

**Justification for locating the project in Forest Land and detailed alternate examine:-**

This project area comes under Angul Block of Angul District, which is a draught prone area, chronically affected with frequent bouts of draught. The agriculture in this area completely depends upon the rainfall, which is not dependence because of wide temporal & spatial distribution. As a result, the agricultural production is much below the average level. Agriculture being the main source of income, the per capita income of the people in this area is very low. So the inhabitants of the locality are continuing with poor education, mal-nutrition and poverty. The construction of a dam across Bauli nallah and providing irrigation is absolutely necessary to improve the agriculture output and economy of the region to mitigate the misery of the population, mostly belonging to Schedule Cast, Schedule Tribe and backward class.

Bauli nala is a tributary of Lingara River in the Brahmani Basin. The proposed Dam site near village Karadasing is site specific and technically ideal. Due to suitability of location and other conceptual advantage, as detailed below, alternative sites have not been explored during the engineering survey and investigation.

The gauge and discharge observation data at Karadasing has been recorded from 2005 to 2010 and found suitable. Initially, the yield series for Hidishig Irrigation Project was prepared basing on the observed gauge & discharge data for Sapua Badajore Project. However, after discussion with CWC authorities, nearby Derjang irrigation project was found more hydro meteorologically similar with Hidshing. Hence, yield series has been developed with the observed data of Derjang Irrigation Project with proportional catchment area for Hidsing Irrigation Project.

So a Dam Site has been selected near village Karadasing in Angul Block of Angul District, which is technically feasible and alignment of Canal system (1) Right Main Canal and (2) Left Main Canal (3) Alternate Road has been prepared for construction after alternate studies taken up to avoid/minimum use of forest land as well as home state land.

Not only the suitable location was considered and identified for construction of Dam, Canal system and alternate road but also it was emphasized to reduce destroying the cultivated land as well as virgin forest land. So in this case best site is selected for construction of Dam, Canal system and alternate road in technical point of view as well as barest minimum use of Forest Land.

  
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**Detailed alternate alignment route survey is given below: -**

During walk over survey of the routes all possible alternatives has been explored to reduce the Forest land, avoiding thick populated villages, Dense vegetation, and found route no. 3 is suitable for this project.

**Right Main Canal: -**

**Route No. 1:** -Total length of the route is 10.05kms and total forest land is involved 14.29Ha. The Full Supply Level (FSL) is not acceptable as it is not economical as per the design parameter of the Reservoir and this route is providing less command area.

**Route No. 2:** - The length of the route is 9.98kms and total forest land is involved 10.14Ha. The Full Supply Level (FSL) is not acceptable, as it is not economical as per design parameter of the Reservoir and the route is providing less command area.

**Route No. 3:-** The length of the route is 8.460kms and total forest land is involved 9.401Ha. The Full Supply Level (FSL) is justified to have a maximum command area. From Geological Investigation, fresh out crop rock is available at the present site (Axis) and this route is considered feasible and appropriate.

**Left Main Canal:-**

**Route No. 1:** - The length of the route is 16.34kms and total forest land is involved 7.12Ha. The Full Supply Level (FSL) is not acceptable as it is not economical as per design parameter of the Reservoir and this route is providing less command area.

**Route No. 2:** - The length of the route is 16.35kms and the total forest land is involved 8.116Ha. The Full Supply Level (FSL) is not acceptable as it is not economical as per design parameter of the Reservoir and this route is proving less command area.

**Route No. 3:** - The length of the route is 17.700kms and the total forest land is involved 6.238ha. The Full Supply Level (FSL) is justified to have a maximum command area. From Geological Investigation, fresh out crop rock is available at the present site (Axis) and hence this route is considered feasible and appropriate.

  
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**Alternate Road with alternate alignment:-**

As a potation of 3.60kms length of Angul – Tikarapada Road is coming under Reservoir submergence, and it will disconnect Satkosia Tiger Reserve Project, so it is decided to select an alternate road which will connect the Satkosia Tiger Reserve Project. Accordingly an alternate road has selected from Karatapata – Pampasar which will connect to Satkosia Tiger Reserve Project.

During walk over survey of the routes all possible alternatives has been explored to reduce the area Forest land, avoiding thick populated villages, Dense vegetation, and found route no. 3 is suitable for this project.

**Route No. 1:** - The length of the route is 6.94kms and total forest land is involved 16.702Ha out of which 8.286ha is Reserve Forest and having dense forest growth.

**Route No. 2:** - The length of the route is 5.75kms and the total forest land is involved 14.447ha out of which 6.989ha is Reserve Forest and having dense forest growth.

**Route No. 3:** - The length of the route is 5.37kms and the total forest land is involved 13.394ha out of which 6.052ha is Reserve Forest having bushy forest growth only and crop density is less than 40%, so this route is considered feasible and appropriate.

After extensive exercise of the above 3 routes ( Route-1, Route-2, & Route-3) are analyzed for construction of Canal System and alternate road of Hidsing Irrigation Project out of the above 3 routes. Route no 3 has been finalized for the following reasons.

1. The canal FSL (Full Supply level) is justified to have a maximum command area.
2. If the axis is shifted to U/S side, then some habitants will be under submergence.
3. If the axis is shifted to D/S, then the FSL of canal will be decreased and hence a less in command area.
4. From geological Investigation, fresh out crop of rock is available at present site (Axis) and hence this route is considered feasible and appropriate.
5. In case of alternate road, less forest land is involved and road length is minimum and this project is economical.

  
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