



1. Project Data

| | | |
|--|---|---|
| Project ID P101103 | Project Name EGYPT-Railways Restructuring | |
| Country Egypt, Arab Republic of | Practice Area(Lead) Transport | |
| L/C/TF Number(s) IBRD-76560,IBRD-79820 | Closing Date (Original) 30-Sep-2015 | Total Project Cost (USD) 483,852,907.38 |
| Bank Approval Date 17-Mar-2009 | Closing Date (Actual) 31-Dec-2020 | |
| | IBRD/IDA (USD) | Grants (USD) |
| Original Commitment | 270,000,000.00 | 0.00 |
| Revised Commitment | 550,000,000.00 | 0.00 |
| Actual | 513,852,907.38 | 0.00 |

| | | | |
|-------------------------------------|--|--|--------------------------------|
| Prepared by Kavita Mathur | Reviewed by Fernando Manibog | ICR Review Coordinator Victoria Alexeeva | Group IEGSD (Unit 4) |
|-------------------------------------|--|--|--------------------------------|

2. Project Objectives and Components

a. Objectives

The project development objective (PDO) was to "assist the Borrower in improving the reliability, efficiency and safety of the railways' services through signaling and track renewal investments by the Project Implementing Entity and the modernization of its management and operating practices in order to enhance the railways' sector responsiveness to economic and social needs and to strengthen the financial viability of the Project Implementing Entity (Loan Agreement page 5 and PAD para 15).



The PDO remained the same for the additional financing approved in 2010.

Revised PDO in 2014. The revised PDO was "to improve the reliability, efficiency, and safety of the railways' services on targeted sections of the rail network" (RES13265 page 6). The PDO was revised through a level 1 project restructuring. The amended PDO dropped the sub-objective "the modernization of its management and operating practices in order to enhance the railways' sector responsiveness to economic and social needs and to strengthen the financial viability of the Project Implementing Entity".

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

Yes

Date of Board Approval

25-Jun-2014

c. Will a split evaluation be undertaken?

Yes

d. Components

Component 1: Signaling Modernization (cost at appraisal US\$202 million, actual cost not available). This component would finance the modernization of signaling system along the Arab el-Raml to Alexandria line and the installation of a computerized Central Traffic Control system (CTC). The signaling system included an automatic block signaling system, electronic interlocking systems (in stations), and a level-crossing protection system. The CTC would provide critical information to railway staff, such as: (i) command and monitoring of train circulation, (ii) a presentation-of-train graph, (iii) event recording, and (iv) dispatcher communications.

Revised component:

Subcomponent 1-2: Signaling Modernization from Beni Suef to Asyut. The Additional Financing of 2010 added US\$310.0 million for the modernization of signaling system on the Beni Suef and Asyut Line. This component was merged with component 1 after the 2017 restructuring (ICR page 18).

The 2017 restructuring expanded the scope to include signaling system modernization along the Cairo–Banha section (of the Cairo–Alexandria line) and the Asyut–Sohag–Nag Hamady line.

Component 2: Track Renewal (cost at appraisal US\$80.0 million, actual cost not available). Renewal of 200 km of track along the Cairo-Aswan line (149 km on four sections of track) and the Benha-Port Said line (51 km on two sections of track). Track renewal included installation of long-welded rail, concrete sleepers, elastic fastenings, and ballast without any land acquisition.



Revised component: (i) the Additional Financing of 2010 added renewal of 97.4 km of additional tracks; (ii) with the budget savings from Cairo–Alexandria line procurement process, the June 25, 2014 restructuring added 60 km of additional track renewal on the Cairo–Aswan line for US\$26 million.

Component 3: Modernization of Management and Operating Practices (cost at appraisal US\$10 million, actual cost not available). This component would support the development of longer-term and continuous training programs in managerial and operating practices through: (i) technical training program, (ii) modernizing managerial practices, and (iii) business development activities.

Revised component:

The Additional Financing of 2010 added activities for the modernization of ENR management and operating practices (a) modernization of railway maintenance practices, particularly the review and evaluation of existing maintenance procedures at ENR, (b) improvement of operational rules at ENR, (c) improvement of project management capacities at ENR, and (d) improvement of financial planning and the financial management system at ENR (Report No: 57022-EG).

The June 25, 2014 restructuring added studies in the amount of US\$1.5 million to support restructuring of ENR and improvement of the safety of ENR's operation through a new railway law, the preparation of a safety management system, formulation of an infrastructure pricing methodology and the development of the structure of the Public Service Obligation (PSO) contract between the state and ENR for passenger services.

e. **Comments on Project Cost, Financing, Borrower Contribution, and Dates**

Project Cost: The total project cost at appraisal was US\$305.0 million. The actual project cost was US\$548.8 million (ICR datasheet page 4).

