



## 1. Project Data

**Project ID**

P106284

**Project Name**

Land Regis & Cadastre Modernization Proj

**Country**

Turkiye

**Practice Area(Lead)**

Urban, Resilience and Land

**L/C/TF Number(s)**

IBRD-75370,IBRD-85410

**Closing Date (Original)**

30-Sep-2013

**Total Project Cost (USD)**

238,531,391.12

**Bank Approval Date**

01-May-2008

**Closing Date (Actual)**

31-May-2023

**IBRD/IDA (USD)**

**Grants (USD)**

Original Commitment

203,000,000.00

0.00

Revised Commitment

264,013,827.16

0.00

Actual

238,531,391.12

0.00

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## 2. Project Objectives and Components

### a. Objectives

The Original Project Development Objective (PDO) was “to improve the effectiveness and efficiency of the land registry and cadastre services through: (i) renovating and updating cadastre maps to support digital cadastre and land registry information; (ii) making the digital land registry and cadastre information available to public and private entities; (iii) improving customer services in land registry and cadastre offices; (iv) improving human resources in TKGM; and (v) developing policies and capacity to introduce best international practices in property valuation in Turkey.” (Legal Agreement, page 2).



The PDO was stated almost the same way, with a slightly different wording, in the Project Appraisal Document (PAD): “To improve the effectiveness and efficiency of the land registry and cadastre services. This objective will be achieved through: (i) renovating and updating cadastre maps to support digital cadastre and land registry information; (ii) making the digital land registry and cadastre information available to public and private entities (iii) improving customer services in land registry and cadastre offices; (iv) improving human resources in the TKGM; (v) developing policies and capacity to introduce in Turkey best international practices in property valuation. (PAD, page 4).

**The PDO was not revised.** The Additional Financing (AF) Restructuring Paper (October 15, 2015) used the phrasing from the Legal Agreement and noted that “The PDO that exists in the system is edited to match the exact same wording of the original Loan Agreement (no.7537-TU). This revision which is only editorial does not introduce any changes to the substance of the original PDO but is marked as a change in PDO due to system requirements.”

**For the purposes of this Implementation Completion and Results Report (ICR) review, the objective will be assessed as follows:**

PDO 1: To improve the effectiveness of the land registry and cadastre services.

PDO 2: To improve the efficiency of the land registry and cadastre services.

**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**  
15-Oct-2015

**c. Will a split evaluation be undertaken?**  
Yes

**d. Components**

**Note:** While total Project costs are presented in USD, component costs are quoted in euros (EUR), the currency of the loan. The Project team did not find it possible to provide component costs in USD due to significant fluctuations of the EUR / USD exchange rate over the 15-year long implementation of the Project. Also, the component costs include financing from the two IBRD loans (the original loan for the appraisal estimates and both the original and the additional finance loans at closure) but not the Borrower contribution, due to a significant devaluation of the Turkish Lira over the Project life.

### **1. Original components**

**Component 1 Cadastre and Land Registry Renovation, Data Improvement and Updating (cost at appraisal: EUR 112.7 million; actual cost: EUR 170.3 million)** was to support the conversion of the cadaster and land registry data into digital format; the integration of the data into accurate, consistent,



standardized, and legally agreed digital cadastral maps and datasets; and the development of base maps. The data would be made available to the Turkish Computerized Cadastre and Land Registry System (TAKBIS). The digitalization and the creation of cadastral maps would be completed in five high priority regions (Ankara, Antalya, Istanbul, Izmir, and Gaziantep) and initiated in other regions. Base maps would be developed for selected areas.

**Component 2 Improved Service Delivery (cost at appraisal: EUR 12.4 million; actual cost: EUR 17.1 million)** was to finance modernization of the offices, including new equipment, for the General Directorate of Land Registry and Cadastre (TKGM). The modernization would support the updated TAKBIS and lead to improved work processes. The component was also to finance strategic advice on the national implementation of TAKBIS. In addition, the component would make the e-Cadastre data available through the Turkish National Spatial Data Infrastructure (NSDI).

**Component 3 Human Resources and Institutional Development (cost at appraisal: EUR 3.9 million; actual cost: EUR 0.02 million)** was to support the design of strategic plans and human resources development plans for TKGM. The component would also finance training, study visits to countries which have undertaken similar modernization programs, and the development of video conferencing capability between regional directorates and HQ.

**Component 4: Property Valuation (cost at appraisal: EUR 3.2 million; actual cost: EUR 1.0 million)** was to support policy and institutional development for the introduction of property valuation function, based on best international practices. This would include the development of interim guidelines, piloting property valuation in two municipalities, and related capacity building.

