

# THAILAND

## MAINTENANCE AND OPERATION OF IRRIGATION PROJECTS PHASES I AND II

<b>Location</b>	Nationwide
<b>Client</b>	Royal Irrigation Department (RID), Bangkok
<b>Financing</b>	German Financial Cooperation / KfW
<b>Period</b>	1983 – 2002
<b>Value of Services</b>	8.400 million US\$



### Project Description

Improvement of maintenance of irrigation systems in RID-Regions I, IV, VII, VIII, IX, and XII: 38 large-scale and 135 medium-scale projects, serving an area of about 1.9 million ha, with a total of approx. 11,500 km of irrigation canals. Major activities included: institutional adjustments, training of staff, procurement of maintenance equipment (27 million US\$), and assistance in implementation of routine maintenance.

### Scope of Services

#### MIP I&O Pilot Phase (Northeast of Thailand) (1983 - 1991)

Development of a systematic maintenance approach and introduction of efficient water management principles (overall irrigation management as well as on-farm) in RID-Region IV (Khon Kaen), serving a total of about 90,000 ha irrigated area with a total length of some 2,200 km of canals.

- Inventory of infrastructure and of damage and deficiencies, analysis of existing conditions and of the corresponding institutional situation,
- Development of maintenance and operation plans, focusing on essential institutional adjustments, annual maintenance quantities, appropriate work methods, on-farm water distribution, formation of water user groups
- Development of extensive computer programmes for maintenance management (PMMS, EMMS) and efficient water management
- Specification of maintenance equipment and assistance in procurement
- Preparation of O&M manuals and M&E concepts
- Training of staff
- Development and verification of unit cost in routine maintenance

#### MIP II Countrywide Introduction (1989 - 2002)

##### **Phase I, Strategy Study in Five Regions (1989 - 1992):**

- General Inventory of irrigation infrastructure
- Estimate of resources requirements for routine maintenance and operation
- Selection of four priority regions

**Phase II, Feasibility Study in Four Selected Regions (1989 - 1992):**

- Assessment of existing maintenance needs, work methods, operation plans, task descriptions and adjustment to routine maintenance requirements (MIP I concept)
- Determination of equipment requirements, preparation of technical specs. for international procurement
- Determination of staff and organizational requirements, assessment of training needs.

**Phase III, Preparation of Nationwide Implementation (1995 - 1999):**

- Equipment procurement
- Institutional adjustments
- Production of training materials; training of staff
- Baseline survey and indicators to assess input
- Update of computer-based maintenance plans

**Phase IV, Implementation (1997 - 2002):**

- Establishment of organizational structure
- Training in routine maintenance and equipment use
- Supervision and assistance in management of maintenance implementation
- Monitoring and evaluation of maintenance effectiveness