The Inspection Panel

Report and Recommendation

India: Vishnugad Pipalkoti Hydro Electric Project (IBRD 8078-IN)

November 26, 2012
A. Introduction

This Report

1. In accordance with the Resolution (hereinafter “the Resolution”){1} establishing the Inspection Panel (hereinafter “the Panel”), the purpose of this Report and Recommendation on Request for Inspection (hereinafter “the Report”) is to make a recommendation to the Board of Executive Directors as to whether the Panel should investigate the matters alleged in this Request, based on the Panel’s confirmation of the technical eligibility of the Request and its assessment of other factors as stipulated in the Resolution. The Panel’s determination of the technical eligibility of the Request, in accordance with the 1999 Clarification,{2} is set out in Section E (a) below; Section E (b) summarizes the Panel’s observations on other factors considered in making a recommendation to the Board. The Panel’s recommendation is presented in Section F.

Panel process

2. On July 23, 2012 the Panel received a Request for Inspection (the “Request”) related to the India: Vishnugad Pipalkoti Hydro Electric Project (the “Project” or VPHEP). The Request was submitted by some residents of Chamoli district who state they reside on the banks of the Alaknanda River and are “going to be affected by the Vishnugad-Pipalkoti Hydro-electric Project”. They also state they do not want the river to be diverted or controlled in any way. Another Requester is a resident of Tehri district. All Requesters are residents of the state of Uttarakhand in India, and some have asked that their identities remain confidential.

3. The Panel registered the Request on August 3, 2012. Management requested two extensions for the submission of its Response{3} to the Request for Inspection. The Management Response was received on October 24, 2012.

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B. The Project

4. The Vishnugad Pipalkoti Hydro Electric Project (VPHEP) is a proposed 444 Megawatt (MW) run-of-the-river hydro generation project on the Alaknanda River, which is a tributary of the Ganges River. The Project Development Objectives are: "(a) to increase the supply of electricity to India’s national grid through the addition of renewable, low-carbon energy; and (b) strengthen the institutional capacity of the Borrower with respect to the preparation and implementation of economically, environmentally and socially sustainable hydropower projects.”

5. VPHEP is an environmental category ‘A’ project financed through an IBRD loan in the amount of $648 million. The Borrower is the Tehri Hydro Development Corporation (THDC) Limited and the Guarantor is the Government of India (GoI). THDC, a public sector company set up in 1988, is a majority GoI owned joint venture with the Government of Uttarakhand; its purpose is to develop baseload hydropower potential in Northern India and is now expanding its operations to develop run-of-river projects, such as VPHEP which can contribute to peak generation capacity, to generate 1,636 GWh in a 90 percent dependable year.

6. According to the Project Appraisal Document (PAD), the “major features of the VPHEP project infrastructure are: a 65-meter-high diversion dam; a 13.4-km headrace tunnel; an underground power house; and a 3-km tailrace tunnel that will return the diverted water to the Alaknanda River. The major project infrastructure will be located on the right bank of the Alaknanda River (opposite National Highway 58) in Chamoli District of Uttarakhand. VPHEP is expected to reduce greenhouse gas (GHG) emissions by approximately 1.6 million tons per year over the plant operation period.”

7. Financing. The loan was approved by the Board of Directors on June 30, 2011 and is expected to close on December 31, 2017. About 0.25% of the loan had been disbursed at the time the Request for Inspection was received by the Panel.

8. Project Status. The Project is under implementation but major construction activities have not been undertaken as the contract for the main civil works has yet to be awarded. This contract will be awarded after the Project receives its Stage II forest clearance from the Ministry of Environment and Forests (MoEF). However, some construction activity and resettlement has taken place as outlined in Section D below.

C. The Request

9. What follows is a summary of the Request for Inspection. The Request is attached to this Report as Annex I.

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5 PAD, p. 8.
10. The Request\(^6\) raises several social, cultural and environmental concerns, and related issues of compliance with Bank policies and procedures. The Requesters’ concerns, as stated in the Request for Inspection, are summarized below.

11. **Religious and Cultural Concerns.** The Requesters believe that the free flow of the Alaknanda River holds immense spiritual and aesthetic value for them which, in their view, has not been estimated by Project authorities. They state that the diversion of the river water into a tunnel stops its free flow and robs it of its “special qualities”. The Requesters assert that the rights of the local people have not been protected and “there is no river water available for religious and cultural rituals like bathing festival, funeral rites, river worship, etc.”

12. In the Representation attached to the Request, the signatories state that the Ganges River is worshipped as a “living Deity” by millions of people who obtain “aesthetic, non-use and existence value” from its free flow and this value will be reduced by the Project. The Representation provides details on a methodology for measuring non-use value which has been used, according to the Representation, by the Planning Commission of India in the case of three national parks. The Representation further states that the assessment of benefits from hydroelectric power in general “appears to be over played” and though these “gains” can be quantified through “well developed models”, the losses from the free flow of rivers to the environment, forests, and spiritual needs of the population are not factored into the analysis. The Requesters believe this to be the case with VPHEP as well.

13. **Water shortages.** The Requesters claim that water shortages will occur in the stretch of the river where water will be diverted into underground tunnels, i.e. the 13.4 km headrace tunnel plus the 3 km tailrace tunnel. They state that cattle herders will in particular be impacted by water shortages. They also state that the “environmental flow” of the river has not been estimated. They claim 6 water sources in village Haat have already dried up as a result of blasting related to construction work and alternative water sources have not been provided.

14. **Water quality.** The Requesters state that the quality of the water in the Alaknanda River will be degraded when it is diverted into the tunnel and its free flow is blocked. They also state that the extraction of silt via de-silting chambers to prevent it from entering the headrace tunnel and its eventual release into the river downstream, will affect “local temperature” and “aquatic life”. They also state that the reservoir water will emit methane and the water’s oxygen quantity will be reduced when it becomes stagnant.

15. **Biodiversity loss.** The Request raises concerns related to loss of aquatic species and also degradation of the natural habitat of endangered species such as the “Cheer” pheasant, otter, and Mahaseer fish. The Requesters believe the natural habitats of these species are being affected by the Project.

