

PANAMA Canal Expansion

Complaint SG/E/2011/05

Complaints Mechanism - Complaints Mechanism - Complaints Mechanism - Complaints Mechanism

CONCLUSIONS REPORT

8 May 2019

Prepared by

Complaints Mechanism:

A. Abad
Deputy Head of Division

S. Derkum
Head of Division
Complaints Mechanism

External Distribution

Complainants:

on behalf of Gatún Lake Defence Committee, joined by:

- CODETIAGUAS (Coordinadora para la Defensa de Tierras y Aguas)
- ASOCIACIÓN PRO DEFENSA DE LAS CUENCAS HIDROGRÁFICAS
- FRENTE DE RESISTENCIA COCLESANO – movimiento en defensa de campesinos viviendo en la Cuenca Hidrográfica del Canal de Panamá – área de Coclé del Norte
- FRENTE CAMPESINO CONTRA LOS EMBALSES Y LA MINERÍA DE COCLÉ Y COLÓN (FCCEM)
- UNIÓN CAMPESINA PANAMEÑA (UCP)
- ORGANIZACIÓN CAMPESINA COCLESANA 15 DE MAYO (OCC-15 de Mayo)
- FRENTE CAMPESINO COLONENSE (FCC),
- UNIÓN INDÍGENA Y CAMPESINA (UIC) – Veraguas y parte de la Comarca Ngäbe Buglé
- COMITÉ PRO DEFENSA DEL LAGO GATÚN
- COLECTIVO VOCES ECOLÓGICAS
- ALIANZA PRO CIUDAD

Project Promoter: ACP (Autoridad del Canal de Panamá)

Accountability Mechanisms:

JBIC Office of Examiners for Environmental Guidelines
IFC Compliance Advisor/Ombudsman (CAO)
IDB Independent Consultation and Investigation Mechanism (ICIM)

Internal Distribution

Secretary General
Inspector General
EIB services concerned

The EIB Complaints Mechanism

The EIB Complaints Mechanism is designed to provide the public with a tool enabling alternative and pre-emptive resolution of disputes in cases in which members of the public feel that the EIB Group has done something wrong, i.e. if they consider that the EIB has committed an act of maladministration. When exercising the right to lodge a complaint against the EIB, any member of the public has access to a two-tier procedure, one internal – the Complaints Mechanism Division (EIB-CM) – and one external – the European Ombudsman (EO).

Complainants that are not satisfied with the EIB-CM's reply have the opportunity to submit a confirmatory complaint within 15 days of receipt of that reply. In addition, complainants who are not satisfied with the outcome of the procedure before the EIB-CM and who do not wish to make a confirmatory complaint have the right to lodge a complaint of maladministration against the EIB with the European Ombudsman.

The EO was “created” by the Maastricht Treaty of 1992 as an EU institution to which any EU citizen or entity may appeal to investigate any EU institution or body on the grounds of maladministration. Maladministration means poor or failed administration. This occurs when the EIB Group fails to act in accordance with the applicable legislation and/or established policies, standards and procedures, fails to respect the principles of good administration or violates human rights. Some examples, as set out by the European Ombudsman, are: administrative irregularities, unfairness, discrimination, abuse of power, failure to reply, refusal to provide information, unnecessary delay. Maladministration may also relate to the environmental or social impacts of the EIB Group's activities and to project cycle-related policies and other applicable policies of the EIB.

The EIB Complaints Mechanism is designed not only to address non-compliance by the EIB with its policies and procedures but also to endeavour to solve the problem(s) raised by complainants such as those regarding the implementation of projects.

For further and more detailed information regarding the EIB Complaints Mechanism, please visit our website: <http://www.eib.org/en/about/accountability/complaints/index.htm>

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EXECUTIVE SUMMARY

The Panama Canal Expansion project aims to expand the capacity of the Panama Canal (the Canal) through the addition of a third lane of larger locks and the improvement of existing navigation channels. The total investment cost for the Panama Canal Expansion programme was estimated at USD 6.588bn, with the EIB providing a loan of USD 500m. On 10 June 2008, the Bank's Board of Directors approved the EIB loan and a financing contract was signed on 7 January 2009.

On 27 March 2011, a Panamanian NGO (Gatún Lake Defence Committee – GLDC – hereafter “the complainant”) launched a complaint with the EIB Complaints Mechanism (EIB-CM) raising concerns regarding the design of the project, the failures of the seismic criteria used for this project, the environmental and social impacts, and the water management plans. Overall, they alleged that the promoter (Autoridad del Canal de Panamá, ACP) was acting in breach of the EIB Statement of Environmental and Social Principles and Standards. Furthermore, the complainant argued that there was a lack of transparency, poor public consultation and limited access to information.

The EIB-CM review shows that the promoter dedicated substantial resources and efforts in the preparation of this project. Given the uniqueness of the works, several aspects of the design, which were challenged by the complainants, could only be tested through modelling at the time of project preparation. The main impacts regarding seismicity and biodiversity were also assessed by ACP at the time of project preparation. Concerning the specific role of the Bank, the EIB-CM review showed that there are no references in the Bank's decision-making documents to the seismicity risks, to the EU Water Framework Directive or its main possible implications for project design. However, overall, the Bank's documents for the decision-making process addressed the issues challenged by the complainants, such as project design, salinity impacts and, partially, water management.

The EIB-CM learned during the investigation that Panama put in place a National Hydraulic Plan for the 2015-2050 period in 2016. It covers nationwide water management issues such as human consumption, irrigation and industrial use. The Canal Authority plays an important role in managing some key aspects due to the direct and indirect impacts of the Canal on the watershed. One key aspect that merits continued monitoring is the management of water resources and the possible need to build new reservoirs at a national level and the Panama Canal Watershed in order to suit the water needs of the country and the Canal Watershed.

The project has been built and operating since June 2016. An environmental and social consultant monitors the environmental and social impacts of the project during construction and operations regularly on behalf of the promoter. This expert has confirmed that the project complies with the requirements of the Ministry of Environment and IFC performance standards. According to the consultant's reports, ACP has developed several plans and programmes to engage meaningfully with local communities. ACP has also launched a website that keeps the public informed about the implementation of the project with updated technical reports.

In December 2017, the Bank carried out a review of the project upon its technical completion. As a result, the Bank's monitoring activities have been reduced, mainly to include the financial performance of the counterpart. As part of its normal monitoring activities, the Bank will undertake a final review of the implementation of the project by December 2020. In the light of the findings of this report, the EIB-CM suggests that the Bank include the following aspects in the planned review:

- **General implementation of ACP's water management strategy, including the possible impact of the construction of any new reservoirs in the Western Watershed on local communities;**
- **Ask the promoter for a plan that would reflect meaningful engagement with the local communities of the Western Watershed if new reservoirs are planned.**

1. THE COMPLAINT

On 27 March 2011, a Panamanian Non-Government Organisation (NGO) (**Gatún Lake Defence Committee – GLDC** – hereafter “the complainant”) launched a complaint with the EIB Complaints Mechanism regarding the EIB-financed Panama Canal Expansion in Panama. In August 2011, a group of other Panama NGOs¹ joined the complaint.

In general, the complainants challenge the project’s conflicts with numerous EU and UN objectives and policies that the EIB supports, such as:

- Only funding projects with appropriate mitigation and other suitable risk management arrangements;
- Ensuring the rational utilisation of natural resources at an international level as expressed in Article 174(1) of the Treaty of the European Union;
- Assessing the real sustainability and performance of a project in terms of the European Principles for the Environment (EPE) and the UN Millennium Development Goals (e.g. MDG7);
- Protecting and improving the natural and built environment.

In particular, the issues raised in the complaint relate to:

- Project design, and specifically lock design;
- Seismic risks associated with the project;
- The salinity of the lakes and impact on biodiversity;
- Water availability and Integrated Water Management;
- Access to information and public consultation.

