

## Background Information

- A number of regional water resources assessment studies have been undertaken and much attention have also been given to capacity building and institutional development.
- To tackle the problems of water logging, surface drainage and salinity in African countries, it is suggested that Egypt would be in a good position to take a leading role in Agricultural drainage and irrigation development at the farm level in Africa.
- Egypt being member of the International commission on Irrigation and Drainage (ICID) has suggested the proposal of having a Regional Drainage Training Center for Africa. The ICID, has supported strongly this proposal.
- Based on the recommendations of the ICID, the International Program for Technology and Research in Irrigation and Drainage (IPTRID) under its initiative of capacity Building for Research and Development and Technology Transfer in Drainage in Africa carried out in coordination with the DRI of Egypt two important activities.

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## On-Farm Water Management Program Irrigation and Drainage For Africa

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## Background Information

- Recommendations related to capacity building:
  - There is a need of more cooperation between the countries of the region and between them and the international organizations.
  - Capacity building needs better planning, operating and sustainable and integrated water resources management.
  - Develop a broader and more integrated view of drainage and salinity.
  - There is an essential need in education, training and improvement for the staff working in the field of drainage in most of region countries.
  - There is a need for research in the subjects relevant to drainage in particular in particular the maintenance and performance assessment of the drainage systems.
  - Finally there is a need for establishing An African Drainage Center as soon as possible to cope with the sever drainage problems in African Countries.

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## Background Information

An assessment of the status of drainage in general and national capacity (institutions and human resources) to handle Irrigation and Drainage and Technology transfer in drainage in selected African countries, including Morocco, Algeria, Tunisia, Libya, Egypt, Sudan, Somalia and Ethiopia, was carried out and a workshop 10-14 March 2001 was conducted leading to a summary as follows:

- In most of the countries especially of North Africa, there is a lack in local experience, and technology capacity.
- Human capacity in the field of drainage is of low level
- There are no real strategies for drainage development
- There is specific capacity for Agricultural drainage
- Financing capacity is often unavailable

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## Relevance of the program to the region

- Officials interviewed in some African Countries (supported by IPTRID program) stress that the proposed drainage program should be offered to university graduates as priority working in the irrigation sector. The program must emphasize the practical side and provide adequate training for solving day-to-day problems encountered in the African countries.
- To link theory and practical application is a valuable means of exchanging experience and knowledge between professionals.
- The Drainage Training Center should also put in its program an emphasis on training other levels of training such as supervisors, instructors, high level professionals, supervisions, trainers, and technicians.

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## Relevance of the program to the region

- The proposed drainage program is considered in response to and a reflection of the African members of the "working group on Drainage of the ICID and the African Regional Training needs as indicated in the IPTRID workshop of March 2001". The following recent statements as an output of many African participants are as follows:
  - Special training programs should be designed for the various regions of African. These should use indigenous management structures and promote the exchange of successful examples, models, and experiences between the African Countries.
  - On-the job training should be institutionalized and carried out on a regular basis training of trainers is a priority area.
  - The proposed course program is a much needed training effort that addresses the drainage problems and requirements of countries in the region.

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## The First On-Farm Water Management

Drainage course - (Nov,20 – Dec, 9, 2004)

### The course contents were:

- Introduction to drainage management
- Interaction between irrigation and drainage
- Drainage principals and criteria for rainy areas
- Drainage principals and criteria for irrigated areas
- Drainage criteria for problematic soils
- Drainage of sloping lands
- Drainage investigation techniques
- Planning drainage systems
- Design of surface and subsurface drainage systems
- Vertical drainage system
- Computer aided design of drainage system

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## The First On-Farm Water Management

Drainage course - (Nov,20 – Dec, 9, 2004)

- The Ministry of Water Resources and irrigation of Egypt (MWRI), the Egyptian Fund for Technical Cooperation with Africa and the Japanese International Cooperation Agency (JICA) cooperated with each other in organizing a training course in the field of drainage. The training program was organized by the Regional Center for Training and Water Studies (RCTWS) under the auspices of UNESCO.
- The duration of the course was three weeks. The participants were allowed also to attend the First African Regional Conference on Drainage (ARCOD) "Challenges and Opportunities for enhancing quality of life" (6-9 December 2004) under the auspices of the ICID.

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## The Second on Farm Water Management Course

(Irrigation and Drainage )-Nov, 12 to Dec, 22 , 2005

- The Unawareness of the need for drainage and of the interaction between irrigation and drainage is an often observed complication in agriculture land development. Many of the environmental problems caused by agricultural practices can be prevented or mitigated through applying drainage.
- Drainage is needed in combination with irrigation to prevent water logging conditions and soil salinization.
- The Ministry of Water Resources and Irrigation and Egypt (MWR), the Egyptian Fund for Technical Cooperation Agency (EFTCA), and the Japan International Cooperation Agency (JICA) and United Nation Educational Scientific and Cultural Organization (UNESCO) responded to the need of development of professionals capacities for modernization and management of irrigation and drainage systems as a part of a series of courses to be offered by the Regional Center for Training and Water Studies in Egypt (RCTWS).
- The present second course covers the on farm irrigation management for 3 weeks followed by the on-farm drainage management for another 3 weeks in English Language.

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## The First On-Farm Water Management

Course -Drainage - (Nov,20 – Dec, 9, 2004)

### The course contents were:

- Drainage models for planning, design and management
- Drainage materials and machines
- Operation and maintenance of drainage systems
- Drainage performance assessments
- Environmental impacts of drainage projects
- Water quality aspects
- Reuse of drainage water in irrigation
- Economic issues in drainage
- Case studies and exercises
- Fields visits

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## Course Objectives

The main objectives of the course are:

- To offer participants a comprehensive view of the various aspects of irrigation and drainage systems management on the farm level.
- To improve individual's technical and managerial capabilities.
- To encourage the exchange of know-how and experience with their colleagues.
- To create a human resources pool of highly skilled professional in the area of irrigation and drainage.

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## The Participants

Participants will be:

- Professionals actively working in the field on:
  - Land and water development
  - Particularly in irrigation and drainage, design, operation, management, and maintenance .
- At least three years of experience in the relevant fields are requested for participants .
- Have good working knowledge of English Language

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## Outline of The Course

### Part II: On-Farm Drainage

- The On-Farm drainage will cover the following subjects:
  - General**
    - Soil physical and chemical properties



## Outline of The Course

### Part I: On-Farm Irrigation

- The On-Farm irrigation program will cover the following subjects:
  - General**
    - Soil-water plant relationships
    - Crop water requirement
    - Problem identification and analysis
  - Planning and Design**
    - Water distribution and control systems
    - Efficiency of various irrigation techniques
    - Modernization of the system
  - Management**
    - Operation and maintenance
    - Participatory approach
    - Economic analysis



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## Course Arrangement

- RCTWS was established to serve the capacity building and human resources development for professionals working in the area of water resources within local and regional levels.
- RCTWS premises include:
  - Lecture rooms,
  - Computer facilities
  - Conference halls,
  - Language laboratories
  - Accommodation facilities.
  - Full board services.
  - Sport facilities
  - Swimming pool



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## Course Arrangement

### Venue

- The course will be held in the Regional Center for Training and Water Studies (RCTWS) located at 6th of October City about 25km from Central Cairo.
- Since January 2002, RCTWS was selected by UNESCO to act as the Regional Center for Training for Arid and Semi-Arid regions. The RCTWS also serves as the implementing training institution for Nile Basin initiative/shared vision program (NBI/SVP), starting January 2004.



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Thank you

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