

# **Proposed Rogun Hydropower Project Environmental and Social Impact Assessment (ESIA)**

## **Report by Environmental and Social Panel of Experts Almaty July 2014**



**Torkil Jønch Clausen (Chair, water resources)**

**Erik Helland-Hansen (planning/hydropower)**

**Richard Fuggle (environment)**

**Frederic Giovannetti (resettlement)**

**Ezio Todini (hydrology)**

**Report by Environmental and Social  
Panel of Experts:  
3 presentations**

**PART 1: GENERAL ON THE ES PANEL REVIEW  
RESETTLEMENT AND SOCIAL IMPACTS**

**PART 2: IMPACT ON RIPARIAN COUNTRIES**  
by  
Prof. Torkil Jønch Clausen (Panel Chair, water resources)

**PART 3: ANALYSIS OF ALTERNATIVES**  
by  
Prof. Richard Fuggle (environment)

# **Report by Environmental and Social Panel of Experts**

## **PART 1: GENERAL ON THE ES PANEL REVIEW RESETTLEMENT AND SOCIAL IMPACTS**

# TERMS OF REFERENCE OF ENVIRONMENTAL AND SOCIAL PANEL OF EXPERTS

- **To ensure due diligence and environmental and social studies of international quality**
- **To provide independent advice and guidance to support objectivity and credibility in the environmental and social assessment process**
- **To share expertise and knowledge**
- **To assure a level of international confidence in the quality and integrity of the environmental and social assessment process and findings**

***The Final Panel Report will be posted on the World Bank website***

# HOW THE PANEL HAS OPERATED

- **Site inspections**
- **Panel meetings**
- **Meetings with all parties: Government of Tajikistan; consultants (mainly environmental and social, but also technical and economic); World Bank staff; and the Engineering and Dam Safety Panel.**
- **Participation in Regional consultation meetings**
- **Submission of 10 interim advisory reports that will be summarised in a Final Panel Report to be publically disclosed**

# **SUMMARY OF MOST IMPORTANT PAST ADVICE AND GUIDANCE**

- **Need for coordination of the TEAS and ESIA studies**
- **Assess Rogun HPP in the context of the entire Amu Darya Basin**
- **Promote dialogue and information sharing amongst all riparian states and stakeholders**
- **Give more attention to climate change**
- **Recognize the critical importance of sediment issues**

## **SUMMARY OF MOST IMPORTANT PAST ADVICE AND GUIDANCE - *CONTINUED***

- **Consider livelihood restoration together with resettlement**
- **Give greater attention to downstream impacts on Amu Darya (to the Aral Sea), both positive and negative**
- **Examine and evaluate Central Asian water allocation agreements and practices**
- **Undertake systematic comparison of the costs and benefits of different dam heights**

# **OVERALL ASSESSMENT OF DRAFT FINAL ENVIRONMENTAL AND SOCIAL IMPACT REPORT (ESIA)**

- **The Panel’s advice and guidance has largely been heeded and the ESIA draft reports greatly improved**
- **The main focus of the Panel has been on the key strategic issues**
- **Of the key concerns considered, the Panel recommends that key messages that highlight the main concerns of the Panel and have mostly been reflected in the main body of the report, should also appear as the “key messages” in chapters and in the Executive Summary**



# **ESIA CHAPTERS REQUIRING NO FURTHER CHANGE**

**The following chapters are acceptable after the Panel's suggestions were taken into consideration**

## **Chapters 1-7:**

- 1 Introduction**
- 2 Legal and Administrative Framework**
- 3 The project**
- 4 The study area**
- 5 Environment: general considerations**
- 6 Geology and Soils**
- 7 Climate**

# ESIA CHAPTERS

## REQUIRING NO FURTHER CHANGE - *CONTINUED*

The following chapters are acceptable after the Panel's suggestions were taken into consideration

**Chapters 9 – 16:**

- **9 Vegetation**
- **10 Terrestrial Fauna**
- **11 Aquatic Fauna**
- **12 Protected Areas**
- **13 Local Population and Social Economy**
- **14 Archaeology**
- **15 Main Impacts**
- **16 Mitigation Measures**

# ESIA CHAPTERS

## REQUIRING NO FURTHER CHANGE – *CONTINUED*

The following chapters are acceptable after the Panel's suggestions were taken into consideration

Chapters 17, 18, 19, 20, 23, 24:

- **17 Environmental and Social Management Plan (ESMP)**  
*(The ESIA Vol. 3, ESMP, is not considered sufficiently developed and detailed for the Panel to assess)*
- **18 Construction Site Audit**
- **19 Resettlement Planning**
- **20 Climate Change and Its Effect on Rogun HPP**
- **23 Public Participation**
- **24 Environmental and Social Monitoring**

# OVERALL PANEL ASSESSMENT: 3 KEY POINTS

***KEY POINT 1:            RESETTLEMENT***

***KEY POINT 2:            IMPACTS ON RIPARIAN COUNTRIES***

***KEY POINT 3:            ANALYSIS OF ALTERNATIVES***

# OVERALL PANEL ASSESSMENT:

## 3 KEY POINTS

### Key Point 1: Resettlement

**The World Bank Operational Policy 4.12 (and the relevant policies of all International Financial Institutions) require that resettlement should as far as possible be avoided, hence the proposed focus on dam height optimisation. It also requires that the livelihoods of involuntarily resettled persons must be restored or improved. The Panel recommends that the GOT should commit formally and unequivocally to implementing the agreed Resettlement Policy Framework and Resettlement Action Plan, which comply with World Bank involuntary resettlement and livelihood restoration policies and international good practice.**

# THANK YOU



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## **PART 2: IMPACT ON RIPARIAN COUNTRIES**