In view of the above, the complainant argued that by implementing relatively minor changes, the expansion could:

- Meet its stated objectives;
- Provide far greater return on investment;
- Ensure an efficient and rational use of natural resources, particularly freshwater;
- Avoid creating needless risks, such as a seismic event closing the Canal indefinitely;
- Preserve the ecology of both the oceans and the Canal’s freshwater reserves; and
- Increase its service, reliability and future growth potential.

To support their allegations, the complainants attached a document called “Questioning the Panama Canal Expansion Project’s Compliance with Loan Stipulations” prepared by

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- ¹ CODETIAGUAS (Coordinadora para la Defensa de Tierras y Aguas);
 - ASOCIACIÓN PRO DEFENSA DE LAS CUENCAS HIDROGRÁFICAS;
 - FRENTE DE RESISTENCIA COCLESANO – movimiento en defensa de campesinos viviendo en la Cuenca Hidrográfica del Canal de Panamá – área de Coclé del Norte;
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 - COMITÉ PRO DEFENSA DEL LAGO GATÚN;
 - COLECTIVO VOCES ECOLÓGICAS;
 - ALIANZA PRO CIUDAD.

2. THE PROJECT

The Panama Canal links the Atlantic and Pacific oceans through an integrated system of locks and channels. It plays an important role for both Panama and the world as it handles the passage of around 5% of total world trade. From Atlantic to Pacific, the Canal is approximately 80 km long. The transiting of a vessel takes about 16 hours, navigating successively through (i) the Atlantic sea entrance channel; (ii) the Atlantic locks which enable the transit of vessels between sea level and the level of Gatún Lake (27 m above sea level); (iii) a navigation channel through Gatún Lake; (iv) a section of inland canal (the Culebra Cut); (v) the Pacific locks, enabling the transit of vessels from the level of Gatún Lake back to sea level; and (vi) the Pacific sea entrance channel.

The Canal Expansion project aims to expand the capacity of the Panama Canal (the Canal) through the addition of a third lane of larger locks and the improvement of existing navigation channels. The expanded Canal will facilitate the inter-ocean transit of post-Panamax vessels, equivalent to container ships with a capacity of up to 12 000 TEUs (twenty-foot equivalent units), compared to 4 500 TEUs with the existing Canal facilities. The project consists of five integrated components:

- (1) The construction of two new lock complexes at the Atlantic and Pacific entrances of the Canal;
- (2) The dredging/excavation of approach channels to the new lock complexes;
- (3) The improvement of the existing Atlantic and Pacific maritime access channels;
- (4) The improvement of the existing inland navigation channels;
- (5) The elevation of Gatún Lake's maximum operating level by approximately 0.45 m.

On 10 June 2008, the Bank's Board of Directors approved a loan of up to USD 500m and the financing contract was signed on 7 January 2009. The total investment cost for the Panama Canal Expansion programme was estimated at USD 6.6bn. Apart from the EIB, other lenders include the Japan Bank for International Cooperation (JBIC), the Interamerican Development Bank (IDB), The International Finance Corporation (IFC) and Corporación Andina de Fomento (CAF). The project put in place an environmental and social consultant – ERM – that verifies the implementation of the Environmental Management Plan (EMP) through the assessment of monitoring reports and regular site visits. The monitoring reports are publicly available on the project website².

3. BACKGROUND OF THE COMPLAINT

The complainant decided to lodge similar complaints with other co-lender accountability mechanisms (IAMs), namely the IDB-ICIM, IFC-CAO and the JBIC Panel of Experts. Although they have different structures and operating procedures, all IAMs involved have been working together closely by sharing information, exchanging views and collaborating on site visits.

3.1 JBIC Panel of Experts

The JBIC Panel of Experts initially decided to put the complaint handling on hold to await the results of the other mechanisms. In September 2013, the JBIC Panel of Experts commissioned technical studies and joined a mission with other mechanisms (IDB-ICIM and EIB-CM). After the finalisation of their assessment, the JBIC Panel of Experts concluded that the overall process was compliant with JBIC Guidelines. Subsequently, in December 2013, the JBIC Panel of Experts carried out a formal "dialogue between the parties," ACP and the complainants in Panama, with the EIB-CM as an observer.

² <https://micanaldepanama.com/ampliacion/documentos/impacto-ambiental/>

3.2 IFC-CAO

IFC-CAO registered the complaint for the Mediation Phase and conducted an on-site mediation scoping assessment in November 2011. In the course of its assessment, CAO understood from community members, civil society organisations and the company that they did not wish to pursue a dispute resolution process. In February 2012, in accordance with CAO's Operational Guidelines, the CAO concluded its process and referred the complaint to CAO Compliance for initial appraisal.

CAO completed its assessment in June 2013. Having considered the complaint and conducted a desk review of documentation related to the investment, CAO found that the identification and management of environmental and social risks and impacts around this project has generally been commensurate to its risks and impacts. Nevertheless, CAO identified several issues that deserved the parties' attention. However, CAO decided to close this case at appraisal on the basis that, amongst others, the client has well-developed E&S management and monitoring systems; and that IFC undertook to monitor these risks during the supervision phase.

3.3 IDB-ICIM

Given that ACP declined to participate in an ICIM-sponsored dialogue with complainants, the ICIM Ombudsperson (IO) concluded that, after taking a position on several issues³, it was not possible to proceed with the Consultation Phase and transferred the complaint to the Panel for a compliance review.

On 29 July 2015, the IDB Board of Executive Directors considered the Compliance Review Report for case PN-MICI002-2011 presented by the Panel. After taking note thereof, it issued its final decision with regard to the three areas covered by the investigation:

- i) Seismic risk and compliance with the IDB Disaster Risk Management Policy: the Board agreed with the Panel's analysis and conclusions and determined that management had not complied with the Policy requirement to report the level of risk. Therefore, it instructed management to produce a report consolidating (a) the management response to the Compliance Review Report; (b) the result of the seismic classification given to the project; and (c) the steps that the bank has taken to ensure that seismic risks have been appropriately managed.
- ii) Water availability and compliance with the Environment and Safeguards Compliance Policy: the Panel recommended a review of the water supply and demand projections and asked the IDB to monitor the project closely to ensure that the applicable IDB operational standards were followed. The IDB Board did not accept the findings or the recommendations made by the Panel.
- iii) The Western Watershed: the IDB Board confirmed – based on the Panel Report – that the area of the Western Watershed was not within the scope of the project and therefore concluded that any finding made by the Panel was not a matter in which the IDB could intervene or make recommendations. Nevertheless, the Panel recommended reinforcing

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- ³ Access to Information: the IO concluded that with one exception (Approved Project Abstract) all project documents had been disclosed in line with applicable policies and recommended the disclosure of the Environmental and Social Monitoring Reports commissioned by the co-lenders.
 - Saltwater intrusions in the Canal Lakes: the IO recognised this is a very important environmental concern for the project and recalled the recommendation to adopt an Action Level of 50% of the proposed standards for the monitoring of saltwater intrusion into the canal lakes made by URS Holdings' feasibility study. Exceeding this limit would trigger a review of the entire set of mitigation measures and the adoption of new or improved measures.
 - Seismic Risks and the Adequacy of Mitigation Plans: the IO took note of the lack of a natural hazard risk assessment and took the view that it was impossible to assert that the most recent ECI study findings had been taken into account in the project design. On that basis, the IO recommended that the IDB management conduct a natural hazard risk assessment and meanwhile recommended that the IDB Board halt any disbursement for this operation.

the communication strategy for the Western Watershed communities to share project information.

On 4 August 2015, after the Compliance Review Report was disclosed and the requester, the borrower and the public were notified of the final decision of the Board, the processing of this request by ICIM was concluded.

