

SHRI D. P. KAEMARKAR: Sir, I am referring in this answer to the Industrial Development Corporation which is being initiated by us.

DESIGNS OF TILAYA DAMIND.V.C.

*495. SHRI S. MAHANTY: Will the Minister for IRRIGATION AND POWER be pleased to state:

(a) the name of the person who prepared the original designs of the Tilaya Dam in Damodar Valley Corporation;

(b) what amount was paid in the shape of fees for preparing the said designs and when they were approved;

(c) whether any changes were subsequently made in the original designs; and

(d) if the answer to part (c) above be in the affirmative, what was the extra cost involved on this account?

THE DEPUTY MINISTER FOR IRRIGATION AND POWER (SHRI J. S. L. HATHI): (a) Mr. W. L. Voorduin, Member of the late Central Technical Power Board.

(b) Nil. The designs were prepared departmentally in 1946, before the establishment of the D. V. Corporation.

(c) Yes, Sir.

(d) None, as it was done departmentally.

SHRI S. MAHANTY: Sir, may I know the name of the Consulting Engineer for the Tilaya Dam and the name of the contractor?

SHRI J. S. L. HATHI: The Consulting Engineers were Mr. L. F. Harza, Mr. S. F. Harper and Mr. A. R. Venkatachari but it was done departmentally.

SHRI S. MAHANTY: The name of the contractor.

SHRI J. S. L. HATHI: For the Konar or for the Tilaya Dam?

SHRI S. MAHANTY: For Tilaya.

SHRI J. S. L. HATHI: Tilaya was done departmentally.

SHRI S. MAHANTY: What was the percentage of increase over the original estimate due to the change of these designs? Secondly, I want to know, after the original design was accepted, how many times it has been changed since its acceptance and in which years.

SHRI J. S. L. HATHI: The original design was made in 1945-46 by Mr. Voorduin; subsequently it was changed in 1948, again in 1949 and the latest change was made in 1950. The original estimate was Rs. 2'15 crores, then it was reduced to Rs. 1'96 crores, and now it is Rs. 3 crores.

SHRI S. MAHANTY: Will the hon. Minister kindly let us know the percentage of increase over the original estimate specifically on account of the change of design so frequently? I also wish to know whether these changes in the design were effected due to the advice tendered by the Consulting Engineers?

SHRI J. S. L. HATHI: The changes in design were not due to the advice of the Consulting Engineers but there was a difference of opinion as to the type of dam to be constructed. Mr. Voorduin suggested that it should be an earth dam; another Member of the Board suggested that it would be better if it were a masonry dam, and then Mr. Venkatachari, the third Consulting Engineer, who was a Member on the Board that was established in 1950—before that they were all members of the original Central Technical Commission here—suggested that it would be better if it were a concrete dam and so finally this was taken up. The rise in percentage of costs will be found from the figures I have supplied: the original estimate was Rs. 2'15 crores and the present estimate is Rs. 3 crores.

SHRI B. GUPTA: May I know, Sir, if at any time certain American Engineers were consulted?

SHRI J. S. L. HATHI: I think, Sir, American engineers were consulted once, but I am not quite sure.

SHRI B. GUPTA: May I know, Sir, how much it cost for getting their advice?

SHRI J. S. L. HATHI: I have no figures.

SHRI S. N. MAZUMDAR: May I know, Sir, whether the question about the necessity of a dam at Tilaya was raised at any time?

SHRI J. S. L. HATHI: That question was never raised.

SHRI S. N. MAZUMDAR: Has not this question been raised later on?

SHRI J. S. L. HATHI: I have no information about that.

SHRI S. N. MAZUMDAR: May I know, Sir, if my hon. friend can explain the purpose of constructing a dam at Tilaya, whether it is for flood control or for irrigation?

SHRI J. S. L. HATHI: It is for flood control as well as for irrigation.

SHRI S. N. MAZUMDAR: Is my hon. friend aware, Sir, that the catchment area is far away below from the place where the dam is constructed at Tilaya and as such this dam would not be useful for flood control at all?

SHRI J. S. L. HATHI: I think, Sir, we are going off the question.

PREPARATION OF DESIGNS FOR KONAR DAM OF DAMODAR VALLEY CORPORATION

*496. SHRI S. MAHANTY: Will the Minister for IRRIGATION AND POWER be pleased to state:

(a) who prepared the designs for the Konar Dam of the Damodar Valley Corporation and on what date those designs were approved;

(b) whether any substantial changes were made in those designs after their preparation;

(c) if the answer to part (b) above be in the affirmative, what are the details of the changes effected; and

(d) what was the extra expenditure involved over the original estimates on account of these changes?

THE DEPUTY MINISTER FOR IRRIGATION AND POWER (SHRI J. S. L. HATHI): (a), (b), (c) and (d). A statement is laid on the Table of the House.

Statement

Before the D. V. C. came into existence, the Konar Project was first conceived in 1946 by Mr. W. L. Voorduin who submitted a preliminary memorandum on the Project proposing a central concrete spillway and intake section located in the river bed, flanked by rock fill embankments with a clay core. Investigations were continued on the basis of Voorduin's designs by Mr. Mattson of the late Central Technical Power Board. After the formation of D. V. C., preliminary proposals were invited by the D. V. C. from the Societe de Construction des Battignolles (S. C. B. for short). The S. C. B. suggested certain changes in Voorduin's design as they did not favour the concrete spillway in the river bed as proposed by Mr. Voorduin on the ground that large quantities of rock required for the rock-fill were unobtainable except at great cost. They, therefore, suggested an all-earth dam with a side-hill over-flow spillway and two diversion conduits, one of which was ultimately to serve intake power and other to provide a "morning glory" spillway. The S. C. B. designs submitted to D. V. C. in November 1949 were further scrutinized by M/s Gruner Bros, a firm of Consultants and were adopted by the D. V. C. on 15th of December 1949.

The work was started on the basis of S. C. B. designs through contractors. Soon after, M/s. Gruner Bros., Consulting Engineers of the D. V. C. suggested certain major changes in the designs. The clay blanket on the upstream side was changed into a central clay, core, the