

Report No.: 116942-AM

**Inspection Panel
Final Report and Recommendation**

**REPUBLIC OF ARMENIA
Irrigation System Enhancement Project (P127759)**

June 28, 2017

The Inspection Panel
Final
Report and Recommendation
on
Request for Inspection

REPUBLIC OF ARMENIA: Irrigation System Enhancement Project (P127759)

A. Background

1. On March 18 and May 3, 2016, the Inspection Panel (the “Panel”) received two Requests for Inspection (the “Requests”) of the Armenia Irrigation System Enhancement Project (the “Project”), which converts four pump-based irrigation systems into gravity irrigation to reduce electricity usage and cost. The Requests alleged potential negative impacts on the supply of irrigation water to two communities, inadequate consultation and participation processes, and impacts on tourism. The first Request was submitted by members of the Goght community who asked the Panel to keep their identities confidential.¹ The second Request was submitted by Ms. Sara Petrosyan and Ms. Arusyak Ayvazyan on behalf of themselves and an additional 531 residents of Garni village.² They asked the Panel to keep the identities of the 531 residents confidential. Since both Requests raised similar issues relating to gravity irrigation under the same Project, and for reasons of economy and efficiency, the Panel decided to process them jointly. The Requesters from both communities are referred to as the “Requesters” in this report.

2. The Panel registered the Requests on April 26 and May 24, 2016, respectively, and received the Bank’s Management Response on June 10, 2016. From June 17 to 21, 2016, the Panel conducted a visit to the field and learned that the Government of Armenia (GoA) was proposing modifications to the Project that required additional studies, consultations, and the Bank’s reappraisal. The Panel consequently decided to defer for up to 12 months its recommendation as to whether an investigation was warranted. The Panel visited Armenia again from June 1 to 4, 2017 to assess the situation. This report presents the Panel’s final recommendation on whether an investigation is warranted.

B. The Project

3. The Project was approved by the World Bank’s Board of Executive Directors (the “Board”) for an amount of \$30 million (IBRD Specific Investment Loan) on May 22, 2013. The Project’s closing date was recently extended from June 30, 2017, to June 30, 2018.³ The Project Development Objective is “*to reduce the amount of energy used and to improve the irrigation conveyance efficiency in targeted irrigation schemes.*”⁴ The Project finances the construction of gravity

¹ The Request includes the signatures of 98 community members of Goght.

² Garni and Goght are neighboring villages located less than 10 kilometers from each other.

³ Restructuring Paper on a Proposed Project Restructuring of Irrigation System Enhancement Project Approved on May 22, 2013, dated April 27, 2017.

⁴ PAD, page 7.

irrigation systems in four areas, including the Geghardalich System, which is the subject of the first Request, and the Kaghtsrashen System, subject of the second Request.

4. At the Geghardalich site, the Project was designed to replace three of the seven existing pump stations from the Azat River and reservoir, and instead use a gravity irrigation system to supply water from the Geghardalich reservoir. This work includes the raising of the reservoir dam height by 1.6 meters to increase its storage volume from 2.4 million cubic meters to 3.4 cubic meters, and the construction of a 23-kilometer (km) pressure pipeline and associated structures.

5. At the Kaghtsrashen site, the Project was designed to construct an intake structure on the Azat River 9 km upstream from the Azat reservoir. It would also construct a 23.5-km pipeline to take water to the current discharge basin of the Kaghtsrashen pump station to enable gravity irrigation for the land covered by the existing system.

C. The Requests

6. In the first Request, submitted by members of Goght community affected by the Geghardalich irrigation scheme, the Requesters expressed concern that the Project may lead to a shortage of irrigation water for their community, which uses water from the Geghardalich reservoir. They claimed that the methodology used by the Project to calculate the hydrological data was flawed. The Request also alleged a lack of community consultation and participation in the Project.

7. The second Request, submitted by members of Garni community affected by the Kaghtsrashen irrigation scheme, claimed that the Project had adverse environmental and social impacts and was economically inefficient, risky, and unsustainable. The Requesters expressed concern about a lack of water for gravity irrigation, the destruction of the Azat Gorge with impacts on tourism, and issues relating to consultation and participation.

D. The Management Response

8. In its Response to the Requests, Management did not agree that the alleged harms existed, or that they resulted from Bank non-compliance. According to the Response, both irrigation schemes were carefully prepared and consistent with policy requirements. Management explained that the Project would not change the volume of available irrigation water nor its distribution, and that water would merely be transported by gravity.

9. Management also argued that the two irrigation schemes were viable, the water flow calculations realistic and conservative, and the Project would not reduce irrigation water supply but rather was designed to ensure that both communities would continue to receive it. Management argued that many of the concerns in the Requests were based on inaccurate information and incorrect assumptions.