4. EIB-CM's WORK AND METHODOLOGY ASSESSEMENT

In line with the applicable operating procedures⁴, the EIB-CM conducted its initial assessment, which included a fact-finding on-site visit from 29 August to 4 September 2011. The objectives of this fact-finding mission were:

- clarifying the concerns raised by the complainant(s);
- better understanding the complainants' allegations as well as views from other project stakeholders (the Bank's operational services, project promoter, national authorities, etc.);
- assessing whether and how the main project stakeholders (e.g. complainants, and the project promoter) could seek mediated resolution of the issues subject to the complaint;
- determining if further work was necessary and/or possible from the EIB-CM (investigation, compliance review or mediation between the parties) to resolve the issues raised by the complainant(s).

At the end of this initial assessment stage, the EIB-CM deemed that the parties were not able to reach a mediated resolution on the issues in question. The EIB-CM started an investigation to address remaining uncertainties regarding the allegations on the following issues raised by the complainant:

- (i) Project design, in particular the technical concepts selected by the promoter for the locks and the water-saving basins;
- (ii) Seismic risks associated with the project;
- (iii) The salinity of the lakes and impacts on biodiversity;
- (iv) Water availability and Integrated Water Management;
- (v) Access to information and public consultation.

A second site visit to the project took place in September 2013. This mission was a joint mission with the other accountability mechanisms also involved in the case, i.e. the Secretary of the JBIC Panel of Experts and one representative from the local JBIC regional office (Mexico Office), and members of the ICIM Compliance Panel of Experts. During the mission, the EIB-CM conducted the following meetings and visits:

- Meetings with representatives of the complainants;
- Meetings with the ACP director, management team and technical staff;
- Meetings with ANAM (Autoridad Nacional del Ambiente), Smithsonian Institute and UNDP local office;
- Visit to the Panama Canal facility including the work site for the new locks;
- Visit to the Gatún Watershed, including a visit to two specific villages potentially affected by the project.

The findings of this report are based on the results of the missions conducted by EIB-CM and partners, as well as the review of reports and technical documents provided by ACP or by other organisations. During the investigation phase, the EIB-CM liaised periodically with other IAMs in order to coordinate the findings.

⁴ http://www.eib.org/attachments/strategies/complaints_mechanism_operating_procedures_en.pdf

5. REGULATORY FRAMEWORK

The management and protection of the Panama Canal Watershed (PCW) falls under the main responsibility of the Panama Canal Authority (ACP), established in 1997 through Law 19. It formally assumed the administration of the Canal and the PCW on 31 December 1999. In 1998, the GOP established the National Environmental Authority (ANAM), whose mandate includes formulating environmental and natural resource use policies, environmental quality and environmental impact studies, and managing Panama's forests, wildlife, and protected areas. Within the PCW, ANAM's role focuses mainly on the management and conservation of protected areas, and controlling pollution from industries. Several national laws regulate the activities of the Canal as well as the management of environmental impacts and use of land and waters.

The Bank's environmental appraisal was carried out in accordance with its 2007 Environmental and Social Practices Handbook. In terms of project implementation, and according to the funding agreement signed between ACP and the lenders, including the EIB, the Environmental and Social Requirements of the project include, amongst others, the national environmental regulations as well as the IFC Performance Standards and the IDB Environmental and Social Guidelines.

6. FINDINGS

6.1 The design of the expansion project with particular attention to the locks

The Allegation

Complainants indicated several aspects of the project design that they consider could jeopardise the viability of the Canal. In particular, the complainants question the use of tugboats for handling post-Panamax ships, manoeuvring and guiding them through the lock steps. In the view of the complainants, and whilst the existing locks can handle post-Panamax ships, (i) the locks chosen by the promoter are too narrow to allow tugboats alongside these large ships; (ii) the locks are also too short for tugboats tied at the bow and stern to adequately control the ships; (iii) towline angles are too steep to allow full towing capacity; (iv) thruster-wash pushing against a ship being pulled is counterproductive; and (v) crosswinds cannot be effectively managed. Furthermore, complainants criticise the fact that the expansion planned to add one lane to the Panama Canal at this stage, but plans for a second Panama Canal Expansion – to be initiated immediately following the first one – are already in progress. Complainants consider that this is an ineffective use of limited resources, space and time and proposed a two-lane solution, which would be a far more sustainable, reliable and responsible alternative. The two-lane solution would provide for greater return on investment and future expansion potential. In addition, complainants raise safety concerns with regard to the design of the project, particularly in the case of seismicity activity and accidents with vessels transporting hazardous substances.

Regulatory Framework:

According to the 2007 E&S Handbook, one of the Bank's main tasks is "to ensure that the findings of the EIA, where required, are taken into account in the EIB appraisal and reflected in the work on risk assessment and mitigation, the cost-benefit analysis, the design and costing of the project and project management during implementation and operation."⁵ It also has to determine "what if any issues have been, or are being raised by stakeholders and how these are being dealt with in the project design, implementation and operation."⁶ The Handbook also allows the Bank to establish undertakings or loan conditions to incorporate all mitigation and compensation measures identified in the EIA into the project design and construction contracts⁷.

⁵ Article 76, EIB's E&S Handbook of 2007.

⁶ *Idem*.

⁷ Article 204, EIB's E&S Handbook 2007.

Concerning safety conditions, Title VI, in particular Articles 91(1)(c) and 100(2), of the Treaty on the Functioning of the European Union sets out the legal basis. A broad range of regulations set out the transport policy with a view to protecting passengers, crew members, the marine environment and coastal regions⁸.

Findings

An objective comparison with industry standards is challenging due to the uniqueness of the magnitude of the project. The Suez Canal is the only human-made waterway built with the same purpose as the Panama Canal (to facilitate ship transit between two seas), but is not equipped with locks and has flat orography that facilitates construction works. The lockage's system is also present in some European ports and in China. However, and whilst some comparisons may be made by proxy, they should be read with caution given the uniqueness of the Panama Canal in terms of length and sensitive orography.

As of 30 September 2017, ACP reported that the contractor has filed 119 claims (117 formal claim notifications), 41 of which have been resolved or cancelled. The contractor has also filed seven arbitration proceedings against ACP, all governed by the Arbitration Rules of the International Chamber of Commerce (ICC) and seated in Miami, United States. One of the arbitrations, CCI No.22465/ ASM//JPA, related to disputes 15, 6 and 13C, concerns the design of gates and labour cost adjustments⁹. Resolution of the conciliation processes is pending as of October 2018. However, ACP has confirmed to the Bank that none of the arbitrations are related to the allegations of the complainants concerning its size, technical features and the manoeuvrability of tugboats. Besides, EIB-CM notes that the Canal is currently operating and has not shown any particular malfunctioning due to the final design.

The EIB-CM also notes that the EIB's documentation for appraisal includes information on the technical design of the project as requested by the E&S Handbook. The Bank indicated that the design of the new locks has been tested through mathematical and physical modelling. A 1:30 scale model was built for the purpose of validating the lockage process and the functioning of the water-serving basins. In addition, a 1:80 scale navigation physical model was built in Belgium to test the use of tugboats during the lockage process. Concerning the rolling gates, the Bank noted that a comparative study by European engineering consultants concluded that rolling gates constitute the best option for the new locks and that around the world, all locks of the same size use rolling gates. According to the Bank, the rolling gates increase lockage operation capacity and flexibility, offering shorter maintenance times and lower costs. The Bank also reported the use of tugboats and considered that they present the advantage of having a multi-directional ability, and would require fewer ACP personnel on board to handle lines because there is no need to handle locomotive lines. The Bank analysis further stated that tugboat-assisted lockage was used, at the time of the appraisal, at the Berendrecht and Zandvliet post-Panamax locks in the Port of Antwerp, Belgium¹⁰.