Financing: The original IBRD loan was US\$270.0 million. On December 14, 2010, Additional Financing (AF) of USD330 million was approved to modernize the signaling system between Beni Suef and Asyut. Therefore, the original Bank financing (according to ICR datasheet) was US\$600.0 million. The actual amount disbursed was US\$513.8 million. US\$50 million was canceled in June 2021 (ICR para 22).

Co-financing. There was no planned or actual co-financing.

Borrower Contribution: The planned and actual borrower contribution was US\$35.5 million.

Dates and Project Restructuring: The project was approved on March 17, 2009, became effective on June 24, 2010. The original closing date was September 30, 2015. The project closed on December 31, 2020, with a delay of over 5 years.

The project received one Additional Financing and was restructured thrice:

- Additional financing on December 20, 2010 increased the scope of the project by adding the modernization of signaling system on the Beni Suef and Asyut Line. The original closing date for the additional financing was March 31, 2017.



- The Level 1 restructuring on June 25, 2014 revised the project development objectives, changed in results framework, reallocated US\$35 million savings, and extended the closing date of the original loan from September 30, 2015 to January 31, 2019 (ICR page 20) and the additional financing was extended from March 31, 2017 to January 31, 2019. The closing date of the original loan was extended because of the deterioration in the political and security situation after project's effectiveness, which adversely impacted the project implementation plans (ICR para 25). The closing date of Additional Financing was extended to complete all the activities financed under the project (ongoing signaling contracts and new project activities funded following the reallocation) and to achieve the revised PDO (RES13265).
- December 21, 2017 Level 2 restructuring extended the closing date from January 31, 2019 to December 31, 2020 because of slow implementation. In addition, the safeguards policy on Involuntary Resettlement OP 4.12 was triggered (see section 10 a).
- September 22, 2020 Level 2 restructuring reallocated funds between disbursement categories.

Split rating: The PDOs were revised so the split rating methodology will be applied.

3. Relevance of Objectives

Rationale

Country and sector context. Since 2000, economic growth in Egypt has been volatile due to internal and external factors. Moderate growth rates during 1999-2003 began to increase in response to wide-ranging structural reforms starting in 2004, including an accelerated program of privatization, improvements to the business climate and exchange rate management, and banking sector, tax, and trade reforms. Growth rates accelerated to over 7 percent per year in 2007-08 and per capita income grew at a healthy rate. The 2008 global financial crisis and rising food prices halted Egypt's strong economic growth, and annual growth rates fell to 4.7-5.1 percent in 2009 and 2010 (Country Partnership Framework, para 10)

The Egyptian railway network is essential to ensure connectivity between the different regions of Egypt, social inclusion, and trade and hence economic development. The poor, especially the Upper Egypt lines segment of the population rely on trains for mobility, and the fares are highly subsidized (ICR para 3).

At appraisal, the network was 5,085 km long, 60 percent of which was in the Nile Delta and along the Nile Valley. Railway services reached most of the Egyptian population (PAD para 5). However, the financial performance of the railway sector was unsatisfactory primarily because of the high share of passenger services, continuous deterioration of the quality of the transport services provided, and acute safety problems. Passenger trains represented more than 90 percent of Egypt National Railway (ENR) traffic; freight traffic accounted for significantly less than the expected market share.

The sector was having a significant adverse impact on the Government's budget. During the 2000- 2007 period, the ENR generated an accumulated deficit of Egyptian Pound (EGP) 6.53 billion (equivalent to US\$1.18 billion). Its operational deficit was EGP 3.91 billion. ENR revenue was not able to finance needed investments in infrastructure and rolling stock (PAD para 7).



Alignment with the Government Strategy. The Government's Sustainable Development Strategy (SDS): Egypt Vision 2030, enacted in 2016, emphasizes the principles of “inclusive sustainable development” and “balanced regional development,” as it considered equal opportunities for all, closing development gaps and the efficient use of resources to ensure the rights of future generations. The fourth pillar “Transparency and efficient government institutions” under the Economic Dimension focused on an efficient and effective public administration sector managing State resources with transparency, fairness and flexibility. The development of national railways network is featured as one of the programs under the Economic Dimension.

Alignment with the World Bank Strategy. The PDO was aligned with objective 2.3 “*Enhanced capacity and safety of key transport infrastructure*” of the Country Partnership Framework (CPF) for FY 2015-19 (the CPF was extended for two years to 2012). Transport including railways infrastructure bottlenecks and lack of safety were identified as key constraints to trade, mobility, job creation and service delivery across Egypt, specifically affecting the more impoverished areas of the Nile Delta and Upper Egypt. The CPF aimed at improving the safety, efficiency, and reliability of railway services.

