

Interactive comment on “The Indus basin in the framework of current and future water resources management” by A. N. Laghari et al.

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The present paper is concerned with the water resources management in the Indus basin which is a transboundary basin. Waters of this basin are subject to intense and at a few places, unsustainable development. Indus basin was the subject of a number of studies and papers published recently and due to these, the community of water professionals have a better understanding of the problems and possible solution for this basin.

My comments on the paper are as follows: 1 The abstract of the paper is too brief a more extended abstract would be helpful to the readers. 2 There were severe floods in the basin in July 2010 and these caused immense damage to infrastructure and econ-

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omy of Pakistan. About 20 million people were directly affected and nearly 2000 people perished in the floods. However, these floods do not find any mention in the paper and the topic of hydrologic disasters has not been covered. It will be a useful addition if the paper includes a discussion on this important aspect which is an integral part of basin water management. 3 Many topics and management options that have been discussed in the current paper were also covered in some past papers which have also been referred to. It will be helpful to highlight the new contribution of the present paper. Further, it has been stated on page 2265, line 5-8 that “the recommendations for sustainable water management within (Archer et al. 2010) were far from complete, as not all available option were accounted for”. It will help if the paper mentions what additional options have been considered and their relevance in the context of water management. 4 Section 3.4: This section focuses on shift from surface water to groundwater use. It is suggested that past and current amount of surface and ground water use may be given here to show how the shift in water use is taking place and how significant it is. This data would also be helpful to support the arguments in Section 4.1.1. 5 Section 4.1.5: it deals with land use planning and soil conservation which is very important for the Indus basin. Unfortunately, it has been covered rather inadequately. A two line sentence is not enough to cover this important topic since the Indus basin is subject to high rates of soil erosion. Storage capacity of the Tarbela reservoir has depleted by 28 and that of Mangla by 20 % (Archer et al. 2010) due to sedimentation. Hence, this section needs to be expanded and if possible, implementable methods to overcome the problem may be described. 6 Section 4.2.3: A better insight into the likely increase in water productivity for agriculture can be obtained if the historical data is provided. Similarly the data about prices of water for various use can be included in Section 4.2.4. 7 Section 4.2.5: Implementation of policies is a weak aspect of governance in the Indus basin. Suggestion of the authors to overcome this handicap may be included in the paper. 8 Section 4.2.7: in my view, changing food consumption patterns is very difficult to implement in practice and hence it is not likely to result in appreciable saving of water. Of course, the authors have a different view which may be elaborated.

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The utility of the paper will increase manifold if the different sections give appropriate data and its analysis. Without that, the paper in the present form appears more as review of the work done elsewhere. Further, the aspects that are new in the paper may be highlighted.

Minor Editorial Changes Page 2265, line 16-17: delete “now flows directly to the Arabian Sea respectively”. Page 2265, line 25: replace “one these” by “on these”. Page 2277, line 1: delete “and”. Page 2278, line 1: replace “unilateral” by “bilateral”. Page 2278 line 17: replace “put” by “increase”. It is not clear how the increase in environmental flow would increase the tension between the riparian countries. Please elaborate.

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