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Plastic Drainage Tubing, and the following year, the Quebec Bureau of Standards published a slightly modified Standard for Corrugated Polyethylene Drainage Tubing.

Since the use and manufacture of corrugated plastic drainage tubing had expanded greatly into several other provinces, a national Committee representing governments, users and producers across Canada was established early in 1972 by the Canadian Government Specifications Board (CGSB). In April, 1973, CGSB Standard No. 41-GP-29, "Standard for Corrugated Plastic Drainage Tubing", was published.

The CGSB Standard applies to corrugated plastic drainage tubing and fittings made from thermoplastic materials intended for subsurface usage in land drainage and building construction applications limited to foundation and under-floor drainage. Three types of tubing are classified: non-perforated, perforated, and tubing with special perforations for applications other than agricultural land drainage. Tubing must meet requirements for (*a*) Material, (*b*) Workmanship, (*c*) Dimensions (inside diameter, length and size of water openings), (*d*) Bending (under cold conditions), (*e*) Straightening (under cold conditions), (*f*) Stiffness (using a slightly modified ASTM D2412 test method), (*g*) Creep Resistance (constant load test), (*h*) Impact Resistance (drop weight test under cold conditions), and (*i*) Joint Separation Resistance (static load test for joints made with couplings). It is considered that these selected requirements provide adequate assurance of tubing quality under the intended conditions of use stated above

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NARAYANI ZONE IRRIGATION PROJECT (NEPAL)

The Narayani Zone Irrigation Project, located in the Tarai region of Nepal, is to provide canal irrigation facilities to a total area of 32,400 ha (71,000 acres) and tubewell irrigation to 2,800 ha (7,000 acres). It will also provide drainage on-farm development service roads, agricultural extension and research services in the project area and for training, advisory services and feasibility studies of additional surface irrigation projects

Estimated to cost $ 10 million, the project is scheduled to be completed by 1978. When fully developed, it will increase foodgrains output equivalent to $ 7 million a year. This in turn will lead to increased agricultural income and employment opportunities for some 20,000 farm families in the area, the majority of whom are subsistence small holders with incomes below the national average farm income.

CHAO PHYA IRRIGATION IMPROVEMENT PROJECT (THAILAND)

The Chao Phya Irrigation Improvement Project is designed mainly to increase rice production in the northern Chao Phya plain. Through better water control, the project will make double cropping possible in an area of about 16,997 ha (42,000 acres), with a total farm population of approximately 40,000.

The project comprises rehabilitation of irrigation canals, drains and roads serving the project areas; on-farm development works involving the survey, planning and construction of irrigation and drainage ditches, farm roads, land levelling, re-alignment of boundaries on 9,880 ha (24,700 acres): repair or construction of farm irrigation and drainage ditches and minor works related thereto on 6,920 ha (17,300 acres): provision of necessary supporting agricultural services to farmers including extension, research, seed multiplication, credit, a fisheries' development scheme, equipment and vehicles, and the construction of necessary buildings; a feasibility study for a second stage project in the Northern Chao Phya Plain and the study to propose cost recovery levels and collection procedures.

The total estimated cost of the project is $ 10.6 million and it is scheduled for completion by 1978.

MULTIPURPOSE IRRIGATION AND POWER PROJECT IN TURKEY

The Multipurpose Irrigation and Power Project in Turkey, estimated to cost $ 326.6 million and scheduled for completion by mid-1981, is located on the Ceyhan Plain in the Cukurova Region of Southern Turkey, east of the Ceyhan Irrigation Project under construction.

The project consists of the construction of an earth-fill dam upstream from Ceyhan in Southern Turkey for irrigation, flood control and power generation; construction of 138 megawatt power plant at dam; provision of irrigation system serving some 96,000 ha (240,000 acres), flood protection for some 32,000 ha (80,000 acres); on-farm development including land levelling, drainage; construction of about 480 km (300 miles) of all-weather feeder roads; construction of buildings, workshops, communications facilities; technical assistance.

At full development, the project is expected to increase the value of annual production in the area by $ 35.1 million over what it would be without the project and provide an additional $ 6.0 million equivalent in power benefits. Much of the increased production will be in cotton, fruit and vegetables for export, earning about $ 20 million a year in foreign exchange

Some 16,000 farm families in the area will benefit from the project through greater employment and increased earnings. Family labor employment is expected to double and hired labor to quintuple. In

addition, the project will generate employment in the supply of inputs, processing and marketing, and in transportation.

The implementation of the project will be done by : DSI (State Hydraulic Works Agency), Ankara, Turkey-construction of dam, power plant, flood protection works, irrigation and drainage works; Topraksu (Soil Conservation Agency), Ankara, Turkey—farm development works, feeder roads; Extension Service, Ministry of Agriculture, Ankara, Turkey—extension services; ABT (Agricultural Bank of Turkey), Ankara, Turkey—agricultural credit.

RAHAD IRRIGATION PROJECT (SUDAN)

The Rahad Irrigation Project, costing $ 100 million and located about 160 km south-east of Khartoum on the east bank of the Rahad River at and above its junction with the Blue Nile River, aims at the development of about 120,000 ha. The works include: construction of electrically-powered pumping station at Meina on the Blue Nile, a 83.2-km (52-mile) supply canal from Meina to the Rahad River, a barrage and head regulator on the Rahad River, and an irrigation and drainage system covering the project area; construction of headquarters, offices, staff houses with necessary utilities and roads; provision of power transmission lines to supply pumping station and project area; provision of agricultural equipment and processing facilities including farm machinery, ginneries, decorticators, warehouses and a light railway; water supply and public health facilities for new settlers' villages; initial inventory of chemicals and equipment for bilharzia and malaria control; settlement of area including bush clearance, land levelling; farms for seed production and research; consultant services.

The project is expected to be completed by 1978. Some 14,000 farm families in the project area are expected to benefit with incomes almost trebling to an annual $ 575-$ 690 equivalent range. Moreover, seasonal farm employment will be provided for some 90,000 workers. The increase in agricultural production is expected to result in net foreign exchange earnings of about $ 27 million annually.

The project will be executed by the Ministry of Irrigation, Khartoum, Sudan, and the Rahad Corporation, a semi-autonomous Government organization created especially for the project and responsible to the Minister of Agriculture.

YAQUE DEL NORTE PROJECT (DOMINICAN REPUBLIC)

The project, in the valley of the Yaque del Norte River, estimated to cost $ 39 million, will provide irrigation 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 of 40,000 ha (100,000 acres).

Agriculture is the most important sector of the Dominican Republican economy. It accounts for nearly 25 per cent of the country's GDP, about 60 per cent of total employment, and more than 90 per cent of commodity export value. The above project will play a major role in the Government's agricultural development efforts, since it will be the first integrated land reform and agricultural development project to be carried out in the country.

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 reconditioned natural drains; about 376 km (235 miles) of roads along the main and secondary canals; on-farm irrigation and 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. The project is expected to be completed by December, 1979.

IRRIGATION PROJECT IN THE LOWER KHALIS REGION, IRAQ

The World Bank will assist Iraq's land reclamation and agricultural development program for an irrigation project in the Lower Khalis region between the Diyala and Tigris Rivers.

The $78-million project is a 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 48-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. It will also include the construction of feeder roads, offices and staff housing, provision of maintenance equipment vehicles and spare parts; and technical assistance for certain essential studies and their implementation, and initial operation of the project.