In summary, there is clear alignment between the project’s development objectives and the country- and World Bank strategies. The PDO formulation is pitched at a level that adequately reflects a potential solution to challenges facing the Egyptian railways sector. The ENR had adopted a financial recovery plan at the onset of the project and was on track to improve its financial sustainability, but after the revolution, the Government had dramatically reduced its contribution to the Public Service Obligation (PSO) and wages were significantly increased without the possibility of raising fares. These events were beyond the control of the railways and financial sustainability was no longer achievable during the life of the project. The second part of the objective was **dropped**. Relevance of objectives is rated **Substantial**.

Rating

Substantial

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective

To improve the reliability, efficiency and safety of the railways’ services through signaling and track renewal investments by the Project Implementing Entity and the modernization of its management and operating practices in order to enhance the railways’ sector responsiveness to economic and social needs and to strengthen the financial viability of the Project Implementing Entity.

Rationale

The project’s **theory of change** indicates that the project’s physical inputs such as the installation of a modern signaling system and the renovation of tracks and accompanied by institutional strengthening through the modernization of ENRs management and operating practices, would result in higher operating speeds along the line, thereby improving the reliability of railway services.



Training modules on developing and monitoring business plans, marketing, financial budgeting and management, pricing policies and subsidy calculations for Public Service Obligations (PSO), would improve financial viability of railways operations as well as enhance the railway sector's responsiveness to economic and social needs.

Efficiency would result from the modernized signaling system through greater capacity on the line, because of increase in the number of trains.

The modernized signaling system as well as project support for the "preparation of safety management system for ENR operations" were expected to improve safety.

The over-arching, long-term development goals were: (i) enhance the railway sector's responsiveness to economic and social needs, and (ii) strengthen the sector's financial viability.

Physical works.

At project closure, physical works had not been completed. The ICR notes (para 51) that the incomplete works would be completed under the ongoing Railway Improvement and Safety for Egypt (RISE) Project (P175137).

On the Alexandria – Arab El Ram Line and Cairo – Benha Line about 77 percent of works were completed; for the Beni Suef – Asyut Line, 66 percent; and for the Asyut - Nag Hammadi Line, 47 percent.

Track renewal and buildings: 22 signaling towers were finalized by December 2020 and 5 were ongoing, significantly lower than the original target 51.

57 stations were finalized by December 2020 and 10 were ongoing, significantly lower than the original target of 118.

Signaling works: 223 kilometers of mainline were commissioned by December 2020 and 59 were under commissioning, significantly lower than the original target 640.

18 signaling towers were commissioned by December 2020 and 4 were under commissioning. The project team informed IEG that the number of commissioned signaling towers was used as a proxy in the ICR, as the project's indicators did not reflect the implementation progress. Therefore, there was no original target. The task team in 2020 noticed this failure and started informally capturing this indicator in the Aide Memoire, because it reflected the implementation pace and captured the S-shape (this type of project followed an S-shaped implementation curve that starts slowly and then accelerates). Learning from this project, when the incomplete works were rolled into RISE Project, this indicator was added to capture implementation progresses.

Driver Training. Locomotive drivers were trained at the Warden Institute using the locomotive driving simulator installed by the project.

Safety Training. In the first half of 2019, 9,995 staff completed a training plan for "safety critical job," and 2,116 completed a training plan on "safety certification and licenses."



Institutional Outputs.

- Component 2 on track renewal introduced new approaches based on mechanized works planned annually, depending on traffic intensity on each line, and on external contractors (ICR para 42).
- The project team in collaboration with the Italian Management Team supported the reorganization of ENR along business lines. This resulted in six business units: (i) Short Distance Passenger, (ii) Long-Distance Passenger, (iii) Freight, (iv) Infrastructure, (v) Operations, and (vi) Fleet Maintenance.
- ENR significantly reduced staff from 51,412 employees in 2009 to about 35,258 to 2021. The proportion of technicians increased from 43 percent in 2009 to 59 percent in 2021. The ICR reports (para 45) that the staff quality was improved through training in operation of modernized assets. The project team pointed out that the project led to a technological jump by migrating the outdated signaling system to a state-of-the-art system. Employees needed additional trainings to operate the state-of-the-art system. Therefore, an improved staff quality and additional trainings were necessary to ensure the up-to-date system is operated properly.
- The ICR reports (para 49) that the ministerial decision implementing safety licenses was effective. Although this decision had not been published in the Official Gazette, it does not affect the effectiveness of issuing safety licenses.
- The ICR (para 44) reports that performance monitoring for ENR managers was introduced.