Regarding the concerns about a second canal expansion, EIB-CM notes that the decision on the timing of the different plans and works rests on the promoter of the project. EIB appraisal and monitoring focused on the project expansion as described by the promoter as agreed with them.

⁸ More information on <http://www.europarl.europa.eu/factsheets/en/sheet/124/maritime-transport-strategic-approach>. In particular, the EU had the following Environmental standards for sea transport at the time of appraisal:

- Directive 2000/59/EC of 27 November 2000 on port reception facilities for ship-generated waste and cargo residues, which made it compulsory to dispose of oil, oily mixtures, ships' waste and cargo residues at EU ports, and provided the monitoring mechanism necessary to enforce this;
- Regulation (EC) No 782/2003 of 14 April 2003 on the prohibition of organotin compounds on ships;
- Directive 2005/35/EC of 7 September 2005 on ship-source pollution and on the introduction of penalties for infringements.

⁹ ACP audited financial statements, page 71-72 <https://micanaldepanama.com/wp-content/uploads/2019/01/AF-2018.pdf>

¹⁰ Bank's Appraisal report, Appendices G.

The EIB-CM work has focused on the project as described by the promoter and the Bank at the time of appraisal.

Concerning the safety allegations, in view of the proximity of potable water intakes to the lock chambers, and of the fact that Gatún Lake is also a reservoir for potable water for cities such as Panama City, Colón, and other smaller cities located near the lake, safety plans are key to ensuring the alignment of the project with EU environmental principles by providing adequate mitigation measures.

EIB-CM notes that, since 1999, ACP has had rules and procedures in place for the operation of the existing Canal that could handle accidents¹¹. The regulation of 1999 (and its subsequent amendments) refers to international standards and protocols aligned with those of the EU regulations such as the uniform international standards of the International Maritime Organization (IMO). In addition, the primary international agreements that carriers should adhere to include the International Convention for the Prevention of Pollution from Ships (MARPOL), the International Convention for the Safety of Life at Sea (SOLAS) and the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW). In 2018, ACP updated its manual on pollution control, which covers several issues related to accidental pollution¹² (such as chemical leakages and high-risk shipments) and catastrophe insurance. At a project level, the EIA for the expansion project addressed these risks in the analysis of the safety plans, although in some areas¹³ the analysis of contingencies and risks was vaguer. However, these risks were spelled out with cost estimates and budgets in a non-public document, the Insurance Assessment Report prepared in June 2008 by Aon Risk Services Inc, which was reviewed by the Bank.

The Bank's appraisal documents make a positive general assessment of the capacity of the promoter to manage the project and the associated risks. The Bank also signalled a decrease in the number of accidents between 2000 and 2007. The risks of an accident due to the increase in traffic was succinctly reflected in the Bank's assessment. However, these documents do not reflect on the different types of vessel (bigger with more dangerous substances) that will navigate through the expanded channel.

6.2 The Pacific side of the Canal and the seismic activity

Allegation

Regarding seismic risk, the complainants challenged the choice to build dams over an active fault. If a seismic event occurs, the Gatún Lake could be irremediably damaged.

Regulatory Framework

The Bank's 2007 Environmental and Social Practices Handbook establishes the need for applying the precautionary principle when there is a risk that a project may cause significant and irreversible damage to the environment. In such cases, the promoter should adopt measures to avoid and, if a feasible alternative is not available, to reduce that risk to an acceptable degree. The precautionary principle is mentioned in Article 191 of the Treaty on the Functioning of the European Union¹⁴. It aims to ensure a higher level of environmental protection through preventative decision taking in the case of risk. The precautionary principle may be invoked where there are threats of serious or irreversible damage; lack of full scientific certainty should not be used as a reason for postponing

¹¹ <http://www.pancanal.com/esp/legal/reglamentos/navegacion-compendio.pdf>

¹² <https://micanaldepanama.com/wp-content/uploads/2018/01/SECTION-9-2018-EDITION-POLLUTION-CONTROL.pdf>

¹³ e.g. the possibility of boats colliding the locks, boats with high-risk shipments, collision of such boats inside locks during seismicity.

¹⁴ "2. Union policy on the environment shall aim at a high level of protection taking into account the diversity of situations in the various regions of the Union. It shall be based on the precautionary principle and on the principles that preventive action should be taken, that environmental damage should as a priority be rectified at source and that the polluter should pay."

cost-effective measures to prevent environmental degradation (Agenda 21, Principle 15, adopted in Rio in 1992 and confirmed in Johannesburg in 2002).

Findings

The EIB-CM observes that the EIA of the project dated July 2007 states that the project is located in an area of seismic risk – albeit with low seismic activity – and identifies the Gatún fault as the most important of the active faults.

During the investigation of this allegation, the EIB-CM learned that ACP commissioned different studies between 2005 and 2008 to analyse the seismic risks. Amongst those, the URS Holding engineering company conducted a probabilistic seismic hazard assessment in 2006 with a view to establishing which coefficient (peak acceleration) should be used for the design of the structures of the dam/locks. Earth Consultants International (ECI) carried out additional analysis in 2008¹⁵. The graph presents the analysis carried out by ECI. ACP also put in place a Seismic Advisory Board composed of renowned international experts and the Paleo-seismic Advisory Board (PSAB), composed of three geological professionals in URS Corp (United Research Services Corporation), in order to review the seismic design criteria used.

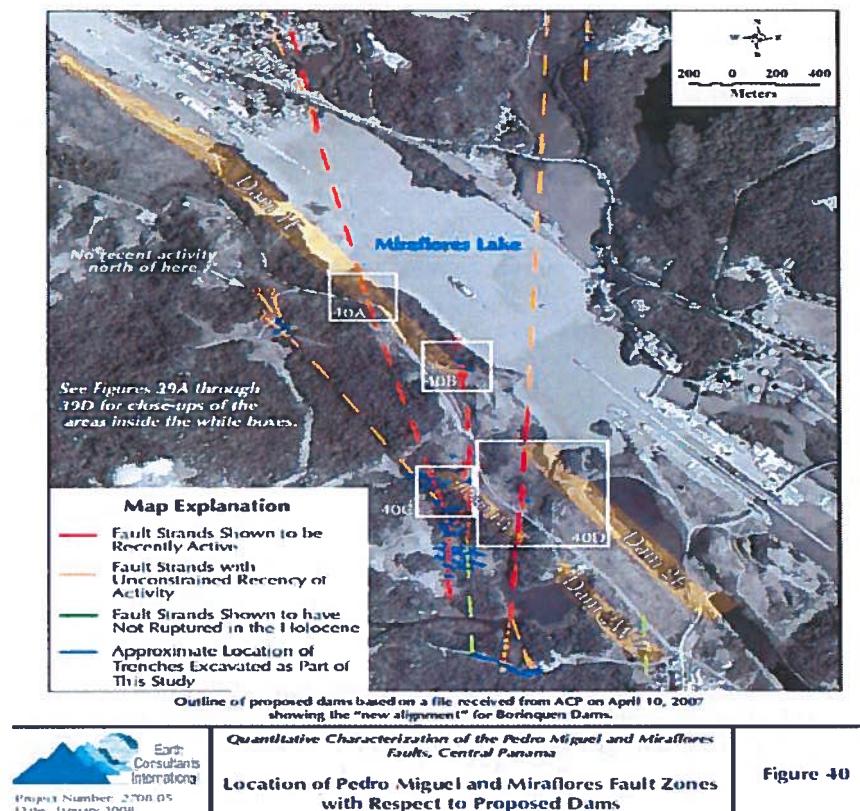


Figure: Extract from the ECI report (p84)

¹⁵ Quantitative Characterisation of the Pedro Miguel Fault, determination of recent activity on the Miraflores Fault and detailed mapping of the active faults through the proposed Borinquén dam location.