16. **Other environmental harms.** The Requesters state that deforestation as a result of dam construction is causing local temperatures to rise and also contributing to global warming, and that methane likely to be emitted from the reservoir will add to this problem. They also state their fear of landslides which may occur due to mountains being dug up for various types of

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\(^6\) Attached to the Request is a letter (“Representation”) addressed to the Vice President of the World Bank for South Asia Region which has 9 annexes.
construction related to the Project. Moreover, the Requesters believe the reservoir will “cause fog and disease” and that it will negatively impact land situated around the reservoir.

17. **Livelihoods impact.** The Requesters state the “dam will reduce the benefits people have from the river”, such as, for example, obtaining sand or fish from the river. They also state local crops are being affected by the rise in temperature associated with deforestation and that agriculture, forests and fodder for animals are affected by dust from the Project.

18. **Health.** The Requesters claim the reservoir will cause diseases. They also state that migrant workers that come to the area to construct the Project will spread diseases as they usually live in unhygienic conditions.

19. **Economic harm.** The Request states that houses and land located in the area under which the tunnel will be dug have developed cracks (the Panel understands that in the Requesters view the cracks are due to the exploratory geological work) and there has been no compensation for this. The Requesters fear these houses will collapse if there were to be an earthquake as the area is in a high risk seismic zone. The Request also alleges that local people will bear the brunt of the negative environmental and social effects while the electricity generated will primarily service urban centers.

20. **Gender issues.** The Requesters state that “local culture and women’s freedom” have been, and will likely continue to be, negatively affected by the arrival of migrant labor and that this would be difficult to compensate.

21. **Lack of transparency and consultations.** The Request claims the public hearings conducted for the Project were a “sham” and no information was provided. They also state there was opposition to the Project but that this was not “taken into account.” The Representation states that “credible consultation was not taken up before decision to take up the project or to fund it was taken”.

22. **Absence of studies.** The Request states that the construction of multiple dams on the same river has led to negative impacts but these have not been analyzed via a cumulative impact assessment. The Representation attached to the Request alleges that the Bank has not conducted an analysis of the no-project scenario, nor has there been a study of the impacts of the Project on different stakeholders, including local people.

23. **In the Representation,** the signatories propose that the Project be re-designed to allow some water to flow freely by not obstructing the entire river with a barrage. This, in the Requesters view, will reduce the Project’s negative environmental impacts and allow for sediment flow and fish migration. As an example of partial obstruction, the Requesters reference the Bhimgoda Barrage at Haridwar which allows for “continuous and uninterrupted flow” and was constructed by the British colonial authorities after taking into account the views of the Hindu community. The Representation states the World Bank did not study this alternative.

24. The Representation also alleges violation of several World Bank operational policies and provides details of how, in the Requesters opinion, these policies were violated.
25. Finally, the Requesters state they have raised these issues with relevant World Bank staff and are not satisfied with the response received. The Requesters further state they do not want the World Bank to provide financial support to the Project given their concerns, and request the Inspection Panel to “inspect this loan.”

D. The Management Response

26. A summary of Management Response follows, and a complete copy is attached to this Report as Annex II.

27. Management states that the Government of India requested the World Bank to finance the Project, a “relatively moderate risk project from an environmental and social perspective”, in July 2006. According to Management, the Project involves a “low level” of resettlement comprising 265 families, and though 21 hectares (ha) of land will be submerged, this will not cause any displacement as no houses, structures, agriculture land or common infrastructure will be submerged. Moreover, a total of 109.93 ha of government and van panchayat (community forest) land and 31.64 ha of private land will be required for the construction of access roads, project and office space, switchyard, and quarry area.7

28. Management Response notes that the access roads leading to the diversion dam and powerhouse have been completed, and payments for land acquisition, loss of community amenities, and loss of fuel and fodder have “largely been completed”. Management also states the “voluntary resettlement” of Haat village where 92% of the 265 families “requested relocation” is “well underway”.8

29. Management further notes that many of the grievances raised by the Requesters, particularly construction-related impacts, are not related to the Project since construction of tunnels and other major project infrastructure has not taken place, and the main construction contract has yet to be awarded.

30. Development context. Management states that India’s energy deficit places a constraint on its growth, and current power supply is not able to keep pace with the rise in electricity demand. Management notes that though GoI has set aggressive targets for all sources of energy, coal-fired generation still represents more than 56 percent of installed capacity, and will continue to dominate the energy mix into the foreseeable future posing “significant risks to the global environment” as the power sector contributes half of India’s Green House Gas (GHG) emissions. Management states that “the harnessing of India’s significant hydropower potential represents one of the opportunities to promote clean energy at scale”, and, in GoI’s estimation, is a critical way to address both baseload and peaking electricity demand. Management states that if this does not happen, India would most likely be compelled to accelerate the expansion of its coal-based generation capacity.9

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7 Management Response, p. 3.
8 Management Response, p. 4.
9 Management Response, p. 4.
31. **Debate on hydropower and development of the Ganga River.** Management states that it does not agree with the Requesters reservations on hydropower. Management believes that “the broad context of the issues raised in the Request for Inspection is the ongoing national debate in India over the development of rivers, in particular the Ganga and its tributaries, for hydropower and other economic activities”. Management notes that these issue assumed national importance in 2008 when religious and environmental civil society organizations demanded that the Government cancel 3 hydropower projects, none of which involved the Bank, on the Bhagirathi River which is another major tributary of the Ganga River. In November 2008, the Prime Minister declared the Ganga River a “national river” and in February 2009 the Prime Minister established the National Ganga River Basin Authority (NGRBA) whose mandate is the management of the Ganga River.  

32. **Environmental flow requirement.** Management states that a primary concern that has emerged in the debate on hydropower development on the Ganga River is the issue of ensuring adequate environmental flows. Consequently, in July 2010, the Government commissioned the Indian Institute of Technology-Roorkee (IITR) and the Wildlife Institute of India (WII) to prepare a “Study on Cumulative Impact of Hydro Power Projects in Bhagirathi and Alaknanda Basins (Uttarakhand)”. Management further states that the terms of reference for the IITR study “called for a broad review of the cumulative impacts of the proposed hydropower development” and “the terms of reference for the WII study were more narrowly focused on aquatic and terrestrial biodiversity.” The IITR study was submitted in April 2011 and the Ministry of Environment and Forests (MoEF) accepted its recommendation to increase the environmental flows of several projects, resulting in an increase for VPHEP from the previously accepted 3 cubic meters per second (cumecs) to 15.65 cumecs. Management notes that the VPHEP environmental flow requirement could be revised again once MoEF accepts the final version of the cumulative impact assessment.