Outcomes

Reliability

The PDO indicator “the number of long-distance passengers on the project's lines” was expected to monitor the reliability of the railway services. The “long-distance passenger traffic on Cairo–Alexandria line: total annual passenger-km in non-air conditioned long-distance trains (million)” at project closure was 1,205, substantially lower than the revised target of 1907 but exceeding the original target of 1028. The long distance passenger traffic on Beni Suef - Asyut: total annual passenger-km in non-AC trains (million) at project closure was 1,928, substantially lower than the original target of 4,944. This is not a good indicator to measure the reliability of the railways. First, many other factors could influence the number of long-distance passengers, hence the number is not necessarily fully attributable to the project's interventions as these are influenced by exogeneous factors (e.g., strikes, pricing policies, coach availability, alternative means of transport available) that determine the number of passengers (ICR para 41). Second, there may be better measures of reliability, such as reductions in the number of delays that clearly resulted from faulty or inadequate signaling systems, and/or track failures within the railway system.

In addition, the project included two intermediate outcome indicators to monitor the punctuality of air conditioned trains on the Cairo–Alexandria and Beni Suef–Asyut lines. Both indicators are a ratio based on the number of air-conditioned trains arriving within 15 minutes of their predicted arrival time divided by the total number of air-conditioned trains operating during the same period. None of these indicators reached their targets at the closing of the project (ICR para 37). Since the signaling system was installed on 300 km of 640 km targeted, the benefits from a new signaling system, which were expected to allow higher operating



speeds along the whole line, were not realized. The M&E framework lacked indicators to measure punctuality improvements that may have resulted from the project activities.

Through the project track renewal activities, ENR introduced new maintenance approaches based on new mechanized works planned annually, depending on traffic intensity on each line, and on external contractors. During project implementation, an average of 500 meters per day was renewed, which is a good average according to international standards (ICR para 42). Improved maintenance is expected to increase reliability. However, the ICR does not provide any evidence.

Efficiency

The project modestly improved operational efficiency of the railways as measured through the following indicators:

- At project close, 186 “kilometrage per available locomotive: long distance passenger” was achieved exceeding the revised target of 176 but underachieving the original target of 208 (the project team confirmed that typo in the results framework table).
- At project close, 103 “kilometrage per available locomotive: freight” was achieved exceeding both the revised target of 85 and the original target of 95 (the project team confirmed that typo in the results framework table).

However, these are not fully attributable to the project as these are influenced by exogeneous factors (e.g., strikes, pricing policies, coach availability, alternative means of transport available) influence the indicators on number of passengers (ICR para 41).

Before the project, ENR profits and losses were unknown (ICR para 43). The separation of ENR activities around business units (Short-Distance Passenger, Long-Distance Passenger, Freight, Infrastructure, Operations, and Fleet Maintenance) is expected to increase efficiency. However, at project closure each business unit's operating costs had not been separated (ICR para 43).

ENR staffing changes, i.e., increasing the proportion of technicians is also expected to increase efficiency of railways. The ICR reports (para 45) that the staff quality was improved through training in operation of modernized assets.

Safety

The locomotive drivers were trained using locomotive driving simulator, which was controlled by computers to increase safety of railways services. Safety licenses were provided to drivers and assistant drivers.

Railway users were sensitized to safety with a series of videos financed by the project.

The ICR reports (para 48) that accidents related to ENR staff human error along the project's sections decreased. The ICR does not provide evidence/data to substantiate this assertion. However, after project closing, two crashes occurred on the lines modernized under the project where the upgraded signaling system was operational.

The PDO indicator “average number of fatalities due to railway accidents on the ENR network measured as the total annual number of victims on ENR network per one million passenger-km” was not achieved. At



project closure, average number of fatalities were 1.31 compared to the target of 0.31. The ICR reports that there were severe deficiencies in the way data was collected. First, the indicator's scope covers the entire ENR network and not the scope of the project; second, the definition changed over time; and third, the measurement method had flaws (the denominator chosen was in million, whereas yearly passenger-km were expressed in billion). This serious data issues should have been resolved by the Bank during implementation.

The project modestly achieved its objective of improving reliability, efficiency, and safety of railway services as at project closure all activities were not completed. However, there is no evidence that the project contributed to the improved railways' sector responsiveness to economic and social needs and strengthened the financial viability of ENR. Overall, the achievement of this objective is negligible.

Rating
Negligible

OBJECTIVE 1 REVISION 1

Revised Objective

To improve the reliability, efficiency, and safety of the railways' services on targeted sections of the rail network.

Revised Rationale

At project restructuring in 2014, the PDO was revised and "railways' sector responsiveness to economic and social needs" and the "financial viability of the Project Implementing Entity" were dropped. The ICR (page 17) reports that the ENR had adopted a financial recovery plan at the onset of the project and was on track to improve its financial sustainability, but after the revolution, the Government has dramatically reduced its contribution to the PSO and wages were significantly increased without the possibility of raising fares. These events were beyond the control of the railways and financial sustainability would no longer be achievable during the life of the project.

The **theory of change** as discussed under the original objective is valid under the revised objective with few changes. The project's theory of change indicates that the project's physical inputs such as the installation of a modern signaling system and the renovation of tracks and accompanied by institutional strengthening through the modernization of ENRs management and operating practices, would result in higher operating speeds along the line, thereby improving the reliability of railway services.

