

ENVIRONMENTAL AND SOCIAL STRATEGY ¹

A. Project Description

1. The Baba Hydroelectric Project (the “Project”) involves the construction, operation and maintenance of a dam and diverter to transfer water from the Baba River, in order to increase the energy generation of an existing hydroelectric power plant called the Marcel Laniado de Wind (MLW) Plant.
2. The Borrower is the *Fideicomiso Hidropacífico*, under the administration and control of the Project Sponsor (*Consorcio Hidroeléctrico del Litoral - CHL*). CHL is composed of *Construtora Norberto Odebrecht S.A.* (CNO) and *Odebrecht Investimentos em Infra-Estrutura Ltda.* (OII), collective named “Odebrecht Companies”, and local private investors: *Cartopel*, *Aquamar S.A.*, *SONGA S.A.*, *Importadora El Rosado S.A.*, *Negocios Industriales Real S.A.* (NIRSA), and *IPAC S.A.* (IPAC).
3. The Project is located within the administrative and political jurisdictions of the towns of Buena Fé and Valencia, Province of Los Rios, Ecuador. As a reference, the reservoir is located 15 Km south of the rural community of Patricia Pilar and 27 Km north of San Jacinto de Buena Fe, City of Buena Fe. The project influence area encompasses few step canyons and mostly agricultural rural areas, where the environment has been highly disturbed by the practice of monoculture and the intense use of agrochemicals. Large extensions of banana, palm, and rubber plantations, among others, are found in the region.
4. The Project will be built near the confluence of the Baba and Toachi Rivers, equidistant between the cities of Quito and Guayaquil (see Figure 1). It involves the construction of:
 - a. Dam and Reservoir: a 20-meter-high dam (the Baba dam) downstream from the confluence of the two rivers, which together with the three additional dams that constitute part of the diversion scheme (described below), will create a reservoir of approximately 110 million m³, flooding approximately 1099 ha. (1013 ha the main reservoir, and 86 ha along the diversion scheme)

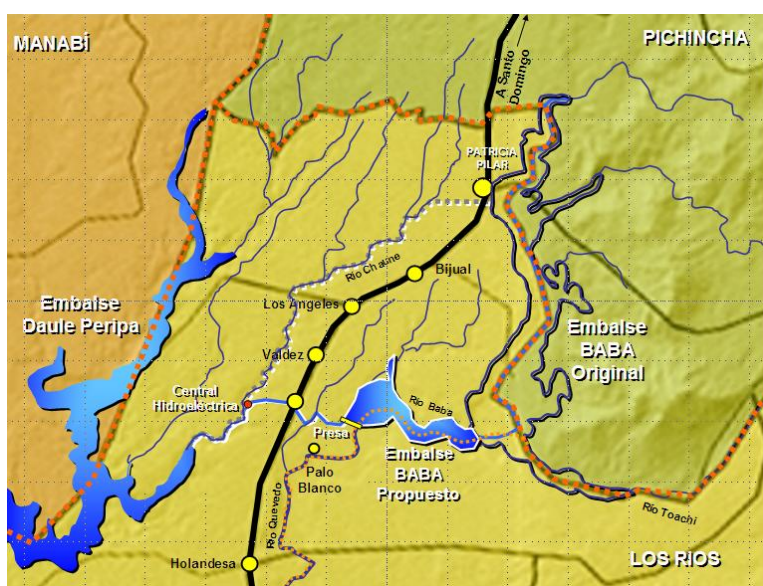
¹ This Environmental and Social Strategy (ESS) is being made available to the public in accordance with the Bank's Policy on Disclosure of Information. The ESS has been prepared based primarily upon information provided by the project sponsors and does not represent either the Bank's approval of the project or verification of the ESS's completeness or accuracy. The Bank, as part of its due-diligence on the feasibility of the project, will assess the environmental and social aspects. This assessment will be presented in the project Environmental and Social Management Report, prepared by the Bank, and will be made available to public prior to consideration of the project by the Bank's Board of Executive Directors.