33. The WII study titled “Assessment of Cumulative Impacts of Hydroelectric Projects on Aquatic and Terrestrial Biodiversity in Alaknanda and Bhagirathi Basins, Uttarakhand” was submitted in April 2012. Management states that in the same month, the Prime Minister constituted the high-level multi-disciplinary Chaturvedi Commission to study “key development issues in the use of the Ganga for large hydropower plant development, including societal trade-offs, and to put forward recommendations for consideration by the GOI.” The Chaturvedi Commission also has the responsibility of “reconciling any possible discrepancies in the recommendations of the IITR and WII reports that formed the cumulative impact assessment of the development of the Bhagirathi and Alaknanda.”

34. Management further notes that one of the Requesters and others have submitted a petition to the Rajya Sabha (Upper House of Parliament) requesting “to re-examine the policy of making tunnel-based hydropower projects”. Management states that this petition “raises many of the
issues of a broad nature (not specific to VPHEP) that are put forward in the Request for Inspection. A sub-committee of the Rajya Sabha is meeting stakeholder representatives, and there is no specific timetable for its deliberations.”16

35. Management states that the two reviews, namely the Rajya Sabha review and the Chaturvedi Commission review, will be addressing similar issues as those raised in the Request.

36. **National Green Tribunal (NGT).** Management states that one of the Requesters filed a petition with the National Green Tribunal requesting the revocation of VPHEP’s first stage forest clearance on the basis that the cumulative impact assessment commissioned by the MoEF for the series of hydropower projects along the Bhagirathi and Alaknanda Rivers was faulty and its recommendations could not serve as the basis for the forest clearance. The Tribunal, according to Management, in its judgment issued on December 14, 2011, dismissed the petition and upheld the MoEF’s first stage clearance noting the nature of the Project, its likely benefits and the minimal loss of forest cover.17 Management notes the petitioners have the right to appeal the NGT’s decision in the Supreme Court of India.18

37. **Concerns raised by residents of Hatsari Tok hamlet.** Management states that some of the localized impacts raised by residents of the Hatsari Tok hamlet (in the revenue village of Haat) are un-related to Project activities. Management states that THDC commissioned a third party technical assessment to assess whether the cracks in houses and drying up of water sources in Hatsari were the result of geological exploratory work, as claimed by the residents, or were caused by the 1999 earthquake. This assessment, according to Management, failed to establish any link between the negative impacts claimed and the geological explorations. However, as a goodwill measure, THDC has offered to repair the cracks and provide water supply to the hamlet but Hatsari residents have not responded to either of these offers.19

38. The Management Response states that Hatsari residents also complained of loss of crops due to explorative activities and local authorities finalized compensation after assessing the losses. To accept this compensation, Hatsari residents were requested to submit an application and bank details which they have not done so far.

39. Management also notes that THDC changed the alignment of the access tunnel to the powerhouse in March 2012 to mitigate the alleged potential impacts of the project in the hamlet. This led to the total land acquisition requirements in Hatsari to drop to 0.6 ha from the original plan of 8 ha. According to Management, compensation has been accepted by the two households which owned this land.

40. **Environmental assessment.** Management states that the Project was assigned a Category “A” rating after the Bank carried out an initial screening of the Project in August 2006, which led to the identification of additional studies that were carried out by a THDC recruited

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17 Management Response, p. 5.
18 The Panel has learned that the petitioners have appealed the NGT decision in the Supreme Court of India. This appeal is still in process.
19 Management Response, p. 10.
independent consultant from April 2008-May 2009. Management notes that the original environmental assessment and the additional environmental studies were integrated into a consolidated Environmental Assessment (EA) and Environmental Management Plan (EMP), the drafts of which were discussed at a public meeting in the Project area in September 2009. Management notes the final versions of these are available at the THDC website and the Project Information Center (PIC) on site.

41. Assessment of alternatives. Management states an analysis of alternatives, as required by OP 4.01, was undertaken including studies of “numerous” technical and siting alternatives and the assessment of a “no project” scenario. Advice was also provided, according to Management, by two Panels of Experts (PoEs). Management notes that the final site for the diversion dam and the placement of headrace and tailrace tunnels, powerhouse and access roads were selected to minimize environmental and social impacts. Management Response further states that the no-project scenario is “unviable” as it “aggravates the shortage of clean energy and promotes alternative polluting generation”.

42. Management believes the partial obstruction design alternative proposed by the Requesters is not technically feasible as it would not allow VPHEP to provide peak generating capacity and, from an economic perspective, it would “dramatically reduce the amount of energy generated, and therefore was not considered a viable alternative by GOI”.

43. Valuing externalities in economic analysis. The Management Response agrees that valuation of the costs and benefits is central to the assessment of a project. Management states that while not required under Bank policies, the lack of adequate information on the use-values of the river was identified as a gap in the Bank’s initial review in 2006 of project preparation. Management states that this gap is addressed in the consolidated EA/EMP which identifies and internalizes “readily measurable environmental impacts and the budget of the EMP, which incorporates measures to mitigate the expected environmental impacts of the project, is included as a cost in the economic analysis”. In addition, Management states, the monetary or financial impact of the Government-mandated environmental flow requirement is incorporated in the cost-benefit analysis.

44. Management notes that VPHEP’s economic analysis was based on widely accepted professional methodology which showed that VPHEP has a positive economic return, and that the Bank’s appraisal of VPHEP concluded it will make a positive contribution to India’s development at both local and national levels.