**Component 5: Project Management (cost at appraisal: EUR 1.4 million; actual cost: EUR 1.3 million)** was to finance project management costs, including procurement, financial management, supervision of the field activities, and monitoring and evaluations (M&E).

**Unallocated at appraisal: EUR 1.4 million.** This amount was allocated at the first restructuring of February 2013.

## 2. Changes during implementation

### Changes in costs:

- Additional Financing (AF) (fourth restructuring) for the Project was approved on October 16, 2015 in the amount of US\$90.6 million. The AF was mostly allocated to Component 1 to cover the scale-up of the cadastre renovation works and to other components for additional technical assistance activities.

- Throughout Project implementation, Türkiye was affected by the devaluation of Turkish Lira. The currency of the Project was Euro, and as a result, the Project had savings from loan proceeds, which were partially used to undertake additional activities (including, at the fifth restructuring of December 2018 and at the sixth restructuring of November 2020). Some of the savings were cancelled, specifically: (i) at the second restructuring of December 2014, US\$12.5 million (second Restructuring paper, page 7); and (ii) at the sixth restructuring of November 2020, US\$15.3 million (calculated based on the data in Euro in the sixth Restructuring paper, page 7).

### Change in components:



- The AF (fourth restructuring, October 2015) entailed an increase in the Project scope due to a scale-up of the original activities under Component 1 to additional parcels of land and to the continuation of the technical dialogue between TKGM and the World Bank. Otherwise, Project components remained unchanged, albeit minor adjustments were made based on government's priorities. These minor modifications did not affect the Project's scope.

**Change in PDO indicators:** the PDO indicators underwent some adjustments, mainly to measure the outcomes more precisely. None of the adjustments entailed a change in Project scope or ambition.

- At the first restructuring of February 2013:

- PDO indicator targets and intermediate indicator baselines, which were missing from the Project Appraisal Document (PAD), were added to the Results Framework (RF).
- The PDO indicator "Increased income of TKGM from Cadastre related services" was dropped because it was decided that cadastre renovation services were to be provided by private sector.
- The phrasing of the PDO indicator "Improved customer satisfaction for cadastre services (Poor/Good)" was slightly adjusted to "Improved customer satisfaction for land registry and cadastre services (40 percent/90 percent)", to better measure the outcomes.

- At the third restructuring of August 2015, the phrasing of the indicator "Reduced number of cadastre disputes in courts" was expanded to "Reduced number of cadastre disputes".

- At the fifth restructuring of December 2018:

- The PDO indicator "Increased number of external users who have on-line/off-line access to digital cadastre information" was modified as "Active protocols with other public and private institutions having on-line access to digital cadastre information from TKGM" in order to measure the outcomes more precisely.
- The intermediate indicator "Number of information requests increases by 10 million per year" was rephrased as "Number of annual on-line enquiries from TAKBIS (Number)".
- The following three indicators were dropped: "Target population with use or ownership right recorded as a result of the project", "Target land area with use or ownership rights recorded as a result of the project", and "Land parcels with use or ownership rights recorded as a result of the project". At IEG request, the Project team clarified that these were added as mandatory Core land administration indicators [at the first restructuring in February 2013] and then dropped [at the fifth restructuring in December 2018] when the World Bank retired them because they often duplicated other indicators or were not fully consistent with the technical design of projects.
- The following two PDO indicators were added: (i) "Cumulative number of TKGM and contractor personnel trained to implement cadastre renovation and digitization"; and (ii) "Total number of parcels renovated/updated in digital format".

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

**Project Cost:** The appraisal estimate was US\$210.1 million, and the actual disbursement was US\$253.9 million.



**Project Financing:** The Project was financed by two IBRD loans: the original loan and the AF loan. For the original loan, the appraisal estimate was US\$203.0 million and the actual amount at closure was US\$164.6 million. For the AF loan, the original amount was US\$90.6 million, and the actual amount at closure was US\$73.9 million.

**Borrower/Recipient contribution:** The Borrower's contribution was expected to amount to US\$7.1 million at appraisal, and the actual amount was US\$15.4 million.

**Project Dates:** The Project was approved on May 1, 2008 and became effective on August 13, 2008. The MTR review was on May 30, 2011. The Project was restructured seven times: (i) on February 22, 2013; (ii) on December 2, 2014; (iii) on August 2, 2015; (iv) on October 16, 2015; (v) on December 10, 2018; (vi) on November 6, 2020; and (vii) on November 22, 2022. The original closing date was September 30, 2013. The Project was extended six times, for the total of nine years and eight months (or 116 months), to May 30, 2023, which was the date of the Project's actual closure.