A review of the project documentation at the preparation stage shows that earthquake risk was considered at the time of designing the embankments of the project, like the Borinquén Dam. The embankments have different functions, including concerning the emptying of Gatún Lake in the event of an earthquake. During the course of the review, EIB-CM and ACP discussed some uncertainties pointed out by the ECI report concerning the seismic assessment risk of the new set of Pacific locks and the Agua Dulce Fault, which crosses the location of the projected third set of Pacific locks. In 2013, ACP confirmed to EIB-CM that it was engaged in the mapping of the faults, taking advantage of the large excavation that it was taking place at the site. More specific and specialised work on this fault, like trenching and dating of samples, would be carried out once the project allows for this type of work to be implemented. ACP did not foresee, nevertheless, that future works on the fault might produce evidence that changes the conclusions elaborated by ECI in their report dated 4 April 2008. Concerning the seismic risk in relation to the Gaillard Cut¹⁶, ACP informed the Bank that the Geotechnical Advisory Board (GAB) categorised the seismic risk as non-critical in 2004. However, the studies do not analyse the impact of any seismic activity and possible mitigating measures on the Gaillard Cut on vessel traffic, including the new post-Panamax vessels.

Therefore, it can be concluded that project documentation assessed and identified the main seismicity risks during the preparation and construction phases, categorising the seismic risk as low or medium-low.

Nevertheless, the EIB-CM's review observes that the Bank's appraisal documents do not mention any analysis concerning the seismicity risk. The Bank explained to the EIB-CM that the seismic risk was reviewed during the appraisal stage but not documented as it was considered to be low. From the EIB-CM perspective, the Bank could have adopted a more prudent approach by engaging its own independent expert to assist with due diligence, taking into account: (i) the fact that the project is located in a known seismic area; (ii) the uncertainty associated with seismicity; and (iii) the uncertainties raised by the ECI studies at the project preparation stage.

6.3 Salinity of water and impacts on biodiversity

The Allegation

By changing the amount of salt entering Gatún Lake, the complainants questioned the possibility of losing the richness of the present unique, ecologically and biologically diverse area that constitutes the Canal Watershed. By doing so, the complainants also questioned the impact of these changes on the quantity of water flows that could consequently affect Canal operations with its economic and social consequences (reduction of income for the country, reduction of water availability for potable water and electricity generation). The complainants also expressed concerns that the creation of a saltwater pathway between the Pacific and Atlantic oceans will in all probability lead to disastrous encounters between different species, bringing about the loss of some of these and the many known and unknown benefits they could offer the world. The increase in salt levels in Gatún Lake will also have a negative impact on use by humans.

Regulatory Framework

The "EU environmental Acquis" is comprised of the main EU legal instruments, approximately 300 directives covering environmental protection, polluting and other activities, production processes, procedures and procedural rights as well as products and cross-cutting issues (e.g. EIAs, access to information on the environment and combating climate change). Quality and related emissions standards are set for water and other elements. The impact of increases in salinity are directly related to the principles and standards established in the EU Water Framework Directive.

¹⁶ The Gaillard Cut, also known as the Culebra Cut, is the navigation channel between the Pacific locks and Gatún Lake, and all vessels must pass through it when they navigate through the Panama Canal.

According to the 2007 E&S Handbook, outside the EU the Bank ensures that an appropriate biodiversity assessment has been carried out where necessary to identify and mitigate the impacts on nature sites of high conservation value. The Bank must clarify which, if any, protected areas are nearby or may be affected by the project.¹⁷ The EIB approach and commitment to nature and biodiversity are grounded in the principles and practices contained in the EU Nature Conservation Policy, namely the Birds (79/409/EEC) and Habitats Directives (92/43/EEC), and in international treaties and conventions such as the Convention on Biological Diversity (CBD), the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), the Bonn Convention on Migratory Species (CMS) and the Ramsar Convention on Wetlands, amongst others¹⁸.

Findings

As a general remark, the EIB-CM observes that the Bank's appraisal document confirmed that the project EIA was carried out in line with the principles of the EU legislation¹⁹. However, this document only refers to Directive 97/11/EC (Preparation of EIA Directive) and Directive 92/43/EC (Habitats Directive). As indicated in the regulatory framework, in operations outside the EU, the scope includes other international treaties and conventions.

Concerning the specific allegations, saltwater intrusion into the freshwater of Gatún Lake is a major factor of concern for the post-Panamax extension. Increased salt concentration could affect the biodiversity of the lake and could be a threat to the drinking water supply of the region because Gatún Lake serves as a drinking water basin for Panama City. The Bank's documents summarising the appraisal identified, without further analysis, the increase in salinity in Gatún Lake as one of the main impacts of the project. As a mitigation measure, the Bank indicated that the promoter would put in place a water quality and sediment-monitoring plan.

The EIB-CM reviewed the studies commissioned by ACP on the saltwater intrusion into the Gatún Lake. The Roux Company conducted a detailed study for different recycling arrangements in 2004. In 2009, ACP commissioned the Delft model to consider different scenarios. Two technical reports²⁰ were produced. Overall, the modelling showed that volume-averaged salt concentrations will remain beneath the freshwater limit of 4-5 g/kg (or 0.4-0.5 parts per thousand (ppt)). The highest salinity concentrations would be observed near the locks. At one of the freshwater intakes in Gatún Lake – Paraiso – the maximum salt concentration becomes almost 0.5 ppt, which makes it unsuitable for drinking water. One of the extreme conditions is during El Niño. In the scenario with the dry El Niño event, the salinity near the Atlantic post-Panamax locks increased to maximum values of 0.35 ppt and to 0.55 ppt near the Pacific post-Panamax locks.

Although salinity in Gatún Lake will increase due to salt penetration from locks, the concentrations remain below 0.5 ppt. A concentration of 0.5 ppt is regarded as a biological threshold between freshwater and transitional waters²¹. As part of the Environmental Management Plan, ACP has put in place a programme to monitor the levels of salinity in the lake. The report prepared by ERM in August 2018 confirms that levels of saline intrusion associated with the expansion remain within acceptable norms and the averaged salinity is 0.26 ppt²².

Therefore, after the expansion, Gatún Lake seems to remain a freshwater lake with freshwater aquatic organisms. However, some organisms are more sensitive to very low salt concentrations

¹⁷ E&S Handbook, B1.1, provision 76.

¹⁸ E&S Handbook, B1.1, provision 127.

¹⁹ Appraisal report, page 13.

²⁰ Delft (2009) *Water Quality Model of Gatún Lake for Expanded Panama Canal Final Report, Part II: Modelling of the future situation and Delft (2008) Water Quality Model of Gatún Lake for Expanded Panama Canal Final Report, Part I: Modelling of the Present Situation*.

²¹ Guidance Note on the EU Water Framework Directive, page 33. [https://circabc.europa.eu/sd/a/85912f96-4dca-432e-84d6-a4dded785da5/Guidance%20No%205%20-%20characterisation%20of%20coastal%20waters%20-%20COAST%20\(WG%202.4\).pdf](https://circabc.europa.eu/sd/a/85912f96-4dca-432e-84d6-a4dded785da5/Guidance%20No%205%20-%20characterisation%20of%20coastal%20waters%20-%20COAST%20(WG%202.4).pdf) ,

²² ERM report, August 2018, page 57.

than others. These organisms might be impacted locally at locations with increased salt concentrations. However, it is not easy to predict which species could be impacted by increased salt concentrations in Gatún Lake. However, EIB-CM welcomes the promoter's completion of a biological inventory of Gatún Lake in August 2018 with the support of external experts²³.