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20 Management states these additional studies included (i) Study of ecological flows in the project stretch of the Alaknanda River; (ii) Assessment of the aquatic and terrestrial biodiversity impacts of the project; and (iii) Assessment of archeological, physical and cultural resources. In addition, the following studies were prepared to inform project design; (iv) Safety Assurance Plan for the project. (v) SIA and RAP and (vi) Catchment Area Treatment (CAT) plan. See Management Response, §2, p. 21.
21 Management Response, §2, p. 22.
22 Management Response, §3, p. 23.
24 Management Response, § 29, p. 43.
25 Management Response, § 29, p. 43.
26 Management Response, § 30 & 31, p. 44.
45. Furthermore, Management states that the upward revision of the mandated minimum environmental flow requirement for VPHEP\(^27\) is the highest required of any hydro power project in India, and is a “composite measure of the value that Indian society accords to preserving the river in its natural state as opposed to exploiting the river for other purposes (irrigation, power generation, flood control, etc.) and this value functionally captures the anticipated negative impacts in the analysis.” Management further states that from this perspective, the environmental flow “criterion did take into account the cumulative impact of a series of projects along the same river”\(^28\) and that this “scientifically-based” analysis, one of the first to be done in India, was based on “valued ecosystems components representing societal preferences including biodiversity conservation, as well as cultural and religious heritage.”\(^29\)

46. **Traditional use.** Management notes that the Social Impact Assessment (SIA) for the Project has concluded that the Project will not interfere with the “traditional use” of the river including the performance of religious rituals downstream, as the minimum environmental flow of 15.65 cusecs will ensure water is always available in the river, even at times when water levels are naturally at their lowest. Management notes that the river is used on auspicious days by pilgrims for bathing at specific congregation points and that there are five congregation points (Prayags) on the Alaknanda River, all of which are located outside the project influence area (estimated by the EA to be 7 km all around the Project sites).\(^30\) Moreover, Management states that two cremation ghats\(^31\) were initially identified in the SIA to be affected by the Project, one of which has been preserved through a re-design of the Project’s layout and the other will be replaced.\(^32\)

47. **Water quality.** Management states that the Project will not have any “appreciable negative impact” on water quality during Project construction or operation as all muck and debris from Project construction will be safely deposited at designated sites. Moreover, some silt will continue to flow unimpeded through the river via a spillway in the diversion dam, and silt taken out through the de-silting chambers will be released into the river at regular intervals downstream of the dam.\(^33\)

48. **Biodiversity.** Management states that according to the Environmental Assessment there will not be any impact on “critical aquatic biodiversity”, and that the EMP contains several measures to preserve aquatic and terrestrial biodiversity in the Project stretch. With respect to the endangered Cheer pheasant, Management states that the EA did not identify its presence in the Project “immediate area of influence” (500m around the Project affected areas), and in the Project’s “influence area” (7km around the Project sites).\(^34\)

49. With respect to the Otter and Mahaseer fish, Management states that though the presence of the Otter was noted by the WII study in the Alaknanda basin, it does not mention otters in the

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\(^27\) As mentioned earlier in this Report, this upward revision was based on the recommendation of IITR’s April 2011 “Study on Cumulative Impact of Hydro Power Projects in Bhagirathi and Alaknanda Basins (Uttarakhand)” and this may be further revised once MoEF accepts the final version of the cumulative impact assessment.


\(^29\) Management Response, p. 16.

\(^30\) Management Response, p. 18.

\(^31\) A ghat is a series of steps leading to a water body where religious rites such as ritual bathing/ablutions and cremations can take place.

\(^32\) Management Response, p. 17.

\(^33\) Management Response, p. 17.

\(^34\) Management Response, p. 17.
VPHEP zone of influence. The Mahaseer fish was identified in the EA in the Project influence area but below the Project area, and the EA concluded that the Project will not impact the Mahaseer fish and its migration route. This notwithstanding, Management states that the EMP provides for a Fish Management Plan which allows for the Project to adapt to unforeseen impacts.\(^{35}\)

50. **Deforestation.** The Management Response states that the Project will not cause any deforestation. On the other hand, THDC will finance the planting of trees in the ratio of 1.2:1 for every hectare of forest, grazing and *van panchayat* (community forest) land acquired by the project, and will also plant 12,306 trees as part of a larger green belt.\(^{36}\)

51. **Methane emissions.** Management notes that methane emissions are typical of shallow reservoirs which store water for a long time and have large submerged biomass, usually in tropical and subtropical locations. Management states that the Project has none of these features; it has a small pondage where water will be stored approximately for 1.75 hours before it is flushed out and replaced by fresh water on a daily basis. Moreover, the Project area has a moderate climate and cold waters.

52. **Livelihood impacts.** The Management Response states that the Project SIA included a census survey of all project affected households which examined the reliance of people in the project area on river based economic activities, such as sand quarrying and fishing. According to Management, “*none of the households reported a dependence on the river for their livelihoods*” though recreational fishing has been observed in the project stretch and is not expected to be impacted. Management states that the Project, on the other hand, includes numerous benefits for communities in the Project area that exceed national statutory requirements.\(^{37}\)

53. **Gender impacts.** Management states that THDC has given “*due consideration to impacts on women, including their safety, mobility and livelihood as well as on local culture.*” Management notes that through the SIA process and subsequent consultations, concerns of women have been recorded and reflected in the project design, including a number of mitigation measures. The main concerns, according to Management, revolved around possible loss of access to *van panchayat* (community forest) land for collecting fuel and fodder and safety concerns arising from the influx of construction labor.

54. Management further notes that in addition to compensation for food and fodder losses which will be paid by THDC, the civil works contractor will be “*contractually obligated*” to take measures to ensure the safety of women living in villages around the labor camps, including specific provisions such as fenced camps, no use of firewood, etc., to prevent the labor force from accessing community forest lands. Moreover, according to Management, the Project NGO, Shri Bhubaneshwari Mahila Ashram, is providing trainings in income generating activities to women in project affected villages.\(^{38}\)

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\(^{35}\) Management Response, p. 33.

\(^{36}\) Management Response, p. 18.

\(^{37}\) Management Response, p. 18.

\(^{38}\) Management Response, p. 19.
55. **Health impacts.** Management states there is no basis that the reservoir will lead to the spread of diseases as the small reservoir will store up to 5 hours of average daily flow for a total of 1.75 hours before it is flushed and replaced by fresh water.\(^{39}\)

56. **Transparency and consultations.** Management states that the Project continues to enjoy widespread local and regional support.\(^{40}\) According to Management, consultations with relevant stakeholder groups have been continuous and robust since 2007, and many suggestions from stakeholders were incorporated in the Project design. Management notes that the first public hearing was held in 2006 followed by one in 2007 and the last project-wide stakeholder consultation was held in September 2009 to disseminate the final R&R policy, RAP and EMP. Moreover, village level consultations, according to Management, are still being carried out on various issues connected to the Project, and will continue during Project construction and operation.