- b. Diversion Scheme: an 8-km open channel diverter, formed by a series of 20-meter-high dams² in conjunction with channels, from the new reservoir formed by the Baba dam to an existing reservoir called Daule-Peripa, and located within the same macro watershed. The diverter will channel water from the Baba River to the Daule-Peripa reservoir, where the MLW Hydroelectric Power Plant is located. This diverted water would enable additional energy generation from the MLW Plant's existing and currently underutilized capacity. The MLW Plant currently generates 80 MW, but it has installed capacity of 213 MW, and thus no modifications to the existing power house, transmission lines, or switchyards are required. The rationale and objective of the Project is therefore to allow the transfer of additional water to the MLW plant in order to generate up to an additional 75MW using MLW's idle installed capacity.
- Project associated facilities, not financed by the IDB, include:
- c. Hydroelectric Generation Plant: The Project Sponsor will build a new 42-MW hydroelectric plant, that would generate power before the water is discharged to the Daule-Peripa Reservoir. This component of the Project also includes a 1-km-long 138 kV transmission line to deliver the energy generated to CHL's members, which are large industrial companies needing a reliable energy source for their production processes. These added works increase the Project's energy output by almost 70% when compared to the original design.
 - d. *Via Entrelagos Road*: a new 22 km road.
 5. Project is substantially different from the one originally conceived by CEDEGE/Hidronación, and that before and during the bidding process faced intense opposition from affected communities in the direct influence area, as well as of local and international NGOs. The design changes proposed by the CHL appear to have a significant reduction of the environmental and social impacts of the Project: (a) the proposed design reduces land acquisition and resettlement by about 85%, as instead of 240 families that would have had to be relocated in the original design, only 38 families approximately will have to be moved now; (b) land acquisition is limited to 1,099 hectares compared to the original 3,760 hectares, or approximately a 70% reduction; (c) the dam to be built is only 20 meters high instead of 55 meters; (d) reservoir size was reduced from 600 million to 110 million m³, and (d) no protected areas or ecological sensitive habitats will be affected whereas the previous design implied the partial flooding of a World Ecological Reserve in *Bosque Protector del Centro Científico Río Palenque*.
 6. Total Project costs are estimated at approximately US\$192 million, and construction is expected to take up to two years. The Sponsor is seeking financing

² The dams and channels that comprise the diverter take advantage of the natural topography to create the diverter channel, but have no water storage capacity.

of approximately US\$155 million for the construction of the dam and diverter. IDB would provide up to US\$77 million, or 40% of Project costs.

Figure 1



B. Environmental and social compliance

7. In December 2003 CONELEC approved the preliminary EIA developed by *Hidronación* for the bidding process. This preliminary EIA, which referred to the original design, included a significant amount of baseline data, and was supposed to be fully developed by the Company granted the concession. At this time, a new EIA is being prepared for the project alternative proposed by CHL. CHL is using a lot of the base line data generated during the first EIA process, and is in the early stages of preparing the new EIA.
8. In accordance with the SEMA (*Sistema Unico de Manejo Ambiental*) of Ecuador, CHL has started a public consultation process for the Term of Reference (ToR) of the EIA. This consultation process consists on disclosure of the project components, expected impacts and mitigation measures, and ToRs for the EIA. The process includes individual interviews with relevant parties, as well as several

public meetings in the project influence area, and it is expected to be finished by mid-July, 2006. A project information center was opened in Santa Fe on June 21st, 2006 to further inform interested parties on the Project and the EIA ToRs and process.

9. The draft EIA is expected to be ready for another series of public consultations during the month of August, and it is expected to be presented for approval to the Environmental Authorities in early September. Under an optimistic scenario, the Environmental License should be granted end of October-early November, and construction should start at the end of the rainy season, March-April 2007.

