

FORM No. 75
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INTERNATIONAL BANK FOR
RECONSTRUCTION AND DEVELOPMENT

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Mr. Kaitlow 492		
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REMARKS		
From <i>A. Stevenson</i>		

June 21, 1960
Mr. Knitly
Sudke

This is a revised version which was for
K. W. Lane. A.J.

Sudan - the Roseires Project

1. History and Location

a) There have been plans to provide water storage in the general area of the project since as early as 1904. Not until 1952, however, were these plans reactivated when the Sudanese Government engaged consulting engineers? *Open Files* to investigate and recommend on the feasibility of a dam to have at least one billion cubic meters storage capacity. In 1955, Sir Alexander Gibb and Partners (U.K.) and Messrs. Andre Coyne and Jean Billier (France) were retained to act as joint consultants for the project.

b) It is now proposed that a dam be constructed on the Blue Nile at a site known as the Damazin Rapids, about 100 kilometers downstream from the Ethiopian border and near the village of Roseires.

2. Technical Features

a) The first phase of the Roseires Project comprises the construction of the dam and works necessary to regulate the release of the stored water into the river-bed downstream. The water so returned would be used for pump irrigation schemes connected to the river and for gravity schemes linked to the Sennar Dam canal network.

b) The gross quantity of water to be impounded is estimated at 2930 million m³. The evaporation loss is calculated at 300 million m³ annually and the net availability, therefore, at 2630 million m³ per annum.

c) The construction period of the dam is currently estimated to be seven years from the date of awarding the first contract.

3. The Use of Water

The water would be used primarily to develop about 650,000 acres additional pump irrigation and 200,000 acres additional gravity irrigation. In addition, the water will also be used:

a) To make possible full use of existing gravity and pump irrigation schemes during the period (January to June) when the present flow of the Blue Nile is insufficient.

b) To release for irrigation 332 million m³ of stored water from the Sennar Dam now required for the generation of power.

The second phase of the project would cover the construction of the various works required to utilise the Roseires water fully.

4. Returns

Tentative figures based on present cropping patterns and yields on similar areas indicate an estimated value of crop production from the project

of about ES 36 million of which approximately 75 per cent would be derived from cotton while the balance would be from wheat, groundnuts, dura, and other crops. This figure does not take into account any increase in value of livestock in which field there are substantial potentialities.

5. Costs

a) The total investment required would be approximately as follows: (expressed in millions of Sudanese pounds):

	Local Currency	Foreign Currency	Total
The first phase			
Roseires Dam	15.3	19.9	35.2 ^{1/}
The second phase			
Government pump schemes (sugar)	0.65	0.55	1.2
Government pump schemes (other)	0.65	0.55	1.2
Private pump schemes	9.4	7.7	17.1
Genira extension	<u>5.0</u>	<u>4.0</u>	<u>9.0</u>
Total	31.0	32.7	63.7

b) It should be noted that the above figures are based on data now available and under review in the Bank and are subject to revision.

6. Financing

Only when a full appraisal of the project is available later this summer will it be possible to discuss its financing in detail, but some of the main probable features may be set out tentatively:

a) If the project is to go ahead in the near future financial commitments should be made fairly soon on the first phase (the dam) and on the second phase only about four or five years later. The foreign exchange cost of the first phase is estimated at about 5^{2/} million dollars and of the second phase at roughly 25 million dollars. However, by the very nature of the project it would not be reasonable to go ahead with the first phase unless one could be fairly sure that the financing for the second would be forthcoming in due time.

b) As regards the first, and probably the second phase also, the Sudanese Government should in normal circumstances be able to put up the local currency required.

c) Provided the economic position of Sudan does not deteriorate substantially outright grants should probably not be required for the project although some contribution from IDA may be contemplated.

^{1/} The consulting engineers are currently reviewing the cost estimated of the dam construction; revised figures are expected to be available some time in July, 1960.

^{2/} Assuming that a part of the private pump schemes would be financed by the landowners.

d) Any external financing provided for foreign exchange costs should be on as long a term as possible. A Bank loan for part of it would probably have a term of 25 to 30 years.

e) In view of the seven-year construction period required for the dam a long period of grace is indicated.