57. Management notes that a multi-stakeholder project-level Grievance Redress Committee (GRC) has been established with representation of Project affected people from each of the affected villages. According to Management, the project-level issues raised by the Requesters have not been presented before the GRC.

58. **Conclusion.** Management states that VPHEP is a well prepared project which enjoys broad support in the Project area. Management does not agree with the assertions of non-compliance and harm made in the Request for Inspection and believes the Requesters rights or interests have not been directly or adversely affected by the Project. Management further states that the Bank has made all efforts to comply with its operational policies and procedures and that all Project-related impacts raised in the Request have been taken into account during preparation and are being addressed through appropriate mitigation measures.

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**E. Panel Review of the Request and Management Response**

60. The Panel has carefully reviewed the Request and the Management Response. Panel Chairperson Alf Jerve, together with Panel Member Zeinab Bashir Elbakri, Executive Secretary Peter Lallas and Operations Officer Mishka Zaman, visited India from November 5-11, 2012. During its visit, the Panel team met with the Requesters and with THDC in the Project area, with World Bank Country Office staff, with national authorities from the Ministries of Finance, Power, and Environment and Forests respectively, and with the Chairperson of the Chaturvedi Commission (Inter-Ministerial Group). Moreover, the Panel met with several stakeholders, including members of civil society and religious organizations, both in Delhi and in Uttarakhand to better understand issues related to the Project.

61. The Panel’s review is based on information presented in the Request, on the Management Response, on other documentary evidence, and on information gathered during the site visit, and meetings with Requesters and Bank Management.

62. The Panel wishes to express its appreciation to all those mentioned above for sharing their views and exchanging information and insights with the Panel. The Panel also wishes to thank

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\(^{39}\) Management Response, p. 19.

\(^{40}\) Management Response, p. 16.
the Country Director and the World Bank Country Office in India for meeting with the Panel team, discussing the issues and providing relevant information, and assisting with logistical arrangements.

63. This review covers the Panel’s determination of the technical eligibility of the Request, according to the criteria set forth in the 1999 Clarification, and observations on other factors relevant to the Panel’s recommendation.

(a) Determination of technical eligibility

64. The Panel is satisfied that the Request meets all six technical eligibility criteria provided for in paragraph 9 of the 1999 Clarifications.

65. The Panel notes that its confirmation of technical eligibility, which is a set of verifiable facts focusing to a large extent on the content of the Request as articulated by the Requesters, does not involve the Panel’s assessment of the substance of the claims made in the Request. It follows from this interpretation, that technical eligibility in and of itself would not be a sufficient basis for recommending an investigation.

66. Criterion (a): “The affected party consists of any two or more persons with common interests or concerns and who are in the borrower’s territory.” The Panel confirms that most of the Requesters live in the Chamoli District in villages along the Alaknanda River within the area of influence as defined for the Project, and another lives downstream along the banks of the Alaknanda River. The Requesters share common concerns with respect to the Project as designed and implemented and believe that they are suffering, and will suffer, harm as a result of the Bank’s non-compliance with its policies and procedures in the design and implementation of the Project. The requirement of paragraph 9(a) is met.

67. Criterion (b): “The request does assert in substance that a serious violation by the Bank of its operational policies and procedures has or is likely to have a material adverse effect on the requester.” The Panel confirms that the Request raises issues of actual and potential material adverse effects on the Requesters, and it asserts that these harms are linked to a serious violation by the Bank of its policies and procedures. The Requesters allege instances of harm from construction activities to date, and the possibility of potentially severe environmental, social, religious and cultural consequences for downstream populations and on aquatic biodiversity. These concerns relate to impacts from blocking the flow of the Alaknanda River as well as broader and cumulative impacts of several hydro power projects on the Alaknanda River. The Panel confirms that the requirement of paragraph 9(b) has been met.

68. Criterion (c): “The request does assert that its subject matter has been brought to Management’s attention and that, in the Requester’s view, Management has failed to respond adequately demonstrating that it has followed or is taking steps to follow the Bank’s policies and procedures.” The Requesters state that they have raised their concerns with World Bank staff on several occasions through correspondence and meetings but are not satisfied with the response they have received. The Panel has verified that Management has been aware of the Requesters’ grievances for several months, and with respect to some aspects of the Request, for several years. The Panel is satisfied that this criterion has been met.
69. Criterion (d): “The matter is not related to procurement”. The Panel is satisfied that the claims with respect to harm and non-compliance included in the Request for Inspection do not raise issues of procurement under the Project and hence this criterion is met.

70. Criterion (e): “The related loan has not been closed or substantially disbursed”. At the time the Request for Inspection was submitted, about 0.25% of the loan had been disbursed.

71. Criterion (f): “The Panel has not previously made a recommendation on the subject matter or, if it has, that the request does assert that there is new evidence or circumstances not known at the time of the prior request”. The Panel confirms that it has not previously made a recommendation on the subject matter of the Request.

(b) Observations on other factors supporting the Panel’s recommendation

72. The Panel acknowledges that adequate power supply poses a constraint on the growth of the Indian economy and the goal of ensuring access to electricity for all households. The Panel notes that development of the country’s hydropower potential will have to be part of the power generation mix needed to meet current and projected demand. The Requesters, similarly, do not question these basic premises for investment in hydropower, but question whether costs outweigh benefits, whether adequate social and environmental safeguards have been put in place to avoid or mitigate harms resulting from the Project, and whether the local population will benefit from this development. The VPHEP is being implemented in a context where there is an important national debate and commensurate processes underway regarding the sustainability of hydropower in India. The Panel notes that this debate is characterized by diverging opinions.

73. In sections (i) and (ii) below, the Panel records its preliminary observations regarding alleged key issues of harm and compliance raised in the Request, noting that the Panel can only make a definitive assessment of the Bank’s compliance with its policies and procedures, and any adverse material effect this may have caused, through an investigation.

i. Allegations of harm

74. The Panel believes there are two broad sets of claims of harm raised in the Request. The first set relates to actual and potential adverse local impacts on people living in the project influence area, and the second set relates to interests and concerns also held by people living beyond the project influence area that are related to the Project and are of a broader and cumulative nature. In the EA, the Project influence area has been defined as 7 km from any project related infrastructure, while there is also reference to an “immediate area of influence” defined as 500m from Project sites.

