

"These values are calculated from E_T by applying the calculating correcting factor.

"When accumulated deficiency reaches the corresponding value of the preceding water duty, the farmer knows that he has to begin irrigation without being obliged to gauge directly the soil moisture."

IRRIGATION SCHEME UNDERTAKEN BY DOMINICAN REPUBLIC

The International Development Association (IDA) has approved a \$13.0 million credit to help finance the largest irrigation scheme ever undertaken by the Dominican Republic. The project will have a total cost estimated at \$39 million. The project will provide water supply to 27,200 ha (68,000 acres) by replacing and improving the existing irrigation system for about 14,000 ha (35,000 acres) and bring about 13,320 ha (33,300 acres) of new land under irrigation. At the same time, it will provide for future expansion of the system by building a main irrigation canal with adequate capacity to serve a total 40,000 ha (100,000 acres).

The project is expected to provide land for some 2,000 new smallholder farmers, create new employment opportunities and improve the distribution of income among the population. The project works include: a diversion dam, a sluice structure, desilting works and an intake structure on the Yaque del Norte River at Santiago de los Caballeros; a 72-km (45-mile) concrete lined main canal; a distribution system of concrete-lined canals of about 296 km (185 miles); a 480-km (300-mile) drainage system, nearly half of it using reconconditioned natural drains; about 376 km (235 miles) of roads along the main and secondary canals; on farm irrigation, drainage canals and land levelling; a pumping plant to serve about 1,600 ha (4,000 acres) above the main canal; and equipment including a telecommunication system to connect the key operating stations for the project.

IRRIGATION PROJECT IN IRAQ TO BE MODERNIZED

The World Bank will assist Iraq's land reclamation and agricultural development program with a \$40.0 million loan for an irrigation project in the Lower Khalis Region between the Diyala and Tigris Rivers. The \$78 million project is part of the Government's long-term planned development of 346,000 ha (865,000 acres) in the Diyala Basin and will replace haphazard and inadequate irrigation in about 56,000 ha (140,000 acres) in the Lower Khalis area, north-east of Baghdad. The project consists of the construction of a new irrigation distribution system, including a 45-km (30-mile) extension of the Khalis main canal bringing the waters of the Diyala River through the Upper Khalis region to the project area, and construction of an extensive land drainage system.

Agriculture accounts for one-fifth of Iraq's gross domestic product and employs about half of the labor

force. However, the productivity of the sector is low and increasing only slowly. The major constraints include the reliance of agriculture on the vagaries of rainfall, shortage of irrigation water and insufficient water distribution and control facilities, besides excessive salinity and poor drainage. The Iraqi Government is aware of these problems and has accorded high priority for the improvement of the agricultural sector in the current National Development Plan (1970-74).

The project is expected to bring about systematic and intensive agriculture in an area, with some 70,000 inhabitants, where cropping intensity and yields are low and there is a little prospect for improvement without the project.

At full development, the project will substantially raise farmers' incomes, double employment in the area to some 17,000 man-years, and increase the annual gross value of production to about 30 million, or nearly six times the output which would be likely without the project.

NEW PROJECT IN SOUTHERN TURKEY

A multipurpose irrigation and power project in Turkey to help meet growing demand for electricity, increase agricultural production and exports, raise farmers' incomes, and help prevent flooding of the Ceyhan River will be assisted by a World Bank loan of \$44.0 million and a \$30.0 million credit by the Bank's affiliate, the International Development Association (IDA). The project will cost an estimated \$326.6 million and is located on the Ceyhan Plain in the Cukurova Region of Southern Turkey. In addition, loans and credits totaling \$44.7 million have been made for power projects in the Cukurova Region.

The project will add 138 megawatts to Turkey's generating capacity, irrigate and drain some 96,000 ha (240,000 acres), and provide flood protection for about 24,000 ha (85,000 acres) of irrigable land. It has been designed so that additional 32,000 ha (80,000 acres) can be irrigated at a later date. The project also includes an integrated extension service, provision of farmers' credits, dairy cattle for farm demonstration, feeder roads, buildings, consultant services, and training.

At full development, the project is expected to increase the value of annual production in the area by \$31.1 million over what it would be without the project and provide an additional \$6.0 million in power benefits. Much of the increased production will be in cotton, wheat and vegetables for export, earning about \$20 million a year in foreign exchange. Some 16,000 families in the area will benefit from the project through greater employment and increased earnings.

An earthfill dam will be built upstream of the irrigation and flood control area and a power plant with four 46-megawatt turbines and generators will be constructed. Existing flood control dikes will be raised, and extended downstream for a total of 38 miles. The irrigation system will include 160 km (99 miles) of main conveyance canals, 147 km (92

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