Efficiency would result from the modernized signaling system through greater capacity on the line, because of increase in the number of trains.

The modernized signaling system as well as project support for the "preparation of safety management system for ENR operations" were expected to improve safety.

Outputs and Outcomes

Same as original objective.



As discussed above, the project **modestly** achieved its objective of improving reliability, efficiency, and safety of railway services as at project closure all activities were not completed.

Revised Rating
Modest

OVERALL EFFICACY

Rationale

While the project modestly achieved its objective of improving reliability, efficiency, and safety of railway services, there is no evidence if the project contributed to the improved railways' sector responsiveness to economic and social needs and strengthened the financial viability of ENR. Overall efficacy is negligible under the original PDO.

Overall Efficacy Rating
Negligible

Primary Reason
Insufficient evidence

OVERALL EFFICACY REVISION 1

Overall Efficacy Revision 1 Rationale

The project **modestly** achieved its objective of improving reliability, efficiency, and safety of railway services as at project closure all activities were not completed.

Overall Efficacy Revision 1 Rating
Modest

Primary Reason
Low achievement

5. Efficiency

Economic Analysis:

At appraisal, the economic evaluation of the project was undertaken only for the first component, i.e., the modernization of signaling system on the Arab El Raml - Alexandria line. The analysis considered the actual and forecast freight and passenger traffic on the line, and the impact of the proposed investments on available line capacity in a defined "do-minimum scenario and a defined "do-something" scenario. The benefits derived from: (i) time savings to existing and forecasted rail freight and passenger traffic; (ii) directly generated rail traffic which would not have traveled before but travels as a result of the reduction in journey time; (iii) generalized cost savings (including operating cost and time value) for diverted traffic from road to rail resulting from the saturation of the line capacity in the "do-minimum" scenario; (iv) savings in highway maintenance costs through the diversion of freight and bus traffic from road to rail; and (v) generalized cost savings particularly in term of safety



improvements (PAD para 44). The analysis used a 28 year time horizon and a 12 percent discount rate. This yielded an economic rate of return (ERR) of 15.3 percent and a net present value (NPV) of US\$67.0 million.

At additional financing, the economic analysis of Beni Suef–Asyut segment followed the same methodology and assumptions adopted at appraisal. The analysis yielded an ERR of 21.8 percent and a NPV of US\$323.0 million.

The *ex-post* economic analysis yielded an ERR of 18.3 percent. Assuming a 12 percent discount rate, the net present value was USD365.8 million. The procurement for the Cairo–Alexandria signaling works achieved savings, which were used to support additional scope, namely signal modernization for the Cairo–Benha segment and the Asyut–Nag Hammadi line and renewal of an additional 97.4 km of tracks, which increased the economic benefit.

Cost Effectiveness, Administrative and Operational Efficiency:

In 2014, a two-stage bidding process for signaling modernization on the Arab El Raml–Cairo line led to savings of USD35 million. Savings resulted from an open international competitive bidding and satisfactory procurement process. The first restructuring allocated these funds among the three components of the project. In 2017, a second bidding process for the Beni Suef–Asyut line led to additional cost savings. The ICR reports (para 58) that the duration of procurement processes decreased by almost 50 percent over the project’s lifetime.

The project experienced delays, and works were underway at project closing. As a result, some contracts, such as the project supervision consultant, which are by unit costs, are expected to increase because of the longer implementation period. The efficiency of project is rated **modest**.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

| | Rate Available? | Point value (%) | *Coverage/Scope (%) |
|--------------|-----------------|-----------------|--|
| Appraisal | ✓ | 15.30 | 66.00 <input type="checkbox"/> Not Applicable |
| ICR Estimate | ✓ | 18.30 | 0 <input type="checkbox"/> Not Applicable |

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Outcome under original objective. With a substantial relevance of objectives, negligible efficacy and modest efficiency, the overall outcome is rated Unsatisfactory (2).



Outcome under revised objectives. With a substantial relevance of objectives, modest efficacy and modest efficiency, the overall outcome is rated Moderately Unsatisfactory (3).

Overall outcome. The disbursement percentage at the restructuring was 8.3 percent (total financing of 513.8 million). The overall outcome rating is **moderately unsatisfactory**, the weighted value is 3 ($0.08 \times 2 + 0.92 \times 3 = 2.9$).

a. Outcome Rating

Moderately Unsatisfactory

7. Risk to Development Outcome

The ICR (paras 109 to 112), identified the following risks to development outcomes:

Risk of non-completion of activities: The remaining activities of the project have been transferred to the ongoing Egypt Railway Improvement and Safety for Egypt Project. Given the delays in this project, the risk of non-completion of remaining activities remains substantial. The ICR does not provide details on whether the incomplete activities have been commissioned.