75. Local impacts. With respect to the first set of issues, meetings with Requesters and other villagers in the project influence area confirmed that the following issues seem to be the most critical:

- **Lack of an agreement with households in the Hatsari Tok hamlet of Haat village.** This pertains to (a) impacts from project activities that have already taken place and (b) relocation or other options as a consequence of future planned construction activities. The Hatsari community was visited by the Panel team during the site visit, and discussions
were held with villagers. During the meeting, the Panel team was told that villagers were not willing to accept any of the offers made by Project authorities regarding compensation for land to be lost or impacted due to the Project. The villagers alleged that the resettlement and rehabilitation packages they had been offered would not ensure a restoration of their livelihoods since the compensation focused primarily on residential land and housing.\footnote{According to THDC the most recent offer include one of the following three options: (a) the same package as for the residents of Haat village with whom a relocation agreement has been reached; or (b) the Project leasing their land during the construction period; or (c) the Project providing alternate residence during construction while people keep their land.}

The residents of Hatsari hamlet state that they do not have agricultural land on the other side of the river as is the case for many residents of the Haat village. In addition, they complained about and showed the Panel team some of the physical effects which they allege are from the test blasting undertaken by THDC some years ago. These included cracks in some of the houses, drying up of springs on which the population depends to irrigate their crops, and threats to an old temple on their land. They also expressed concern about impacts of the Project on the river flow and rituals performed just below their homes on the bank of the river. The Panel notes that the Management Response describes efforts to address the issues of concern of the Hatsari villagers. However, the Panel’s impression is that an adversarial relationship has developed between the community and Project authorities. Villagers alleged various attempts to place inordinate pressure on them to accept the compensation options offered, some of which, in their opinion, bordered on harassment.

- **Concerns of increased risks of landslides due to road construction, blasting, tunnel boring and transmission lines.** The Requesters are fearful that Project related blasting in connection with tunneling for water conveyance and access road construction along the mountain sides will imperil the already fragile mountains, causing landslides and perhaps even triggering earthquakes in a known high risk seismic zone. In meetings with the Panel team, villagers raised concerns about the potential for landslides as a result not only of Project-financed construction activities but also due to the building of roads in the area, including the widening of roads necessary for transporting some of the construction equipment, and the construction of transmission lines and related felling of trees. References were made to experiences with the two hydro projects being constructed upstream of VPHEP, namely the Vishnuprayag and the Tapovan-Vishnugad projects.\footnote{Vishnuprayag Hydro Electric Project (400MW) and Tapovan-Vishnugad Hydro Electric Project (520 MW).} The Panel team was informed that one village had been covered by a landslide after construction had started on the Vishnuprayag project and that there has been a dramatic increase in the occurrence of landslides in the past 5-7 years. Villagers also related this to changing rain fall patterns, with fewer rain days and more intense rain showers (described as “cloud bursts”). The Panel saw \textit{prima facie} evidence of many landslides on both banks of the Alaknanda River. The Requesters believe that clear mitigation measures for such events are not in place and question whether the risks, as they relate to the Project, have been adequately assessed.

- **Concerns that water supply from springs and rivulets will be affected by project related construction work.** The Requesters believe test blasting for tunnel alignment led to the drying up of several water sources. Other villagers met by the Panel team felt this
may occur more widely as the Project progresses, which may result in farmers not being able to irrigate crops and likely suffering crop losses for multiple seasons.

- **Concerns that houses may develop cracks as a consequence of construction induced vibrations and/or destabilizing of the ground.** The Requesters and other villagers met feared damages to houses, and referred to experiences from existing projects where the developer, contrary to promises made, had not put in place an effective insurance scheme or had refused to acknowledge responsibility with respect to harms.

- **Concerns that sources of firewood and grazing/fodder for farming dependent households will be permanently diminished.** The Requesters and villagers met by the Panel team referred to the effects of dust and encroachment by construction laborers moving to the area. They pointed to the serious effects of dust pollution on farm land, claiming that milk production is going down, miscarriage of calves has become more prevalent, and trees are bearing less fruit. The Requesters believe dust and muck disposal from Project related construction activities will impact their fodder sources and community (van panchayat) forest lands. The Panel was informed about concerns regarding the large workers colonies that will be coming into the area once the construction phase commences and the potential impacts from these. The Panel was told that previous experience with similar projects in the area indicates that fuel and other needs of the workers are usually not met as planned by project authorities. This places a heavy burden on the local population and the environment. In particular, it was alleged that though Project authorities have promised to provide gas cylinders to the workers for their energy needs, the Requesters argue these are difficult to access even for local residents, due to quota restrictions, and most probably the workers will resort to cutting of trees.

- **Concerns that the flow in the Alaknanda River downstream of the dam during several months of the year will be too low.** The Requesters believe this will interfere with and impair the religious and cultural uses that the communities living alongside the river currently enjoy. Such uses include the performance of cremation ceremonies, ritual bathing before religious ceremonies, and use of river water in religious ceremonies. People also fear that because of the dam and reduced flow, the river will no longer deposit sand which people use for house construction.

- **Inadequate consultation and information.** This concern was raised with respect to rights and entitlements of project affected persons (PAPs), and grievances with respect to the identification and registration of PAPs. With the exception of Hatsari hamlet, the issues brought to the attention of the Panel relate primarily to rights and entitlements with respect to adverse impacts not directly related to formal acquisition of land. The Panel notes that a PAP, as defined in Project documents, is a person in households that are holding land to be acquired for the Project under the Land Acquisition Act.43

76. With respect to this first set of claims the Panel notes Management is of the view that “(T)he project-related impacts referred to in the Request have been taken into account in the course of project preparation and are being addressed through the appropriate mitigation measures”44.

43 According to the Resettlement Action Plan this involves 1,223 households (1,477 families with 5,159 persons) in 19 villages.

