

SEA of Hydropower Plan on Azad-Jammu-Kashmir State, Pakistan

Source: NCEA (2021)

Hydropower plan and SEA

The government of Azad-Jammu-Kashmir State (AJK) agreed to volunteer its hydropower plan (the 'Plan') for SEA piloting. In 2014, there were 12 operational hydropower projects in the state. An additional 13 are under construction, while 37 more sites have been identified for detailed feasibility (total technical capacity ~9000 MW). The SEA took the form of an ex-post assessment based on the collection of 62 existing or proposed projects that make up the de facto plan. The main objectives of the pilot SEA of the hydropower plan were to:

- Assess the potential environmental and social risks and benefits associated with the current hydropower plan;
- If necessary, suggest alternative plan options that better optimize economic, environmental, and social outcomes.

Key issues/method

Based on ecological criteria, the rivers in AJK were divided into nine zones. The ecological sensitivity of each river zone was assessed and discussed, followed by a determination of the sensitivity of river sections to the development of hydropower projects (HPPs). A similar analysis of socioeconomic conditions was undertaken for each of the sections and rated as least, moderate, or highly sensitive to HPP development. Finally, both analyses have been combined, which showed that the nine proposed HPPs in the Poonch River basin all rank highest for potential ecological and social impact, and therefore this section is indicated as a highly sensitive zone.

Influence of SEA

One of these nine projects in the Poonch River is the Gulpur project that was initially rejected by the funding agencies (IFC, ADB) because the proponents had not taken into account the specific requirements in relation to its location in a planned national park. This National Park was not yet approved due to opposition by government planners who were afraid that its protected status would prevent the use of hydropower from the river. Then the pilot SEA was conducted, and the sub-sequent IFC requested to carry out an EIA of four combined hydropower projects in Poonch River, including the 100 MW Gulpur HPP. This EIA could be carried out very quickly, as it could be based on the SEA pilot. As a result of the EIA and the described alternatives, the impacted area of river flow could be reduced from 7 km to 0.5 km. Furthermore, the proposed Gulpur hydropower dam was changed from a dam including a large reservoir into a run-of-the-river project, providing the same hydropower yield as the dam initially planned.

A biodiversity action plan for the project impact area was prepared for investments in biodiversity conservation. An important secondary result of this process was that the resistance against the establishment of Poonch National Park by the authorities ceased and the protected status of the park was approved. A biodiversity management plan for the entire river will be prepared, taking into account the accumulated impacts of the four dams. In sum, the influence of the SEA was:

- The proposed Gulpur reservoir dam was changed into a run-of-the-river project;
- Poonch National Park was established and investments in conservation were made.

Lessons learned

The pilot did not have a budget for primary data collection. Fortunately, the consulting team had access to excellent primary environmental and social data from previous impact assessment studies undertaken in the state. Without this information, the pilot SEA would not have been able to produce the river sensitivity and HPP ranking, which was a crucial outcome of the study.

Maps produced as part of the SEA study were of significant value. These were used for discussions with public officials in AJK, who often do not have enough time to read long, technical reports. At consultation meetings with government officials, the maps engendered spirited engagement that clearly led to organizational learning.