Safety Risk. There were two major of crashes. The cause of a train crash on the Asyut– Nag Hammadi line (on March 26, 2021) was due to driver error - the driver and his assistant had deactivated the automatic train control system, which controls speed and activates the brakes to stop a train in the case of imminent danger, and that a tower control guard and the train assistant were under the influence of drugs (hashish and tramadol, an opioid). On April 18, 2021, a second deadly crash happened in Toukh, on the Cairo–Benha section. This crash was a derailment with only one train involved, so it is unlikely that the signaling system was involved. This crash is under investigation.

IEG considers the safety risk as substantial because such dangerous behaviors should have been addressed by the modernization program, yet modernization activities were dropped from the project. Maintaining the promotion of a culture of safety is a substantial risk to development outcome.

8. Assessment of Bank Performance

a. Quality-at-Entry

At appraisal, several critical risks were identified. These related to reforms, i.e., insufficient government commitment to reform, including delays in implementing key elements of ENR's restructuring strategy. These risks were rated modest to substantial. The ICR indicates (para 72) that the mitigation measures were weak. For example, given that most risks related to risks in implementing the reforms, the original Loan did not allocate funds for component 3, so the World Bank had little control over it.



The project design had a major shortcoming. Egypt's main railway network runs parallel to the Nile, crossing the country from north to south. From a geographical perspective, because economic activities and population are regularly distributed along a north-south line along the Nile, the whole line needed to be updated. A single bottleneck in the railway network could compromise the efficiency of the entire main railway network. However, the original World Bank project was focused on a small section "Arab el-Raml to Alexandria line." It should be noted that additional financing was signed 15 months after the effectiveness of the parent project, without any funds being disbursed to include Beni Suef and Asyut Line, an additional component and expansion of scope. The ICR reports (para 27) that during parent loan preparation, ENR conducted studies to assess the technical and safeguard aspects of the Beni Suef–Asyut line, but the government did not submit a request to the Bank. The request was submitted shortly after the parent loan was approved, requiring additional financing in 2011. Moreover, if "modernization" was such a critical, high-profile goal in the PAD, then the case for dropping it needs to be more convincingly established (its key importance has not diminished just because it was dropped). This suggests that the Bank did not conduct due diligence during appraisal.

There were weaknesses in M&E design, see section 9 (a) below.

Quality-at-Entry Rating Moderately Unsatisfactory

b. Quality of supervision

Throughout project implementation, the World Bank team provided continuous technical guidance through (i) a study tour to Morocco and Tunisia to foster an exchange of knowledge, (ii) during the first restructuring, allocating US\$9.0 million from the loan for technical assistance, and (iii) bringing world-class safety experts to improve safety policy, procedures, and training at ENR. To increase implementation, pace the World Bank made advance payments in 2014 and 2019, which provided additional working capital to the contractors'.

The ICR reports (para 102) that the "World Bank supported the newly created PMU by hiring a consultant but could have done more such as providing more training and ensuring that the PMU was embedded in the ENR hierarchy". Since Italian experts were supporting ENR reform process, the ICR indicates (para 103) that "closer cooperation with the Italian experts might have been possible through financial engagement of the World Bank. This opportunity was missed by the Bank". The ICR, while placing much responsibility for successful implementation on the Bank although that is the responsibility of the Borrower, does not adequately address the fundamental issue that the Borrower has not shown adequate commitment to the project or to reforming the railways sector."

The weaknesses in the M&E design were not addressed during implementation. For example, the two dropped indicators were not replaced and the formulation of weak indicators were not improved.

The ICR reports (para 107) that the World Bank team began to monitor the project closely quite late in the project's lifetime. Despite initial delays, neither the World Bank nor other stakeholders ran an in-depth root cause analysis.



Quality of Supervision Rating

Moderately Unsatisfactory

Overall Bank Performance Rating

Moderately Unsatisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

The results framework included three PDO and three intermediate indicators. However, the M&E design was inadequate to monitor and assess the PDO due to the following reasons:

- the PDO indicators were inadequately selected and formulated: the results they measure cannot be attributed to the project's activities and/or do not causally reflect the project's targeted outcomes. For example, the indicators related to locomotives and the fleet do not accurately measure the reliability outcomes that are attributable to the project;
- lacked clear definitions, for example, to measure reliability, there was an intermediate outcome indicator "Punctuality of air conditioned trains on the Cairo–Alexandria Line". The PAD did not define how this would be measured;
- lacked baseline or target values, for example "Available ratio of the useful fleet: long-distance passenger" had the same value for baseline and target. The PDO indicator "Average number of fatalities due to railway accidents on the ENR" was divided into "typical" and "nontypical" accidents, however only total target values were provided in the PAD.

b. M&E Implementation

The additional financing introduced indicators to reflect the additional scope of work on the Beni Suef–Asyut line and updated baselines for some original indicators.

