its implementation, but it could be used if the sponge iron prices returned to its normal level. The products of another three projects could be commercialized if adapted to suit the Egyptian market demands. The integrated pest management and the industry technology support system offer services which could be commercialized if packaged in a suitable form. The database of the labour information system project could be commercialized. Some of the databases collected by other projects may be considered for commercialization opportunities.

h. Interaction with NGO's

Some projects interacted very closely with non-governmental organizations, and even initiated NGOs (Desert Farming System Project, and Community Participation in Health Promotion Project, and the Cattle Information System Project which established "Buffalo and Cattle Breeders Associations"). The Industry Technology Support System Project interacted very closely with local NGOs and technical societies. This proved an effective mechanism to implement the outputs of the project, broaden their reach and to strengthen their impact, and more importantly to insure sustainability.

i. Autocatalysis for Sustainability

The outputs for a number of the examined projects were prominent to the extent that it became auto-catalytic for sustainability, That was evident in 40% of the projects (1,2,6,10) which attracted extra funding from international donors to support its outputs and sustain its activities. The Desert Farming System Project attracted 14

Million Egyptian pounds which were invested in establishing a desert farming training centre. The Integrated Pest Management Project attracted 200,000 LE from the European Union to sustain its activities. The outputs of the "Industry Technology Support System" paved the road to the Dakahlia governorate to be selected among many candidate governorates to carry out a long term project of five-year duration with a 12 Million CAD funding to elaborate on the activities run by the original IDRC project. The Cattle Information System Project attracted many international donors and provided a permanent community service centre.

It is interesting to note that a common feel among evaluators that some of the projects were left in a stage just before reaching the critical threshold for reaching sustainability. Probably little extra funding and careful design and monitoring of the project activities will insure better handling to the sustainability issue.

VI. Enhancement of Outcomes:

Based on the experience acquired in assessing the impact of the projects in this set, we entertain the question: what could/should be done to enhance the outcome (including the outputs, reach and impact)? We believe that the outcome could and should be enhanced. In order to enhance the outcome, a number of critical issues have to be addressed. These relate to dissemination of information, documentation, follow-up, cost sharing and cultivating success ingredients.

6.1. Dissemination of Information

Dissemination of information is often focused on getting the findings published in some form or another. It may also entail organizing a conference or a workshop to share the project results with the wider research/professional/policy community. Our experience in this impact assessment exercise shows that invariably, some of the most interesting outputs of the project may remain "in the drawer". A notable example here is **database and information** generally. It would certainly go a long way in enhancing the outcome if such data and information were separately packaged, and made available (either free of charge or on a cost-recovery basis). A system may be devised to have an indicative listing of important data and information coming out of various projects made available to potential users/clients.

In addition to databases and information, such outputs as manuals, brochures and training material may be useful to make available to a wider circle.

Probably novel and affective methods to disseminate the information should be considered, a production of a professionally prepared video tape may produce a wide impact if subjected to broadcasting or used in training prepared courses and seminars.

6.2. Documentation

One of the curious findings of our experience is the strong degree of unevenness of the documentation of various projects. Almost all the projects may be judged as under-documented. Many projects do not have a complete final report. There were only few progress reports. Even the project proposals varied greatly from one project to another: compare proposal of the Structural Adjustment and Agriculture Project with the Labour Information System Project. Occasionally, there may be no trace of a significant change in the project's objectives. Take again the Labour Information System: it originally included in the modeling effort, which was then dropped in order to focus on the data issue. Documentation of the various inputs / activities / outputs is irregular and very scanty. It is the common judgment of individual consultants that what they have been able to review of the project documents may be only part of what was produced. But there is no way to tell the importance of missing pieces.

Naturally, then, the documentation issue comes at the forefront when thinking about enhancement of outcome. To enhance the outcome, you have to know that outcome and to identify the context / environment within which it emerged. That calls for sufficient documentation. It is not suggested here of course to adopt the same documentation for all projects since projects tend to vary in a number of significant ways. However, what may be institutionalized as a **minimum** is (1) to put on record any significant changes in objectives, coverage, methodology, funding of the projects; etc. (2) to have copies available of all important documents resulting from the project (questionnaires, progress reports, data on electronic media, manuals, brochures, etc...) (3) a full, complete, final report of the project at the end, and (4) standardizing project proposals and final reports.

6.3. Follow-up

We sensed some important slippages in the follow-up of particular projects. For example, the database and the nine special studies of the Labour Information System were never followed up. The result is that such valuable outputs remained unavailable to date. Only in the context of the present evaluation that they may become available at last (Six years after the completion of the project). Another example is the Wadi Allaqi Project, where a fuel saving stove was to be developed. The blue-print of stove design is there, but the extent of actual application is not fully known. It is therefore complementary to funding to put in place a process involving a minimum of follow-up, scrutiny and verification. This is not meant to subject project leaders, the recipient and the delivery agent to heavy-handed bureaucracy, but the objective is to ensure delivery as per contract and to enhance the outcome.

Of course, follow-up and documentation are closely related.

6.4. Cost Sharing

The cost sharing concept was introduced to beneficiaries in few projects. Offering services free of charge creates a wrong cult among beneficiaries who will be waiting for donations and could never appreciate the value of the offered services. If the concept of cost sharing is introduced gradually, that will create a sense of appreciation of the services received, moreover it will insure sustainability of the activities. The farmers who offered their fields for experimentation in the Integrated Pest Management Project will be ready to pay for the services in a second phase of applications. The foundries who offered their facilities and raw materials in Sponge/Cast Iron Technology Transfer Project will be happy to pay for the services they receive along with the know-how of this process.