44 MR, p. vii
According to Management, these issues of actual or potential harm either cannot be related to the Project (or for some issues there is insufficient scientific evidence), or appropriate mitigation measures are in place. Hence, Management is of the view that the Requesters have no basis to claim that they “have been or will be directly and adversely affected by a failure of the Bank to implement its policies and procedures”\textsuperscript{45}.

77. **Broader impacts.** The second set of claims relate to interests and concerns also held by people living beyond the expected project influence area (as defined in the EA). These are linked to broader impacts, and may be to a large extent, cumulative impacts of a cascade of hydropower projects in the upper reaches of the Ganga River basin, which may be increased by the Project. In meetings, Requesters and other interested parties raised the following key issues:

- **The spiritual significance of Ganga River and special qualities of its water.** The obstruction of the river flow by way of a dam, according to the Requesters, will affect the special qualities of the water of Ganga River and its spiritual significance in Hindu scriptures. It will diminish, in their view, the unique cleansing and healing qualities that the free flowing Alaknanda River presently has.

- **Biodiversity.** The Requesters allege that the on-going construction of the Vishnuprayag project and the Tapovan-Vishnugad project on the upper reaches of the Alaknanda River above the Project, and several on-going and proposed hydropower projects downstream of the Project on the Alaknanda River and its tributaries, will disrupt its seasonal flows and affect the amount of water available in the river to a level that is insufficient to maintain an environmental flow. This situation, they believe, will seriously affect the biodiversity of the river and its habitat, and especially negatively impact migratory fish species.

- **Environmental change.** The Requesters claim that the natural environment and people’s traditional adaptations in these narrow V-shaped river valleys are threatened by changes in the microclimate due to impacts from road construction, dust, vehicle traffic, reservoirs and tunneling, as well as what people observe as longer-term changes in temperatures and rainfall patterns. Furthermore, the Project is in a high-risk seismic zone. It is claimed that the Project will contribute to irreversible environmental change and more frequent landslides.

- **Poverty reduction.** The Requesters argue that the poor and vulnerable in this region are likely to suffer harm and not receive benefits from hydropower development as they will not get electricity or jobs and any benefits received will be short-term. While studies show that very few households depend solely on subsistence agriculture and sale of agricultural products, access to terraced farming land and products from village forest land is an essential element of almost all family economies. Villagers argued that the loss of farm land and forest resources due to hydropower projects, roads and transmission lines, in that environment and topography, is irreplaceable. At the same time, they did not have confidence in the promises that the Project authorities would create longer-term...

\textsuperscript{45} MR, p. vii
employment. Again, they referred to experiences from other hydropower projects in the region.

78. With regard to this second set of claims, Management is of the view that these issues by and large pertain to a broader debate in India over the development of the Ganga River and its tributaries for hydropower and other economic activities, which is a debate that “goes well beyond the underlying project and its compliance with Bank policies and procedures”\textsuperscript{46}.

79. \textbf{Panel’s review}. The Panel notes that the Requesters and Management have starkly opposing views on both issues of harm and how they relate to the Project and Bank’s policies and procedures. In relation to the first set of claims presented above, the Panel notes that there are many residents in the Project area who seem to be less concerned about these future local level impacts or hold the view that the mitigation measures and compensation offered by Project authorities would be adequate. The Panel met with several residents who expressed their support for the Project, and Project authorities provided further evidence of support from political leaders and community representatives. The Panel is concerned to learn, however, that critics of the Project, including some of the Requesters, may have been intimidated and/or threatened.

80. There are also segments of the population in the project influence area that do not have confidence in the proposed mitigation framework, and there is a lack of trust in the ability and capacity of the Project authorities to deliver. This points at potential issues with respect to the quality of the consultations carried out. The Panel heard conflicting views from a variety of stakeholders regarding the adequacy of these consultations despite the seemingly large number of meetings held. There is also a perception among some that the NGO hired by Project authorities for implementation of the RAP does not act as a neutral intermediary between affected households and Project authorities. The Panel has been informed of the establishment of a Grievance Redress Mechanism, and notes the relatively low number of cases to date and that none of the cases refer to the claims discussed above. This may reflect that the Project is still in an early stage of implementation.

81. In short, whereas the Project EIA/EMP and the SIA and Resettlement Action Plan, as noted in the Management Response, recognize the issues mentioned above, the Panel heard concerns about the feasibility and effectiveness of some of the measures proposed, for example, with respect to impacts on fuel and fodder, houses, water sources, and the enhanced risk of landslides. The Panel notes that the concerns presented above primarily relate to potential adverse impacts not directly related to land acquisition. In all, there seem to be diverging views about the various mitigation measures, unintended impacts and the confidence building measures undertaken by Project authorities, which raise questions about what is likely to happen during implementation.

82. With regard to the second set of claims presented above, some alleged potential harms may go beyond the Project if viewed from the perspective of its area of influence as described in the EA. The claims made point at externalities that may need to be addressed in the context of an extended definition of the project area of influence and for some issues, may involve a broader assessment of cumulative impacts and trends. At this stage in the Panel process, the

\textsuperscript{46} MR, p. 11
Panel cannot make a definitive assessment of whether such an analysis goes beyond the Project in terms of its compliance with Bank policies and procedures. However, in the section below the Panel reviews whether the issues raise questions about potential serious non-compliance with World Bank policies and procedures.

**ii. Issues of compliance**

83. The Request for Inspection presents a number of claims which state that Bank Management has not complied with its operational policies and procedures, resulting in harm or potential harm to affected people and the environment. Specifically, the Request raises issues of compliance related to Bank policies on environmental assessment, natural habitats, involuntary resettlement, physical cultural resources, project appraisal, economic evaluation of investment operations, and project supervision.

84. One major issue is the claim that Management did not ensure that a proper environmental assessment was carried out to identify and address certain significant environmental and social impacts of the Project within the defined project area of influence on different stakeholders. A second major issue relates to the assessment of broader and cumulative impacts of the Project together with other existing and planned hydropower projects and related and associated infrastructure in the watershed and region. The final and third claim is that the economic analysis underpinning the Bank’s appraisal of the Project had serious analytical flaws.