C. Environmental and Social Impacts and Risks

10. As stated above it must be noted that, compared to the original project conceived by CEDEGE/Hidronación and to the proposals of other bidders, the design changes proposed by CHL appear to have significant reduction of the environmental and social impacts of the Project. None-the-less this alternative project still presents environmental and social impacts and risks, as would be expected in any new dam project. No indigenous or native communities will be affected, and resettlement will be performed in compliance with IDB OP-710 on involuntary resettlement.
11. The key environmental and social impacts associated with the construction of this Project are: (a) flooding of an area of 1,099 hectares of land with the subsequent impact on the current agricultural use, and existing archeological sites or site of cultural importance, if any ; (b) the relocation of approximately 38 families³ and the economic displacement associated with land use changes; (c) the potential impacts associated with the installation of construction camps and the influx of construction workers (peak of approximately 1,000 worker); (d) the potential ecological and social impacts associated to changing a river into a reservoir, and the changes in water quality generated thereof (e.g. upstream watershed management, sediment load); (e) the interference with existing infrastructure, such as the Santo Domingo – Guayaquil Pipeline which will have to be relocated, or the Quevedo-Santo Domingo road and the Quito – Guayaquil highway which will be temporarily closed; (f) the potential ecological and social impacts downstream of the reservoir due to the modified river dynamics (e.g. flood control) caused by the dam; (g) the mixing of two rivers with the construction of the diversion channel, and the associated potential ecological impacts such as changes in water quality or the invasion of exotic species (e.g. water weeds currently present in Daule-Peripa); (h) the construction of access roads and other ancillary facilities (e.g. quarries, cement plants, etc) or new infrastructure such as the Via Quevedo-Santo Domingo bridge; (i) the risk of sediment accumulation and distribution in the reservoir; and (j) the cumulative impacts on the Daule-Peripa reservoir, particularly with reference to potential impacts on water quality and reservoir safety.

³ Most of the displaced families are reported to be working families that live and work on the land of larger landowners.

12. Even though the flood control function of the reservoir may be considered as a benefit of the Project in terms of avoiding the extensive flooding during the rainy season and allowing agricultural activity year-round, it could also be argued that a substantial change in the hydrodynamics of the Baba River could greatly reduce soil nutrient seasonal recycling and thus overall agricultural productivity. The government has required reservoir releases to maintain an ecological flow of 10 m³/sec, which is higher than the current average flow during the dry season; current Baba River average annual flow at the proposed dam point is about 114 m³/sec, due to its torrential characteristics during the rainy season.
13. Additionally, other impacts typically associated with the construction and operation of any large dam project are expected such as soil erosion and sediment transport up and downstream from the dam, affectation of groundwater flow and existing water wells, localized seismic events, dust generation, air emissions from vehicle traffic and cement or concrete plants, storm water runoff, noise emissions from construction, waste disposal, increased local traffic, increased demand on local infrastructure and services (including social services), worker accidents, general disturbances to flora and fauna, and modification of landscape.
14. The majority of these impacts are temporary and can be managed through good environmental, social and health and safety management practices. Permanent impacts include resettlement and changes in land-use, river flow and dynamics, and landscape.
15. The principal project positive benefits or impacts are: (a) flood risk reduction and control (b) the provision of environmentally sustainable energy by contributing to displace local generation sources that are older, less efficient, and fossil-fuel based, with the potential subsequent climate impact and CREs generation.
16. The key environmental and social risks are those associated to the current negative image the project has, both locally and internationally, based on the original design. If the Project Sponsors do not develop an appropriate public consultation and communication strategy to assure the new project is understood, and does not legitimate take into account affected parties concerns, there is a risk that project opposition may escalate, with the consequent reputation risks to the Bank. For the original project two local NGOs (Comité Biprovincial contra la Construcción de la Presa Baba y la Coordinadora por la naturaleza y el Agua de la Cuenca del Guayas – COORDENAGUA), organized violent demonstrations against the Project, including blocking the main road that connects Quito with Guayaquil on the day the Project was awarded. However, these demonstrations are reportedly the result of the initial project design with no knowledge of the Odebrecht alternative proposal. Project companies have to make sure they adequately manage their communication strategy and appropriately involve the different stakeholders in buying the new design, as otherwise continued roadblocks and protests could greatly delay project construction and jeopardize its viability.

