عنوان فارسی مقاله:

ارزیابی اثرات سرعت زیست محيطی (EIA) با استفاده از سنگش از راه دور و سیستم اطلاعات جغرافیایی (GIS) مطالعه موردی سد رودخانه Ib واقع در اوریسا

عنوان انگلیسی مقاله:

Rapid Environmental Impact Assessment (EIA) using Remote Sensing and Geographic Information Systems (GIS) – A case study of River Ib Barrage, Odisha

توجه!

این فایل تنها قسمتی از ترجمه میباشد. برای تهیه مقاله ترجمه شده کامل با فرمت ورд (قابل ویرایش) همراه با نسخه انگلیسی مقاله، اینجا کلیک کنید.
6. Conclusions

A barrage was proposed by Govt. of Odisha across the river Ib in 2005. One of the major design parameters is height of the barrage which determines the area submerged as well as the storage capacity of the barrage. RS and GIS were used along with a Micro-Digital Elevation Model (DEM) to calculate storage capacity and area of submergence for different heights of the barrage. Three alternatives for design height (4 m, 5 m and 6 m) of the barrage were evaluated.

As barrage height increases, so does storage volume resulting in a proportionate increase in loss of useful land due to submergence. None of the three barrage heights (4, 5 and 6 m) examined is capable of satisfying the total annual water demand of 94.5 million m$^3$/y in the study area. A height of 4 m, leads to submergence of 628 ha and satisfies only 6.5% of the annual water demand. Heights of 5 and 6 m will satisfy 10 and 14.6% of the annual water demand, respectively. However, these alternatives are not justifiable since the area submerged (useful land lost) is greater than the area to be irrigated. Based on simulations, a more reasonable alternative to the proposed height of 5 m is a barrage height of 4.5 m which will satisfy about 8.25% of the total annual water demand, and lead to the submergence of approximately 770 ha of useful land.