The ICR reports (para 92) that some of the data collected was of questionable quality – specifically for the indicator "number of fatalities" due to rail accidents." The indicator's scope covers the entire ENR network, which does not match the project's scope. There was no effort to correct this error during project supervision.

c. M&E Utilization

According to the ICR (paras 93 and 94), the indicators did not help the team monitor the progress of the works, since the results framework summarized the investments of several million dollars in "yes/no" indicators. Moreover, the results framework did not inform subsequent restructurings.



The overall rating of M&E quality is **negligible** based on the major shortcomings in M&E design, implementation, and use.

M&E Quality Rating

Negligible

10. Other Issues

a. Safeguards

The project was classified as category B for environmental assessment purposes. Only one safeguards policy was triggered – Environmental Assessment (OP/BP 4.01). The additional financing was also classified as category B.

An Environmental and Social Impact Assessment (ESIA) was carried out and approved by the Egyptian Environmental Affairs Agency (EEAA) on January 14, 2009. The ESIA included an Environmental Management Plan (EMP) provided details on institutional settings, mitigation measures, and monitoring plan for the potential impacts expected from the project during the construction and operation phases. The main environmental concerns identified included construction impacts, such as noise, dust, mechanical shaking and sifting of ballast gravel of basaltic fragments during ballast replacement work, and air pollutants (PAD para 68).

At appraisal, no resettlement plan was created because ENR owned the land. However, during restructuring, the safeguards policy for Involuntary Resettlement OP 4.12 was triggered in some cases, as ENR had rented the plots to employees or farmers, which needed to be repurposed for project activities such as construction of technical buildings or shelters. A resettlement policy framework was prepared, cleared, and disclosed in November 2017 (ICR para 97).

In terms of environmental performance, according to the ICR (para 97), at the beginning of the project implementation, the PMU lacked resources to manage and monitor the environmental management plan. Therefore, an independent environmental consulting firm was hired to support the PMU in implementing environmental management plan. ENR then established an Environmental Affairs Department to implement the environmental and social management plan and to manage environmental and social issues. The World Bank delivered five trainings on safeguards to the PMU, in addition to on-the-job trainings.

The last six ISRs rated the project's environmental performance as satisfactory or moderately satisfactory.

With respect to social safeguards, according to the ICR (para 97) there was a lack of adherence to the resettlement policy framework, mainly in lack of screening to avoid and mitigate economic displacement impacts before they occurred. For example, economic displacement of 67 project-affected parties at seven locations had occurred, of which six were relocated to another nearby location without adequate documentation of the relocation process. With the land reports and corrective actions, OP 4.12 was complied with for these six people. At the time of the writing of the ICR, the World Bank was awaiting final documentation for the remaining 61 people. The project team informed IEG that they had received documentation for 4 sites (i. Matai, ii. Fashn, iii. Minya, and iv. Deirut LX) for the economic displacement of



14 PAPs, and these were reviewed by the Bank, finalized and disclosed. Outstanding land issues from this project were carried forward to the Railway Improvement and Safety for Egypt Project (RISE) for 3 sites out of 7 (i. Beba, ii Deirut, iii Manqabad EIS), for the economic displacement of approximately 53 land tenants. These are still in process of being finalized.

The outstanding land issues were carried over to the Railway Improvement and Safety for Egypt Project. The last six ISRs rated the social safeguard performance as moderately satisfactory or moderately unsatisfactory.

Regarding occupational and health safety, there were four fatalities – one in 2015 and three in 2020. The first occurred when a train passenger who was leaning out of a moving train collided with scaffolding at the contractor’s site erected close to the tracks. Two workers lost their lives in a highway traffic crash while on their way to patrol project sites. The last occurred when a passenger train struck and fatally injured a worker undertaking trenching activities beside the tracks. These were due to weaknesses in the contractors’ safety management plans. The contractor prepared a root cause analysis and a safeguard corrective action plan. The contractor also stopped using motorbikes for project activities and provided training for all security personnel.

b. Fiduciary Compliance

Financial management: the ICR (para 98) reports that the Borrower submitted all reports on time, and all reports were in good standing. There were no ineligible expenditures. The project team informed IEG that the project finances were audited by independent external auditor. The project audit reports were unqualified (Clean).