## **ISSUES OF CONCERN TO THE PANEL: CHAPTER 8 “WATER”**

- **The “key message” that the “legal basis for the interstate cooperation between the Central Asian states is still in development process” is important.**
- **The section on basin-wide interstate agreements and present water allocation is appreciated, including the clear reference to “lack of clarity of the present framework”**

## **ISSUES OF CONCERN TO THE PANEL: CHAPTER 8 “WATER” – *CONTINUED***

- **The Panel notes that although the current mechanism and practices for water allocations appear functional and satisfactory to all parties currently involved, emerging pressures and trends in water availability and demand will underscore the need to strengthen the current institutional framework, including a water monitoring system, and greater transparency**

## ISSUES OF CONCERN TO THE PANEL: CHAPTER 8 “WATER” – *CONTINUED*

- The Panel notes that the report consistently states *“Tajikistan will use its full share as allocated by ICWC”* and that the entire report is based on the assumption that reservoir filling can be achieved using the difference between ICWC allocations and current annual withdrawals
- However, annual volumetric allocations are not fixed and are determined through biannual negotiations
- The report does not question the assumption that future allocations will remain higher than current withdrawals

## **ISSUES OF CONCERN TO THE PANEL: CHAPTER 8 “WATER” – *CONTINUED***

- **To avoid future misunderstandings due to differences in interpretation of the rules governing water allocations from the Amu Darya, revised agreements that are clear, transparent, enforceable, and monitored are strongly recommended, irrespective of whether Rogun is built or not.**
- **Such agreements would be expected to also address the agreed Tajik share during the future operation of Rogun and the Vakhsh cascade.**

# ISSUES OF CONCERN TO THE PANEL: CHAPTER 21 “DOWNSTREAM IMPACTS”

- **The consequence of utilizing Rogun HPP fully to maximize winter energy output is discussed in the body of the report but is not properly reflected in “Key Messages” and the Executive Summary**
- **The argument that this case is unrealistic is not backed by comparative economic analyses**

# **ISSUES OF CONCERN TO THE PANEL:**

## **CHAPTER 21 “DOWNSTREAM IMPACTS” – *CONTINUED***

- **A formalized and appropriately monitored agreement on reservoir management for normal, dry and wet years is strongly recommended by the Panel**
- **A monitoring/flood forecasting and warning system is needed from the start of the construction phase, and to be successively used as a support to transparent Vakhsh cascade water allocation and management.**

## ISSUES OF CONCERN TO THE PANEL:

### Chapter 21 “DOWNSTREAM IMPACTS” - CONTINUED

- The Panel recommends that the statement from the ESIA that follows must be included in the Executive Summary – and acted on (quote):

***“The ICWC member states Kyrgyzstan, Tajikistan, Uzbekistan and Turkmenistan should modify existing agreements and practices to include operation of Rogun HPP in a way as to maximise benefits for all parties, like flood protection, additional water releases during dry summers and additional hydropower generation during exceptionally cold winters. Such an agreement would have to specify the use of the regulating capacity of the Vakhsh cascade for optimising downstream flows under extraordinary conditions.”***

# OVERALL PANEL ASSESSMENT: 3 KEY POINTS

## Key Point 2: Impacts on riparian countries

**The necessity for future harmony and avoidance of misunderstandings or differences in interpretation, calls for Central Asian countries, including Afghanistan, to come to a revised agreement – and a strengthened legal and institutional framework – on water sharing in the Amu Darya. Such an agreement should include clear, understandable, transparent, monitored and enforceable rules to ensure sustainable water sharing, especially under dry conditions**



# THANK YOU



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## **PART 3 ANALYSIS OF ALTERNATIVES**

**by  
Prof. Richard Fuggle (environment)**

## **ISSUES OF CONCERN TO THE PANEL: CHAPTER 22 "ANALYSIS OF ALTERNATIVES"**

- **The Panel concurs that Tajikistan's energy shortfall will have to be met mainly by hydropower, and that from all the options a dam at Rogun, upstream from Nurek in a cascade, forms part of the preferred power expansion plan**
- **The Panel records that the ESIA analysis of supply alternatives draws heavily on the World Bank study of Tajikistan's electricity supply and demand alternatives, and on the TEAS economic analysis, and that these studies have been accepted in good faith by the Panel**

## **ISSUES OF CONCERN TO THE PANEL: CHAPTER 22 "ANALYSIS OF ALTERNATIVES" - *CONTINUED***

- **The Panel recommends that environmental economics inputs, and consideration of the role of intangibles and financial burden on the people of Tajikistan, should be included in the further studies to be undertaken in the next phase.**
- **Additional work in the next phase, further to the ESIA, is recommended to provide a marginal cost-benefit analysis and to introduce environmental economic considerations of all relevant costs and benefits.**

## **ISSUES OF CONCERN TO THE PANEL: CHAPTER 22 "ANALYSIS OF ALTERNATIVES" - *CONTINUED***

- **The choice of the recommended 1290 option needs to be supported by additional studies and dialogue with affected people. Table 22.3 is helpful, but the Panel maintains that a multi-criteria analysis with stakeholder involvement is an approach to be considered in the next phase. This will help to develop a better understanding of risks and trade-offs and thus inform decision-making**

## **OVERALL PANEL ASSESSMENT**

### **3 KEY POINTS - *CONTINUED***

#### **Key Point 3 : Analysis of alternatives**

**The TEAS and ESIA consultants have recommended the 1290 option for further study and design in the next phase.**

**Both ‘high dams’ are feasible. Considering that the difference between the 1255 and 1290 options is not large from a techno-economic perspective, but have significant social implications, the trade-offs must be carefully articulated. A possible way forward is to apply a multi-criteria decision approach, with stakeholder participation, as a priority activity in the next phase.**

# THANK YOU