E. Developments Leading Up to the Panel’s First Report and Recommendation

10. In June 2016, the Panel visited Armenia and met with the Requesters from both communities and other stakeholders to assess the technical eligibility of the Requests and to gather information for its recommendation to the Board. Shortly after the Panel’s visit, the State Water Committee issued a press release proposing modifications to the Project. Subsequently, Bank Management provided an update document to the Panel describing the proposed changes. According to Management, these changes would address the issues raised in the Requests, but would require additional studies, consultations, and the Bank’s reappraisal.⁵

11. With regard to the Geghardalich scheme, the GoA decided to accept one of the proposals of the Goght Requesters to construct an additional subsidiary canal from the Gilanlar River to supplement flows into the reservoir. Management explained that this was not needed from a technical perspective, but nevertheless it would add an extra source of water to the reservoir and thus further reduce the risks to beneficiary communities during times of drought.

12. With regard to the Kaghtsrashen scheme, the GoA decided to no longer build a new weir structure on the Azat River, but rather use an existing structure 5 km downstream at a lower elevation. Management noted that due to the loss in elevation, the scheme would continue to depend on pumps requiring energy to deliver irrigation water to the communities. A preliminary analysis by the Bank’s team indicated that the scheme would still generate a positive economic rate of return. Management at that stage noted that the compromise design may be feasible, but asserted that it would remain inferior to the original design.

13. Management also informed the Panel that the Bank’s reappraisal of these design changes could be completed by April 2017, if the Bank decided that they could be supported by the Project, and presented a detailed timeline to the Panel. On the basis of these developments, the Panel deferred its recommendation to the Board as to whether an investigation was warranted for up to 12 months. The Board approved this deferral on July 16, 2016.

14. For more details about both Requests, the Project, the Management Response and the Panel’s earlier observations and recommendation, please see the Panel’s Report and Recommendation of July 8, 2016.⁶

F. Project Developments Since the Panel’s First Eligibility Report

15. **Updates from the Requesters.** Since the first Report and Recommendation of July 2016, the Panel remained in regular contact with the Requesters. The Requesters from Goght expressed satisfaction with the planned construction of the Gilanlar canal feeding the Geghardalich reservoir and the rehabilitation works on the reservoir. They also noted the importance of ensuring the availability of sufficient irrigation water to meet their community’s demands. They reiterated their request for the construction of a second reservoir to provide additional water to the community.

⁵ Update on Decision of Government of Armenia, July 5, 2016. See Annex IV of the Panel’s Report and Recommendation of July 8, 2016.

⁶ [http://ewebapps.worldbank.org/apps/ip/PanelCases/106-Eligibility%20Report\(English\).pdf](http://ewebapps.worldbank.org/apps/ip/PanelCases/106-Eligibility%20Report(English).pdf)

16. One of the Requesters from Garni community, Sara Petrosyan, informed the Panel that she had been invited to the World Bank office in Yerevan in November 2016, to meet with the Project team. After this meeting, Ms. Petrosyan informed the Panel that she no longer had reservations about the Project. Subsequently, in December 2016, Ms. Petrosyan, published an article in the local *Hetq* newspaper, titled *Two-Year Struggle of Garni Residents in Armenia Leads to Success*, which stated that “*the so-called ‘compromise’ design of Kaghstrashen gravity scheme meets the demands put forward by the residents of Garni.*”⁷

17. Ms. Petrosyan informed the Panel that she also met with several members of the Garni community in January 2017, to discuss the changes to the Project, and they noted no objections to the new designs. Ms. Petrosyan emphasized to the Panel the importance of holding a public discussion with the entire community. The second Requester from Garni, Arusyak Ayvazyan, informed the Panel in February 2017, that the new designs were not available to the public and that construction work had begun in the absence of public discussions. She also shared with the Panel several letters she had sent to the World Bank, the State Water Committee, the Prime Minister and the Ministry of Ecology expressing her concerns, and the responses she received.

18. **Updates from Management.** Management conducted a supervision mission to Armenia from November 11 to 18, 2016, to appraise the changes to the Geghardalich and Kaghstrashen irrigation schemes, and shared the Aide Memoire with the Panel. The Aide Memoire summarizes the proposed changes and explains that the most challenging issues of this Project continue to revolve around these two irrigation schemes due to the communities’ resistance.

19. In January 2017, the Panel met with Management to discuss the progress of the proposed changes to the Project. Management informed the Panel that the updates to the Environmental and Social Impact Assessments (ESIAs) for the modifications to both irrigation schemes were underway. The Bank team told the Panel that they had met with members of both communities and both village mayors to discuss the design changes. According to Management, they all expressed their support for the redesigned Project. Management informed the Panel that the request of Goght community to construct a second reservoir was also discussed. While this was on a list of potential future projects by the GoA, it was unclear whether the World Bank would finance it. Management re-stated that the Project was viable and would fully achieve its objectives without the construction of a second reservoir. In April 2017, Management informed the Panel that the Project was restructured and the closing date of the Project was extended to June 30, 2018⁸.

20. In May 2017, the Panel met again with Management and learned that construction work on the Geghardalich irrigation scheme was 90 percent complete. Initial ground work for the supplemental Gilanlar canal had started but most of the concrete construction still needed to be done. Due to weather conditions in the winter, work could only be conducted during the summer months, and was supposed to start soon and be completed by September 2017. Management also

⁷ <http://hetq.am/eng/news/74362/two-year-struggle-of-garni-residents-in-armenia-leads-to-success.html/>

⁸ Restructuring Paper on a Proposed Project Restructuring of Irrigation System Enhancement Project Approved on May 22, 2013, dated April 27, 2017.

informed the Panel that work at the weir site for the Kaghtsrashen scheme was about 70 percent complete.