Procurement: the ICR (para 99) reports that procurement was moderately satisfactory. Although there were significant savings during the international bidding process, preparation of bidding documents and obtaining all necessary no objection took longer than expected. The two-stage bidding process allowed bidders to propose the best solutions based on functional requirements, but it took time. A procurement specialist was assigned to the PMU to oversee procurement. The last six ISRs rated procurement as satisfactory.

c. Unintended impacts (Positive or Negative)

d. Other

11. Ratings

| Ratings | ICR | IEG | Reason for Disagreements/Comment |
|---------|-----|-----|----------------------------------|
|---------|-----|-----|----------------------------------|



| | | |
|------------------|---------------------------|---------------------------|
| Outcome | Moderately Unsatisfactory | Moderately Unsatisfactory |
| Bank Performance | Moderately Unsatisfactory | Moderately Unsatisfactory |
| Quality of M&E | Negligible | Negligible |
| Quality of ICR | --- | Substantial |

12. Lessons

The following lessons are adapted from the ICR:

For a railway project that includes a reform agenda and complex civil works, adequate implementation time needs to be built into project design, and a clear definition of the responsibilities of the Borrower, project management unit, contractors, supervision engineers, and the World Bank needs to be included. For this project, the 5-year timeline at appraisal was unrealistic given the project’s complexity and the limited experience of ENR with Bank projects. Moreover, expanding the project scope through additional financing two years after the original loan approval is not good practice because of the financial and administrative costs for the WBG and the Borrower.

It is essential to assess stakeholder capacity early during the design stage to address gaps and ensure smooth implementation. Reforming the railway sector is challenging in all countries. Railways are public institutions and public employers. Railway staff must be motivated while, at the same time, substantial reforms are instituted. It is important for the World Bank to be realistic about client capacity and, for example, provide more training or closer supervision at the start of a project.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

The ICR was candid about the flaws in the results framework. The ICR provides an excellent analysis and account of key factors that affected implementation and outcomes. There were a few minor shortcomings: datasheet missed out Additional Financing and Annex 3 Project cost by component is incomplete as it excludes Government contributions at closing.

In response to the three issues raised by IEG on ICR quality, a meeting was held with the project team on January 20, 2022, during which the following key points were clarified and sent to IEG as a formal response:

(i) IEG raised the issue that the ICR is not consistent with the OPCS guidelines and that the ICR did not use a split rating methodology, despite revision of project development objectives. The team responded - "The ICR report discusses the opportunity of using a split rating in Paragraph 34 (page 24) with a reference made to the



OPCS guidelines. The ICR team noted that the three main elements of the PDO remain the same, even after revision through project restructuring (notably assessment of a) reliability, b) efficiency, and c) safety). The original PDO stated in the Financing Agreement was: “The objective of the proposed Egypt National Railways Restructuring Project (ENRRP) is to assist the Government in improving the reliability, efficiency and safety of the railways' services *through signaling and track renewal investments by the Egyptian National Railways (ENR) and the modernization of its management and operating practices in order to enhance the railways' sector responsiveness to economic and social needs and to strengthen the financial viability of the Project Implementing Entity.*” The cursive part was dropped during project restructuring. The team understands from the OPCS guidance that only expected outcomes should be assessed. The ICR team did consider the elements coming after “in order to” as the PDO objectives as long-term objectives and focused only on the remaining following elements: (a) reliability, (b) efficiency, and (c) safety.

Therefore, the Project outcomes have been assessed against the outcomes presented in the project's Financing Agreement. Moreover, the team understands from OPCS guidelines (Paragraph 60 (ii), page 17) that this ICR did not call for the application of a split rating as the scope of the project was expanded with more ambitious results indicator targets (OPCS guidance, 2020. ICR report for Investment Project Financing (IPF) Operations (OPCS of March 2020)).

(ii) IEG raised the issue that the lesson “Projects should be used to support sector-wide dialogue and mobilize donors” had no basis in evidence from the project's implementation experience and results. The team clarified that “The quoted sentence refers to the Italian Cooperation program, which is briefly mentioned in the rest of the Paragraph 120, page 51. This lesson refers to Paragraph 43 and Paragraph 103 on page 27 and page 48 respectively in the ICR. However, the team acknowledges that the link could have been made more explicit.

(iii) IEG raised the issue that the ICR does not clearly discuss why the modernization of ENR management and operating practices was dropped. The team clarified that “This seems to be a misunderstanding as the modernization of ENR management and operating practices was not dropped and instead was expanded. As stated in the Table 4 (page number 18) of the ICR report the scope of said Component was extended thanks to the savings which resulted from the successful procurement bidding processes. The Table 4 summarized all the activities undertaken under this Component. Furthermore, the following paragraphs explain that the ENR modernization was discussed and assessed: (a) paragraph 42 (page number 26) of ICR: quote: “ENRRP contributed to change the way ENR approaches maintenance;” and (b) para 43 of ICR: quote: “the newly established structure was modified after the start of ENRRP... The WBG team worked closely with the Italian management team based at ENR headquarters to reorganize ENR along business units... The organization around business units helped to increase efficiency by separating ENR activities”.

Overall, the quality of the ICR is **substantial**.

a. Quality of ICR Rating
Substantial