E. Environmental and Social Due Diligence Strategy

17. The Bank will perform an environmental and social due diligence (“ESDD”) in order to confirm that all Project direct and indirect impacts will be properly and adequately mitigated. As part of the due diligence process, the Bank will analyze the environmental and social aspects of the Project and will prepare an Environmental and Social Management Report (“ESMR”). The environmental and social due diligence will specifically include the components listed below:
- a. An assessment of project compliance status with the applicable country (national, provincial, municipal, local) environmental, social, and health and safety regulatory requirements (e.g., laws, regulations, standards, permits, authorizations, applicable international treaties/conventions, etc.), project-specific legal requirements (e.g., concession contract, etc.), any applicable Bank environmental and social policy, in particular O.P- 710 on Involuntary Resettlement. Special emphasis will be place on compliance status of all associated facilities, such as quarries, concrete plants, Via Quevedo –Santo Domingo bridge, etc.
 - b. An evaluation of the proposed Project to confirm that the Project’s direct and indirect environmental and social impacts have been properly identified and evaluated. A detailed evaluation of the adequacy of the EIA, specifically with regard to (i) impacts on land use and river hydrology and ecological dynamics, including the adequacy of the 10 m³/sec ecological flow; (ii) direct and indirect impacts on displaced families and on land use changes associated to the filling of the reservoir and the construction and operation of diversion channel; (iii) impacts associated to worker camps and associated facilities; (iv) ecological impacts and risks associated with the modification of a segment of the Baba River into a reservoir (e.g. water quality, invasion of exotic species, public health issues, etc); (v) impacts, if any, on indigenous people and archeological and cultural sites, (vi) cumulative impacts of any induced development (e.g. increase access due to improved road system infrastructure, any additional transmission lines, continued interventions of the Guayas River watershed, and Daule-Peripa Dam safety and water quality); (vii) the adequacy and thoroughness of the alternative analysis, and (viii) the adequacy and thoroughness of the EIA consultation process.
 - c. An evaluation to ensure adequate environmental and social mitigation measures and monitoring, in terms of their completeness, sufficiency of detail, ability to implement, cost, definition of responsibility, schedule, and quality control. Special emphasis will be placed to ensure (i) any potential environmental, social, and health and safety, impacts, risks, and liabilities that have not been adequately identified in the EIA (e.g. quality/condition of the Baba River watershed upstream of the Dam, relocation of the Santo-Domingo Guayaquil Pipeline, construction of the Via Quevedo –Santo Domingo bridge, etc); (ii) the adequacy of the Resettlement and Compensation Plan, and its compliance with Bank’s Policy of Involuntary Resettlement (O.P.-710), (iii) the adequacy of the

valuation methodology and compensation mechanisms-to both landowners and other people affected by the reservoir flooding and the Project at large, and (iv) indirect social impacts associated with relocation or temporary interruption of public services (e.g. roads, pipelines, etc).

- d. An assessment of the quality of the Sponsors' and CNO's Environmental, Social and Health and Safety Systems and the adequacy of the resources allocated for their application on this Project. This will include an evaluation to ensure adequate health and safety plans and procedures, including their technical adequacy given the potential project-specific health and safety risks, adequate level of training to be performed, and sufficient resources to be made available to ensure adequate implementation.
- e. An evaluation to confirm adequate contingency plans (i.e., emergency response), including confirmation that all relevant project-specific environmental risks have been identified, proper procedures have been developed, and sufficient resources will be made available to ensure adequate implementation. These should include coordination with the Daule-Peripa Reservoir emergency preparedness and response plans.
- f. An evaluation of project-related information disclosure and public consultation activities that have been performed and the proposed future actions to provide adequate ongoing information disclosure and public consultation with the local population, especially with locally affected population, and previously opposed local and international NGOs. Special emphasis will be place on the consultaion and public disclosure procees followed during the new EIA process.
- g. An evaluation, and further development as necessary, of project monitoring/supervision procedures to ensure proper implementation of environmental, social, and health and safety actions and requirements.