A careful design of the project, where the cost sharing concept is implemented from the start of the project with a gradual increase of the beneficiaries share as the project progresses would be helpful to insure sustainability for self developmental activities.

6.5. Cultivating Success Ingredients

Our exercise here highlights the following ingredients which are critical for the success of projects and for an enhanced outcome:

- a. Choice of the project. A project would have a better chance of success if implemented on area or a region which was not the subject of many similar studies in the past. A case in point is the community Participation in Health Promotion, where one of the drawbacks is the fact that Shanawan / Kafr Shanawan is looked upon as an over-research area.
- b. Networking mechanisms. Such mechanisms are important both for reach and sustainability as may conducted from the Industry Technology Support System and the Pilot Cattle Information System.
- c. Interdisciplinary composition of the research team, that will insure more round outputs and quality research outcomes.
- d. The Choice of the PI, this will make a huge impact if the leader has visionary guidance and coordination.
- e. Involving the beneficiaries/stockholders, this will insure relevance of the activity to the needs of recipients.
- f. Commercialization: It will enhance the outcome if additional effort is put into commercializing (the fuel-saving stove of Wadi Allaqi Project, and the Milk-Data recording system software of the Pilot Cattle Information System).
- g. Design for sustainability where cost-sharing policies should be considered and implemented early enough in the project and introduced in a gradual manner.

VII. Recommendations:

1. IDRC to develop a standard format for documenting inputs, outputs and impact. "The framework for evaluation" should be made to project leaders from the beginning.
2. Projects should have built-in mechanisms of sustainability, such as involving decision-making bodies, collaborating NGO's. A good formula is to link the delivery agent and direct beneficiaries via a permanent body (NGO, Business Association, etc...). This is the responsibility of IDRC/Delivery Agent (project officer / project leader).
3. Additional little extra funding may be considered, on basis of cost-sharing with delivery agent, to be allocated for achieving sustainability for projects ripe enough for this exercise.
4. Project leader and IDRC to integrate economic inputs into research proposals to ensure economic viability of outputs of research projects.
5. A mechanism for better monitoring and follow-up is needed, this may need developing indicators to be embedded in the project design to monitor and assess how the project is progressing. This should be worked between project officer and delivery agent.
6. To enhance its capacity as a knowledge broker, IDRC may consider initiating an information outfit/centre to propagate the use of information (idea of information being the **output** of funded projects as **inputs** in policy making). This may be an independent outfit from IDRC. A full study of how to enhance the mechanisms of utilizing research results of IDRC projects may be considered.
7. Requiring recipients to have a number of copies (10) of final report deposited in the National Library and/or Library of Academy of Scientific Research and Technology, as well as IDRC regional / central libraries.
8. To hold an annual meeting/conference to discuss results of IDRC-funded research; either for all projects or for related projects.
9. IDRC and delivery agent should consider documenting the project efforts/deliverables in a form of professionally produced case study book / video tape etc., so as the success stories could be studied and replicated.

Annex (1) : Consultants for the Evaluated Projects(1)

Name and Affiliation	Project Title	Project No.
Dr. Mohamed Hassan Abdel Aal American University in Cairo	Communication Process : An Avenue for Sustaining Improved Health and Sanitation	7
	Community Participation in Health Promotion at the District Level, Phase II	8
Prof. Nabil Fahmy Abdel-Hakim, Faculty of Agriculture, Al-Azhar University, Cairo	Pilot Cattle Information System	10
Prof. Gouda Abdel-Khalek, Faculty of Economics & Political Science, Cairo University (*)	Labour information System	9
	Structural Adjustment and Agriculture	3
Dr. Hassan Abu Bakr, Faculty of Agriculture, Cairo University	Desert Farming Systems, Phase III	1
	Integrated Pest Management	2
Prof. Aleya Hassan Hussein, Faculty of Arts, Cairo University	Environmental Management of Fuelwood Resources in Wadi Allaqi	4
Prof. Sherif Hussien Kandil, Institute of Graduate Studies and Research, Alexandria University (*)	Sponge/Cast Iron Technology Transfer-Phase II	5
	Industry Technology Support System-Dakahlia	6

(1) in Alphabetical Order

(*) Team Coordinators

Annex (2)

Participants to the Feed-back and Verification Workshop dated July 29, 1997

1. Dr. Mohamed Eweida, RCRD - Faculty of Agriculture, Mansoura University.
2. Dr. Sherif Kandil, Institute of Graduate Studies and Research, Alexandria University.
3. Dr. Aleya Hassan Hussein, Faculty of Arts, Cairo University.
4. Dr. Ahmed Esmat Belal, South Valley University.
5. Dr. Fawzy Kishk, IDRC, Cairo Office.
6. Dr. A. Sabbah, DDC / American University at Cairo.
7. Dr. Mohamed H. Abdel Aal, SRC / American University at Cairo.
8. Dr. Hassan Abou Bakr, Faculty of Agriculture, Cairo University.
9. Dr. Gamal Siam, Centre for Agric. & Econ. Studies, Faculty of Agriculture, Cairo University.
10. Dr. Ashraf H. Barkawi, Faculty of Agriculture, Cairo University.
11. Dr. Ali A. Nigm, Faculty of Agriculture, Cairo University.
12. Dr. Nabil Fahmy, Faculty of Agriculture, Al-Azhar University.
13. Dr. Adel Nofal, Central Metallurgical Research and Development Institute, Cairo.
14. Dr. Gouda Abdel-Khalek, Faculty of Economics, Cairo University.
15. Dr. Mokhtar Hallouda, Director, ECIS, Cairo.