Concerning the allegations regarding the impact on migrating marine species, connections of oceans by human-made channels are an important vector for the introduction of exotic marine species. A good example is the Suez Canal that was constructed in 1869, and connected the Mediterranean Sea with the Red Sea. Currently about 350 species from the Red Sea have been identified in the Mediterranean Sea, and there are probably others yet unidentified. However, according to the EIB-CM, the Panama Canal is in a different situation because the salinity concentrations in Gatún Lake are so low, and will continue to be rather low, that marine organisms will not be able to settle within the lake. In addition, most of the marine organisms attached to ship hulls will not survive transit through the freshwater of Gatún Lake, although some organisms such as mussels (and barnacles) could survive by closing their valves. It could, however, be expected that these organisms could also survive the trip around South America attached to ship hulls. Species could also transit in ballast waters. It is therefore unlikely that the post-Panamax extension will increase the migration of exotic species between the Pacific and the Atlantic oceans.

6.4 The Panama Canal and its watershed – water management issues

The Allegation

The complainants alleged that the expansion would endanger the Canal Watershed that provides freshwater for nature, biodiversity and human well-being. Over the years, farmers and the indigenous population had been opposed to the creation of reservoirs in the area. Complainants are afraid that increased pressure on water availability will lead to new reservoirs on the Western Watershed.

Regulatory Framework

Under the main criteria for ascertaining whether EIB projects are eligible for Bank financing on environmental grounds, the Bank's Environmental Statement includes the "reduction of the impact of the environment on human health (e.g. the supply of safe drinking water and wastewater treatment), and... promoting the sustainable use and management of natural resources (e.g. waste management and watershed management)."²⁴ As part of the environmental assessment at appraisal stage, "In the sectors of water and waste, respectively, the principles, recommended standards and practices of the EU Water Framework Directive and EU Waste Framework Directive (WFD)²⁵,

²³ EES Internacional SA, August 2018 – *Elaboración y Ejecución del Inventario Biológico del Embalse Gatún Informe Final de la Estación Lluviosa. Año 2018*.

²⁴ EIB's E&S Handbook, A.1, page 11.

²⁵ The WFD is a framework for EU water policy and is complemented by other legislation regulating specific aspects of water use:

- The Groundwater Directive (2006);
- The Environmental Quality Standards Directive (2008);
- Two Commission Decisions (2005 and 2008), on ecological status, established a register of almost 1 500 sites included in an intercalibration exercise to allow for comparison of different countries' standards, and published the results.

Previous and related legislation includes:

- The Urban Wastewater Directive (1991);
- The Nitrates Directive (1991);
- The new Bathing Water Directive (2006);
- The Drinking Water Directive (1998).

More recent related legislation expanding the scope of integrated water management:

- The Floods Directive (2007);
- The Marine Strategy Framework Directive (2008).

respectively, are applied.”²⁶ Under the same reference, the Handbook specifies that “For projects located in jurisdictions not bound by EU law, phasing may be applied according to local conditions, such as affordability, local environmental conditions and international good practice.”

From a legal point of view, ACP is mandated to manage the water resources of the Panama Canal Watershed. In particular:

Article 316 of the Panamanian Constitution establishes that the Panama Canal Authority is responsible for the administration, maintenance, use and conservation of the water resources of the Panama Canal Watershed, comprising the water of the lakes and their tributary flows, in coordination with the state organisms that the law determines. Plans for construction, use of water, utilisation, expansion and development of ports and any other construction or work on the banks of the Panama Canal will require prior approval from the Panama Canal Authority.

The Organic Law of the Panama Canal Authority (1997)²⁷ mandated ACP with two responsibilities: the management and operation of the Panama Canal and the sustainable management of water resources to meet the current and future demand of the Canal and Metropolitan population of Panama City and Colón.

Article 17 of the Regulation on the Environment, Hydrographic Basin and Inter-institutional Commission of the Hydrographic Basin of the Panama Canal²⁸, establishes the priorities in the management of water resources. Firstly, supply sufficient water for consumption of surrounding populations; Secondly supply sufficient water for the efficient management of the Canal and other uses by the Authority; thirdly, generate electricity; and fourthly supply water for the use or activities of third parties approved by the Authority.

Findings:

From a geographical and hydrological point of view, the Panama Canal Watershed is composed of 63 sub-watersheds (Annex 1 shows the map extracted from USAID report²⁹).

The efficiency of the Canal is linked to the sustainability of the watershed, which comprises one of the world's most biologically diverse areas. The water from Gatún Lake and Alajuela Lake is used for the operation of the locks, hydropower generation and drinking water. The Panama Canal has three spillways – one at each lake (Alajuela, Gatún, Miraflores) – and hydroelectric plants at Alajuela with 36 MW of capacity and at Gatún with 24 MW of capacity.

At the time of the project design, the Panama Canal Watershed met all water demands with possible leftover water during years with standard rainfall. However, due to El Niño climatic events, the explosion of urban areas with increasing needs for potable water and the expansion of the Canal, water management is becoming a challenging activity for ACP. The water levels have fallen 25% below the long-term average during a strong El Niño event (USAID report, page 404). During the design phase of the project, several options and alternatives for securing freshwater levels were studied. One of the main challenges to be managed is the quantity of water needed to operate the locks. A significant amount of freshwater is spilled into the oceans due to locking of the ships. It was then decided to build water-saving basins to decrease the quantities of water lost by the transit of ships through the locks by 60%. This information was reflected in the EIB's appraisal documentation³⁰.

²⁶ EIB's E&S Handbook, B.2, page 30.

²⁷ <https://micanaldepanama.com/wp-content/uploads/2011/12/acp-law-s1.pdf>

²⁸ <https://micanaldepanama.com/wp-content/uploads/2012/01/acuerdo116.pdf>

²⁹ USAID report, page 404. *Beyond the big ditch* by Ashley Carse, book 2014. Documentation provided on the promoter's website.

³⁰ Bank's appraisal report, page 9, water management, and footnote 24.

EIB-CM observed that the Panama Canal Watershed contains several water intakes for human consumption. The 2009 Delft report indicates that due to the new lane, the salinity level may increase in the near vicinity of locks, where the Paraiso water intake is located. In this context, water salinity monitoring is important to ensure potable water at the Paraiso intake. As indicated in 6.3, ACP has put in place different stations to monitor salinity levels in the lake and this information is periodically reviewed and reported publicly by the environmental and social consultant. According to the review of the consultant, the parameters meet national and IFC standards.

In its discussions with third parties in the context of the investigation mission, the EIB-CM also learned that the Canal Expansion project using locks equipped with water-saving basins might produce a “shortfall” in municipal and industrial water production, especially during dry periods. During the EIB-CM mission, the Smithsonian Institute also evoked the risk of an increase of turbidity in the water during the rainy season causing a problem of availability of potable water from Alajuela Lake plants. Indeed, if landslides become more and more frequent during the wet season due to the increase of violent storms and rainfalls, the direct consequence in the net amount of water available will be perceived. The soil would hold less rain and rainwater would just slide without penetrating the underground hydric network (needed to ensure adequate underground storage of water). If the landslide phenomenon and therefore deforestation continues its progress, the quantities of water at present available will decrease drastically, jeopardising the functioning of the Canal and the quantities of water for human consumption.

Aware of the importance and the challenges of managing water resources, particularly after the serious drought experienced by Panama in 2014-2015, in 2016 the Panama Government approved the resolution adopting the National Plan for Water Security (PNSH)³¹ for the 2015-2050 period. The PNSH represents a road map to ensuring fair and equitable water access for the entire population and productive sectors with sufficient amounts and acceptable quality, ensuring the availability and protection of water resources and of the ecosystems in a changing climate. The National Water Council (CONAGUA) was created as the entity responsible for promoting, guiding, coordinating, and ensuring the development and implementation of the plan. The Administrator of the Panama Canal Authority or a designee is a member of CONAGUA.