85. **Scope of Environmental Impacts Assessment and mitigation measures.** As noted in section (i) above, the Requesters question the adequacy of the EIA in particular with respect to possible adverse social and economic impacts not directly related to land acquisition and resettlement as described above. Beyond this, the Request raises significant concerns regarding the implementation of measures set forth in the EMP to avoid, mitigate or compensate for harms. The Requesters also claim that the offers made to the residents of the Hatsari hamlet do not ensure that Bank standards under the involuntary resettlement policy will be met.

86. During its visit to the Project area, as described above, the Panel heard about and saw evidence of negative impacts already felt, or believed to be imminent, in the local area which were alleged to have been caused by the Project. These allegations raise questions not only about the scope of the EIA and mitigation measures elaborated in the EMP, but also with respect to supervision of the Project by Management.

87. **Assessment of broader and cumulative impacts.** The Panel notes that a project of this nature raises important questions regarding definition and delineation of the area of influence, what associated activities to include in the analysis and how to address cumulative impacts of a series of energy and infrastructure projects in the same river basin to which the Project will allegedly contribute. The Panel understands the Bank commissioned a cumulative impact assessment in 2009, the final report of which was disseminated in November 2009. In July 2010, as a response to protests from religious and environmental groups, the Government of India commissioned two studies by the Institute of Technology-

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47 Large-Scale Hydropower on the Alaknanda River: Cumulative Impact Assessment, Final Report, Mott MacDonald Group, November 2009.
Roorkee (released April 2011) and the Wildlife Institute of India (released June 2012) respectively in an attempt to study the cumulative impacts of hydropower generation on the Alaknanda Basin. As a consequence of these studies, there is a proposal to alter the environmental flow of VPHEP from 3 cumecs, which was the original assumption of the Project, to 15.65 cumecs. This environmental flow amount may be altered again by GoI after the finalization of the Chaturvedi Commission report. Moreover, in July 2010, MoEF commissioned a consortium of the seven IITs to develop a Ganga River Basin Management Plan. The Panel has learned that the Chaturvedi Commission has decided to postpone issuance of its final report to February 2013.

88. The Panel notes that Management is awaiting the outcomes of these national processes. The Management Response states that the environmental flow requirement of 15.65 cumecs “can be viewed as a composite measure of the value that Indian society accords to preserving the river in its natural state as opposed to exploiting the river for other purposes”, and adds that “the environment flow criterion did take into account the cumulative impact of a series of projects along the same river”. The Panel notes that the increased environmental flow may ensure enough lean season water flow for religious rituals and drinking water for animals. However, it may not address other broader associated and cumulative impacts, namely climate related, landslide risk, traffic/roads and dust, aquatic life, and the spiritual value of unobstructed river flow.

89. Related to the above is also the spiritual and religious aspects of the Ganga River, a point which has been consistently raised by the Requesters and various other stakeholders met by the Panel during its stay in India. The general sentiment garnered from these discussions is that from a religious point of view, dams disrupt river flow which has impacts on the Requesters’ religious beliefs and rituals. The Management Response refers to the infeasibility of unobstructed flow from an energy generation perspective, and only mentions proposed mitigation measures regarding two cremation ghats. The Request raises serious questions as to whether Management has complied with applicable policies with respect to this issue.

90. Economic analysis. The Request for Inspection contends that the economic analysis for the Project was faulty as it exaggerated the benefits of the Project and failed to account for certain significant environmental and social/cultural externalities of the Project. As with the claims relating to the EA, this raises the question of whether decision-makers were provided with an adequate and proper basis for informed decision-making about the true benefits and costs of the Project, and its broader developmental impacts.

91. Panel’s review. The Panel notes the extensive Management Response to each of the allegations of policy non-compliance presented in the Request. As described previously,

48 According to a MoEF press release dated July 6, 2010, the GRBMP will “aim to have adequate provision for water and energy in the Ganga Basin to accommodate the pressures of increased population, urbanization, industrialization and agriculture while ensuring the sanctity of the fundamental aspects of the river system are protected. These include: (i) river must continuously flow (Aviral Dhaara), (ii) river must not be seen as a carrier of waste loads (Nirmal Dhaara), (iii) river must have longitudinal and lateral connectivity, (iv) river must have adequate space for its various functions, (v) river must function as an ecological entity”. See: http://moef.nic.in/modules/recent-initiatives/NGRBA/DOC20100706.pdf
50 MR, p. 15
Management contends that Project documentation and planning address the potential impacts and concerns of the Project consistently with Bank policy, and provide an adaptive approach to address issues that may arise. Management notes, among other things, that it requested additional studies to supplement the initial EA of the Project once the Bank became engaged, and refers to the additional studies commissioned by the GoI, the ongoing important national dialogue on these issues, as well as the decision of the National Green Tribunal (noted previously).

92. During its visit, the Panel had the opportunity to gather further information on the claims and assertions presented in the Request. On the one hand, the Panel heard testimony in support of the Project, and appreciation of the benefits anticipated, together with the desire to ensure that the rights of affected people were respected. On the other hand, the Panel heard testimony that some preparatory actions for the Project had already caused serious harm, and that the Project could lead to widespread negative impacts which were not adequately considered and addressed.

F. Recommendation

93. The Requesters and the Request meet the technical eligibility criteria set forth in the Resolution that established the Inspection Panel and the 1999 Clarification.

94. The Panel notes that there are conflicting assertions between the claims in the Request and the Management Response. The Panel further notes that the claims raise issues of non-compliance and harm of a serious character. In light of the additional observations presented above on the serious nature of the issues of alleged harm and compliance raised by the Requesters, the Panel recommends an investigation of the matters of policy non-compliance and related harm raised in the Request for Inspection, as described below.

95. The Panel notes that an investigation would focus on (a) the key concerns of local level harm or potential harm raised in the Request, with a primary focus on harms not related to land acquisition, and the adequacy of preventive and mitigatory measures outlined in Project documents as required by Bank operational policies and procedures, and (b) whether Bank Management complied with applicable policies and procedures during Project preparation with respect to broader issues of potential harm as they relate to the analysis of the Project area of influence, cumulative issues and project externalities.

96. The Panel notes that the investigation will take into account any efforts made by Management to resolve the concerns raised by residents of Hatsari hamlet. The Panel will also take into account the on-going national processes with respect to the Ganga River and implications thereof for hydropower development on the Alaknanda River.