

Interactive comment on “Balancing energy and environmental concerns: the case of the Kayraktepe dam, Turkey” by Ö. Sever et al.

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We would like to thank for the valuable comments of the reviewer #2. We have reviewed referee' suggestions, and the necessary changes and explanations will be made in the revised article. An item-by-item summary of our responses to the review comments is provided in this sheet

Anonymous Referee #2 Received and published: 8 December 2012 While this paper if of interest, it does not present data and information in a way that is useful to a reader without intimate knowledge of the project. It also does not present data in a way where there can be any verification of the conclusions that have been made. Essentially, it does not follow the standard scientific method and for this reason should not be

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published. Specific comments: Page - Line Comment 11771-17 It is inappropriate to refer to the “infamous” WCD report. This is a subjective judgement. 11771-20 It is unnecessary to state that this was the “biggest” victory for NGOs etc. Rather the positive or negative scientific issues should be stated. The above two statement suggest that the authors are biased for or against dams and/or NGOs, which taints any objectivity that they could have had. 11771-23 It would be good to have a reference to the fact that Turkey objected to the WCD report.

The impact of WCD report was different to the public and state. The government of countries who are still in heavy dam business like India, Turkey, Brazil reacted to the report with heavy critics. On the contrary environmentalist activist saw it a strong tool to defend their position. Therefore, it did not serve to its purpose of to be a balancing tool in Turkey. Thus, we try to underline this issue. Re-consideration of Kayraktepe Dam was one of the impact of the report that the government decided to leave the dam to the public sector after failing to find export credit the Ilısu Dam (another controversial large of Turkey). It is expected that The discussion of Kayraktepe will further accelerate during funding process. This is one of the motivations for present study.

Thus in 11771/20 The reference of the Turkish Position will be inserted as (Turfan, 2000)

1) Turfan, M. Turkish Position against WCD report . 2000
http://www.talsperrenkomitee.de/symposium_benefits_and_concerns_about_dams/turkish_position_against_wcd_report.f

11772-1 What is the meaning of “liberalised”? Again, this implies a strong bias on the part of the authors.

It is used to describe change from state control, centralized system to decentralized and liberal economy.

11772 The first paragraph of this page does not make sense and needs to be re-written. What is the message?

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If editor let us such a change we will try our best.

11774 First paragraph – this paragraph characterises much of the paper as the description is poor and the reader is left with little understanding of the situation. For example, the sentence “The basic idea: : :.” assumes that the reader knows the background to the project as it does not describe the situation in a way suitable for a new-comer. This tendency is common in the paper and makes it difficult to interpret.

Instead of the basic idea the term “technical specifications of the dam” will be used.

11775-14 In the same vein as the comment above, the Mut Dam is introduced to the discussion with no preparation, as though the reader is already informed about its background and role in the system. This makes it very difficult to interpret the flood control functions of the dams. 11776-7 Again the Mut Dam is introduced to play a major role in the flood routing of the Kayraktepe Dam reducing the flood volume dramatically, but with no indication of how this was achieved. Because of this the description of the performance of all the dams in this system is not systematic and is difficult to interpret.

The figure 1 re-drawn to clear out the confusion.

11778-15 The discussion around the flushing of sediment from the dams is inadequate. While results using Basson are provided, there is no adequate explanation of what these mean or how they are interpreted.

The paragraph re-arranged as below:

The suitability of flushing can be examined by using criteria deduced from Basson’s Diagram (Basson and Rooseboom, 1997). The results for both the Kayraktepe-2010 and the Kayraktepe-1997 formulations are summarised in Table 5. In the table, $K_w (=C_0/MAR)$ and $K_t (=C_0/MSY)$ are the ratios of storage (C_0) to mean annual river runoff (MAR) and storage to mean annual sediment yield (MSY), respectively. According to Basson’s criteria, seasonal flushing is suggested in regions where K_w value is between 0.03–0.2. On the other hand, there will be excess water for flushing when

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30<Kt <100 (Tigrek and Aras, 2011). Therefore, Kayraktepe-1997 which has a very large storage capacity is not suitable for flushing; however, the Kayraktepe-2010 is suitable for seasonal flushing.

11779-7 Contrary to what is stated, there is no discussion about balancing energy and environment concerns.

The Kayraktepe Dam is a large dam and therefore it contains all the potentials of giving damages to its own environment but at the same time to contribute to the development desire of the country through its energy. Its scale is very large and there has been no any environmental impact assessment for it, yet. Therefore there is a limited number of study on the environmental properties of the area which will be occupied by the reservoir lake. However, the agricultural activities of the upstream are well known. So far, official reports of the dams are strengthening on its capacity of the energy production and flood control. Therefore in the present study we emphasizes that there could be some other choices, more environmentally friendly to reach the targets. Also, we want to still leave room to the environmentalist to discuss the project.

Figure 1b

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 11769, 2012.

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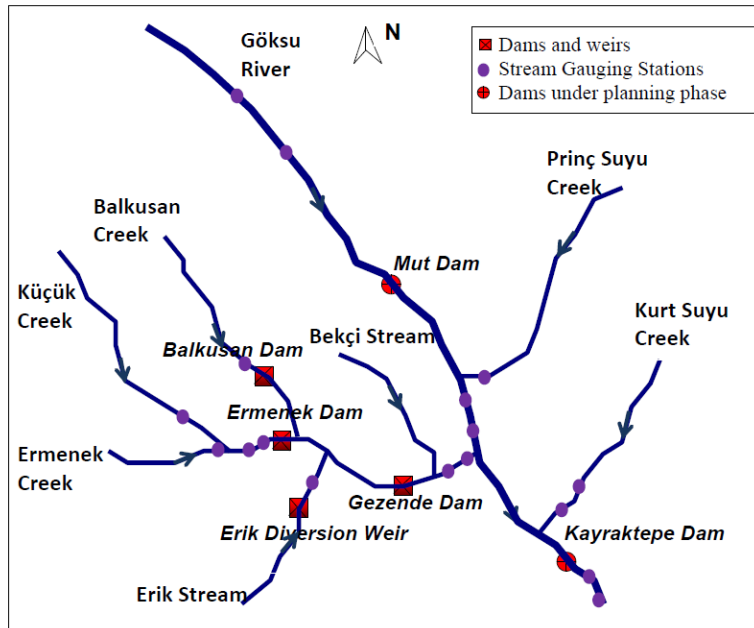


Fig. 1. Figure 1b

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