The plan reflects on the challenges that the management of the Panama Canal brings to the entire watershed. Page 47 of the plan makes a specific reference to the Canal's water needs and highlights the fact that the drought of 2015 brought the water levels of the Gatún Lake to their lowest point in the last 103 years. The plan then calls for the development of new hydric reservoirs. The plan mandates ACP with several responsibilities. The ERM report of June 2018³² gives an account of the implementation of the ACP programme to manage and preserve the hydric resources of the Panama Canal Watershed. The ACP strategy includes five main programmes. One of these programmes involves community consultation, participation, and institutional coordination, which calls for involving local communities in the management of water resources. This programme has developed several sub-programmes to manage water resources, design periodic meetings with consultative councils and support actions to raise awareness among local communities. One sub-programme focuses on environmental and social safeguards, including the handling of complaints, dispute resolution and environmental monitoring, amongst others.

6.5 Access to information and public consultation

Allegation

In general, the complainants allege that the information on the project was manipulated in order to obtain investment funds from international institutions. The complainants specifically criticise:

- Misrepresentation of facts about the project to the people of Panama and other nations;
 - Non-disclosure of avoidable economic risks including loss of the investment;

³¹ <http://www.conagua.gob.pa/pnsh/introduccion-al-pnsh-2015-2050.html>

³² <https://micanaldepanama.com/ampliacion/wp-content/uploads/2018/10/Informe-Cumplimiento-Junio2018.pdf> , pages 48 – 50.

- Non-disclosure of unnecessary negative impacts on the environment;
 - Non-disclosure of damages to third parties and unacceptable threats to life.
- Incomplete disclosure of pre-selection evaluations of non-sustainable and risky choices;
 - Insufficient assessment of design challenges;
 - Inadequate search for alternative solutions.
- Lack of transparency regarding future performance issues;
 - No available mitigation option;
 - No reasonable contingency plans.
- Unrealistic and inadequate projections of effects on the local and global community.

During the 2013 site visit, the EIB-CM participated, together with the other IAMs, in large open-air "town-hall" style gatherings with large numbers of residents in two different areas of the Western Watershed, including many women and children. In these meetings, the Western Watershed communities told the IAMs that they have been and continue to be fearful because they believe that the expanded Panama Canal will ultimately require access to water resources in their region. They fear physical and economic displacement, a loss of the cultural cohesion that sustains the communities, and an impediment to their access to culturally and spiritually meaningful resources. Participants referred to a lack of meaningful information and consultation about the future of their region, many expressed frustration at never having met with any ACP officials, and that they are learning about the project from third-party sources.

Hydrological markers that were put in place by ACP as part of the preparatory work for damming the rivers in the area remain in place, even though Law 44 was repealed.

Regulatory Framework

Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, EU Directive 92/43/EC - Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. In addition, the 2007 E&S Handbook had references to the Bank considering impacts in the "Sphere of Influence" of the project³³, which implies a need for the Bank to verify impacts beyond the direct area of the project.

In terms of public consultation and stakeholder engagement, Guidance Note 5 of the E&S Handbook says that in its environmental assessment of projects outside the EU, the Bank aims to promote public consultation and participation, according to EU standards, through appropriate discussions with the promoter and other parties. Consultation is defined as a tool for managing culturally appropriate two-way communications between project sponsors and the public. Its goal is to improve decision-making and build understanding by actively involving individuals, groups, and organisations with a stake in the project. This involvement increases a project's long-term viability and enhances its benefits to locally affected people and other stakeholders. In addition, according to the E&S Handbook, the Aarhus Convention provides the principles that inform negotiations with promoters about conducting public consultations and about the wider participation of the public in decisions that have environmental consequences. Public consultation is also a feature of the EU's Sustainable Development Policy and the achievement of the Millennium Development goals (MDGs). The Guidance Note clearly states that it is the responsibility of the Bank to ensure that the promoter gives

³³ For instance:

- Page 123 concerning the external environment benchmarks for securing appropriate external standards says that: "An initial screening by the Bank staff should determine how the Promoter deals with the prevention of negative project impacts on the health and safety of communities within the project's sphere of influence as well as how s/he promotes good practice."
- Page 103, concerning projects outside the EU: "Additionally, it should be recognised that projects can have cumulative impacts associated with changes in land values, enhanced access to the project area, land invasions, changes in the provision of social amenities and in local political arrangements (security and conception concerns for example). The Bank recognises that it and the promoters supported through its investment programmes have different roles and responsibilities within the project's 'sphere of influence', to ensure that adverse impacts are mitigated where possible."

appropriate attention to the public consultation process during the earliest stages of project preparation. In order to judge the acceptability of the actual or proposed consultation, it will be necessary for the Bank to ascertain from the promoter whether attention has been paid to particularly vulnerable groups^{34 35}.

As part of its assessment, the EIB needs to determine whether any issues have been, or are being raised by stakeholders and how these are being dealt with in the project design, implementation and operation³⁶.

Findings

The Canal Watershed is located in the central part of the country in the provinces of Panama and Colón, covering seven districts and 39 subdivisions. According to the 2000 census, there are approximately 144,000 residents of the Canal Watershed.

An Environmental Impact Assessment (EIA) of the Panama Canal Expansion Project was completed in July 2007 by URS Holdings, Inc., in collaboration with Fundación Universidad de Panamá (FUDEP) and Universidad Nacional Autónoma de Chiriquí (UNACHI), in compliance with the regulatory requirements defined in Executive Decree Nº 209 of 5 September 2006, which sets forth regulations to implement Chapter II, Title IV of Law 41 of 1 July 1998, referring to the processes for Environmental Impact Assessments, and repealing Executive Decree Nº 59 of 2000.

In 2008, the Bank reported that the environmental studies and procedures for the project were in line with the principles of EU environmental legislation³⁷. The Bank's analysis was carried out taking into account EU Directive 97/11/EC - Council Directive 97/11/EC of 3 March 1997 amending Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, and EU Directive 92/43/EC - Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora. The Bank also confirmed that the preparation of the EIA included a broad public consultation process. In this regard, the EIA and its non-technical summary were made available to the public in ANAM premises and online, and the promoter conducted two public fora. In addition, the Bank's documents indicated that the national referendum that approved the project by 70% was preceded by a six-month information campaign that included participation in radio and TV programmes, presentations, setting up telephone hotlines, answering emails and email questions, and publishing issues in the local media.

Given the limited documentation, it is not clear to the EIB-CM whether the Bank verified during its appraisal if: (i) EU environmental principles of nature protection were taken into consideration at the time of project preparation because the impacts of each component of the project were subject to separate EIA procedures, which would not be aligned with the EU practices; (ii) the cumulative impacts of all the different components of the project; (iii) the Bank had fully assessed the impacts of the project outside the direct area of influence of the project because the Bank's documentation for appraisal focused on analysis impacts in the area under the direct responsibility of the Autoridad del Canal de Panamá (ACP) or the footprint of the project construction site.

However, the Bank has subsequently clarified to the EIB-CM that the above points were assessed during the appraisal and that the need to separate EIAs was the result of the EIA norms in Panama under which the projects had been allocated to different risk categories (Cat. III, Cat. II and Cat. I) and hence required different levels of assessment. In addition, according to the Bank, approval for Cat. II and I components was given between June and August 2007, while the most important EIA (Cat. III for the new set of locks) was approved in November, enabling full integration of the findings from other EIAs into the final EIA document. More specifically, Chapter 7, page 2 of the EIA for the

³⁴ E&S Handbook, 2007, page 128.

³⁵ The 2007 E&S Handbook refers to vulnerable groups as "women, minorities resident in the area, and indigenous peoples."

³⁶ E&S Handbook, 81.1, provision 76.