G. The Panel's Second Visit to the Field and its Observations

21. In June 2017, Panel Member Jan Mattsson and Operations Officer Birgit Kuba conducted a second field visit to Armenia and met with the Requesters and other community members in Goght and Garni, the mayors of both communities, representatives of the World Bank Country Office staff in Yerevan, the State Water Committee, and the Finance Ministry.

22. During its visit, the Panel observed that the Bank and the implementing agency were committed to resolving the communities' concerns and emphasized the importance of implementing the design changes in a timely manner. The Bank team acknowledged that this case was an important learning experience for the Bank and the Project Implementation Unit regarding how to communicate highly technical information to non-expert audiences, and how to better engage affected people in the Project. The Bank team shared with the Panel a document summarizing the public information meetings on the design variations for both irrigation schemes that took place on December 21 and 22, 2016, in Garni and Goght villages, respectively. The Panel also learned that the GoA secured financing from the Eurasian Development Bank for the rehabilitation of internal pipes in Goght and Garni to alleviate serious losses of water in both systems. This work is unrelated to the Bank-financed Project and is expected to start in the coming months.

23. In a meeting with the Panel, the Requesters from Goght expressed satisfaction with the renovation of the Geghardalich reservoir, the repair of a cracked pipe leading out of the reservoir, and the planned construction of the Gilanlar canal. The community stressed the importance of ensuring timely and high-quality implementation of the construction activities, and, due to water scarcity in the area, emphasized their request for the construction of a second reservoir to ensure their community's demands for irrigation water will be met.

24. Goght community members explained to the Panel that they have invested much time and effort in maintaining the Geghardalich reservoir over the years and were in the past the only community drawing water from it. They understand that other communities need irrigation water but remain concerned that there will not be enough water to meet all demands. The Requesters also told the Panel that they have additional lands they would like to irrigate, but are currently not able to sufficiently irrigate lands already used for agriculture. The Panel team observed general distrust among some of the community members of the data used to design the Project, including the existing water level of the reservoir and filtration station flowrate. Goght community members also shared with the Panel team their concern about the disclosure of information and consultation. They reiterated the need for the Project to provide water measuring devices with online traceability.

25. In Garni, Ms. Petrosyan confirmed to the Panel that her concerns about the Project have been resolved and that she was satisfied that a solution was found through the design changes. She informed the Panel that she believed that after the restructuring, the Project was now ecologically and financially beneficial for the community. She continued to express concern about the existing

water shortages in the area. Similar to Goght community, Ms. Petrosyan noted that the provision of water measuring devices would help reassure the community about the Project.

26. The second Requester from Garni, Ms. Ayvazyan, explained to the Panel her belief that even though the pump was now located downstream, the Project, including the construction of the Gilanlar canal under the Geghardalich scheme, would still affect the Azat River and Gorge. Ms. Ayvazyan expressed to the Panel that she was still concerned about reduced water availability for the lands around Garni. The Panel, however, understands that the Project does not change the volume of available irrigation water nor its allocation, but impacts the energy requirements for transportation of the water. The Panel also notes its understanding that, due to the design change of using an existing weir structure 5 km downstream instead of constructing a new one, the Project does not affect Garni's tourism sites. The Panel also met with other community members in Garni and learned that many are concerned about developments affecting water sources because of previous experiences with environmental impacts of other projects contributing to increased water scarcity.

H. Recommendation

27. In making its recommendation, the Panel has taken into account: (i) the design changes to both irrigation schemes which the GoA proposed, and the Bank's appraisal of these changes; (ii) the views of the Requesters and other community members about these design changes; and (iii) Bank Management's engagement with the affected communities since receipt of the Requests.

28. In the Panel's view, the changes to the designs of the two irrigation schemes, which are based on proposals presented by the affected communities, provide adequate assurances to prevent potential harm from the Project. The Panel notes that Management, through its engagement over the past year, has adequately dealt with the issues raised in both Requests. Taking into account paragraph 5 of the 1999 Clarification which provides that "*the Inspection Panel will satisfy itself as to whether the Bank's compliance or evidence of intention to comply is adequate, and reflect this assessment in its reporting to the Board,*" the Panel does not recommend an investigation.

29. The Panel stresses the importance of continued engagement with the affected communities to ensure they are well informed about different aspect of the Project and its developments. The Panel also highlights the importance of timely implementation of the design changes as well as full transparency of water usage. It is crucial that water flow measuring devices envisaged in the project documents are provided and that affected communities can access the data to monitor the availability of their permitted amounts of irrigation water.

30. The Panel notes that this recommendation does not in any way preclude the possibility of a future Request for Inspection based on new evidence or circumstances not known at the time of the current Request. If the Board of Executive Directors concurs with this recommendation, the Panel will advise the Requesters and Management accordingly.