³⁷ Page 13, EIB Project appraisal documentation, Environmental Impact.

third set of locks indicates that *"It is important to point out that the process of identification and evaluation of impacts in this chapter has considered, and is also compatible with, the results of the identification and evaluation of specific impacts derived from the construction and operation of the Panama Canal Pacific Entrance Widening and Deepening (ACP/PB Internacional, April 2007), Earthmoving and Leveling of Cartagena Hill (ACP / PB Internacional, March 2007), and T6 Site Preparation (ACP/URS Holdings Inc., May 2007) Projects, obtained from the corresponding environmental impact studies, of which the summaries and more relevant aspects are included as Annex 5."*

In terms of information sharing, the extensive nationwide discussions that took place and the targeted meetings organised by ACP provided the public with extensive information on the project and opportunities to discuss it. However, the EIB-CM noted the fears and distrust of the communities of the Western Watershed, as they were still uncertain about the future of this watershed. It should be noted that an earlier version of the expansion project included the damming of the Western Watershed, but in 2006 the law³⁸ that had expanded ACP's jurisdiction to the Western Watershed was repealed. Whilst the Western Watershed is still excluded from ACP's jurisdiction, it is to be recalled that the presence of land markers (and hydrological markers) in the area led the population to continue to believe at the time of the EIB-CM site visit in the revival of the Western Watershed project for ensuring the freshwater required for the Canal operations. Regardless of their beliefs as regards to the type of impact the expansion project will have on them, the project raised some opposition in the project area because of its ecological damage, the effects of the lake's salinity, and deforestation. To counter these impacts, ACP suggested measures such as reforestation in affected ecosystems, transparency in information management, and conducting all the required technical studies. The exchanges with local communities that took place during the stakeholder engagement were not registered in the Bank's appraisal documents.

Nevertheless, EIB-CM notes that the promoter has developed a website to report on different aspects of the project, notably on technical progress and the management of environmental and social impacts. The promoter keeps this website regularly updated with information and documents that are publicly available. The EIB-CM welcomes this transparency and public accountability effort made by the promoter. In addition, EIB-CM takes also notes the different programmes put in place by ACP and reported by the consultant ERM in order to engage with local communities at different levels. EIB-CM would also like to call for some prudence in this assessment given that, whilst the website provides prompt and updated information, it does not ensure that all communities, especially those who are more vulnerable or with limited access to internet, can receive updates on developments. In addition, the EIB-CM notes that the PNSH discussed in section 6.4 acknowledges that Panama might have to develop new reservoirs as a strategy to mitigate any possible reduction in water availability. The communities of the Western Watershed – which expressed their strong objections in the past – deserve clear clarifications and information on any possible future development of reservoirs in this watershed.

7. CONCLUSIONS

The Panama Canal represents the main economic activity of Panama. It directly contributes 6% to annual GDP, generates more than 13 000 direct jobs and in 2017 reached a total revenue figure of USD 2.238bn. The objective of the expansion is to increase navigation capacity, doubling cargo capacity from 330 million to 600 million tonnes per year.

The magnitude and uniqueness of the work and the associated challenges during the construction phase made this the largest engineering project of the 21st century. The challenges of the project are seen in several dimensions: technical, geologic, orographic and climate. Of particular importance are the complexity of the geology in the Pacific sector – with active faults and a risk of seismic activity

³⁸ Law 44.

– and the rich biodiversity in the project area of influence. More than 4,000 animals have been rescued and relocated during the construction work.

The EIB-CM review shows that the promoter of the project dedicated substantial resources and efforts to the preparation of this project. After seven years of work, the expansion project is now operational after its inauguration in June 2016. Given the unique character of the project, the degree of uncertainty regarding the technical design was very high. Several aspects of the design – which were challenged by the complainants – could only be tested through modelling at the time of project preparation. Seismicity was also considered at the time of project preparation as well as the main impacts on biodiversity.

Concerning the specific role of the Bank, the EIB-CM notes that, overall, the Bank's documents for the decision-making process addressed the issues challenged by the complainants, such as project designs, salinity impacts and, partially, water management. Whilst the project documentation analysed the seismicity risk at appraisal, this assessment was not recorded in the Bank's decision-making documents. The Bank has explained to the EIB-CM that the seismic risk was reviewed but not documented as it was considered to be low. EIB-CM also notes that the project concerns regarding the management of water resources and water is a key aspect of the project in terms of its utilisation for the operation of the Canal, the preservation of the biodiversity, and provision of drinkable water to nearby populations, including Panama City. However, there is no reference to the EU Water Framework Directive. Several guidance notes had been produced by the EU under the Water Framework Directive before the project appraisal took place in 2008 and they could have guided specific aspects of the identification of impacts and their future monitoring.

Whilst the Bank's technical assessment was appropriate, some areas of environmental assessment could have deserved some additional attention. At a project preparation level, it is noted that each component of the project was processed under separate Environmental Impact Assessment procedures; nevertheless, cumulative impacts were taken into consideration in the preparation of the EIA. Updates on emergency plans for the expansion during the project preparation phase were lacking. The materiality of these gaps is mitigated by the fact that the promoter has put in place a fully funded and resourced Environmental Management Plan that enables it to adopt the necessary corrective actions as appropriate.

In 2016, the Government of Panama concluded a National Hydraulic Plan for the 2015-2050 period that will cover nationwide water management issues such as human consumption, irrigation and industrial use. The Canal Authority plays an important role in managing some key aspects due to the direct and indirect impacts of the Canal on the watershed.

The project has been finalised and operating since June 2016. The EIB-CM observes that the promoter put in place an environmental and social consultant that regularly monitors the environmental and social impacts of the project during construction. This expert certified the compliance of the project with the requirements of the Ministry of Environment and IFC performance standards. According to these reports, ACP has developed several plans and programmes to engage with local communities, and has launched a website that keeps the public informed about the implementation of the project with updated technical reports.

One key aspect that merits continued monitoring is the management of water resources and the possible need to continue building reservoirs at a national level and the Panama Canal Watershed in order to meet the water needs of the country and the watershed. The EIB-CM notes the strong

objections raised by members of the local communities of the Western Watershed during a public engagement to build new reservoirs in the area.

The Bank carried out a review of the project at project completion in December 2017. As a result, its monitoring activities have been reduced, mainly to financial monitoring. As part of its normal monitoring activities, the Bank will undertake a final review of the implementation of the project by December 2020. In the light of the observations of this report, the EIB-CM suggests that the Bank include the following aspects in their review:

- General implementation of ACP's water management strategy, including the possible impact of the construction of any new reservoirs in the Western Watershed on local communities;
- Ask the promoter for a plan that would reflect meaningful engagement with the local communities of the Western Watershed if new reservoirs are planned.

S. Derkum
Head of Division
Complaints Mechanism
08.05.2019

A. Abad
Deputy Head of Division
Complaints Mechanism
08.05.2019

ACRONYMS

ACP:	Autoridad del Canal de Panama
ECI:	Earth Consultants International
EEC:	European Economic Community
EIB:	European Investment Bank
EIB-CM:	European Investment Bank Complaints Mechanism
EIA:	Environmental Impact Assessment
EMP:	Environmental Management Plan
E & S:	Environmental and Social
EO:	European Ombudsman
ERM:	Environmental Resources Management (project expert)
EU:	European Union
GLDC:	Gatún Lake Defence Committee
IAM:	Independent Accountability Mechanism
IDB:	Interamerican Development Bank
IDB-ICIM:	Interamerican Development Bank Internal Consultation and Inquiries Mechanism
IFC:	International Finance Corporation
IFC-CAO:	International Finance Corporation Compliance Advisor Ombudsman
JBIC:	Japan Bank for International Cooperation
PNSH:	National Plan for Water Security
URS:	United Research Services Corporation

ANNEX I – PANAMA CANAL WATERSHED

(USAID report, page 404. *Beyond the big ditch* by Ashley Carse, book 2014. Documentation provided on the promoter's website)