### **Split evaluation.**

- The Project received AF (fourth restructuring of October 2015) to scale up its activities, mainly under Component 1. The AF Restructuring paper noted that the related indicator targets were revised to capture the proposed changes and monitor the results of the AF, and a new indicator was added (AF Restructuring Paper, page 16, pages 29-36). Since the related RF targets were increased accordingly, no split rating is necessary in relation to the AF, and the Project can be assessed based on the targets approved by the AF.

- The Project's RF was significantly revised during the fifth restructuring of December 2018, with some indicator targets changed, some dropped, and some added. While there is no indication of a reduced Project ambition, split evaluation of Project efficacy will be applied for clarity.

## **3. Relevance of Objectives**

### **Rationale**

**Country and Sector Context.** At Project approval in 2008, more than 95 percent of the country's land was already mapped, registered, and administered by the General Directorate of Land Registry and Cadastre (TKGM). The cadastre and land registration system was considered one of the most effective in the Europe and Central Asia (ECA) region. While TKGM was in the process of digitalizing the country's cadastre via the development of TAKBIS, most of its offices continued to rely on manual systems and old documents. A key challenge was the varying accuracy and consistency of maps. Property valuation mechanisms were also outdated, and property taxation relied on the minimum value of property provided by local governments. The socio-economic benefits of a modernized cadastre were clear to the government, including digitalization and information accessibility.

**Relevance to Government Strategies.** The Project contributed to the government's Ninth Development Plan for 2007-2013, which emphasized the need to improve the efficiency and quality of public services through increased access to e-Government applications. The Project helped to achieve this objective through integrating land registry and real estate information into NSDI. The Project remained highly relevant at completion: it supported the Eleventh Development Plan (2019-2023), specifically, Section 2.4.2



“Urbanization”. The Project’s cadastre modernization activities directly contributed to the government’s goals of completing multidimensional cadastre/map production and advancing digitalization and use of new technologies. Technical advice concerning the development of TAKBIS and the Spatial Property Information System (MEGSIS) also supported the Plan’s goals of transferring property-related transactions to electronic media. The property valuation activities contributed to Section 2.1.6 “Fiscal Policy” by supporting the usage of sales values as a basis for real estate taxation.

**Relevance to the World Bank Group’s (WBG’s) Assistance Strategies.** The Project helped to achieve the objectives of the World Bank’s Country Partnership Strategy (CPS) for Türkiye for 2008-2011, specifically, in the area of efficient delivery of high-quality public services, including modernization of land registry and cadastre, as well as contributing to the CPS objective of improving local delivery of public services through supporting the development of property valuation policies in line with international standards. At completion, the Project objectives were well aligned with the Country Partnership Framework (CPF) for FY17 – FY21, which was extended to cover the FY22-FY23 period through the Performance and Learning Review. The Project contributed to CPF Focus Area 3 “Sustainability”, Objective 8 “Improved sustainability and resilience of cities” by supporting improved delivery of and expanded access to digital land registry and cadastre information, as well as by improving mass property valuation.

**Related World Bank operations.** The Project was pitched at the right level of ambition and incorporated lessons learned from past World Bank-financed projects in support of land registry and cadastre. The Agricultural Reform Implementation Project (P070286, completed in 2008) included a component for producing cadastral maps and issuance of titles to documented owners in rural areas, as well as investments in computer systems to maintain digital cadastral records. The Marmara Emergency Earthquake Reconstruction Project (P068368, closed in 2006) included investing in reliable land ownership information system. At closure, the World Bank was planning to build upon the success of the Project via the recently approved Land Management Infrastructure for Green and Sustainable Development Project (P179217).

Given that the project was pitched at the right level of ambition, and the alignment with the Government and Bank strategies, the relevance of the PDO is rated as High.

## Rating

High

## 4. Achievement of Objectives (Efficacy)

### OBJECTIVE 1

#### Objective

PDO 1: To improve the effectiveness of the land registry and cadastre services.

#### Rationale



The theory of change (ToC) for the Project was not included in the PAD but was developed for the ICR. It showed direct, logical causal links from inputs (activities) to outputs, to five intermediate outcomes, and to the two PDO outcomes of the Project. To achieve its two objectives, the Project supported the following activities: (i) cadastre updating, base mapping, and supervision activities; (ii) cadastre integration and creation of model offices; (iii) preparation of the human resources (HR) development strategy, strategic and business plans, and training; (iv) the preparation of the property valuation policies, methodologies, and standards, as well as related capacity building; and (v) customer satisfaction surveys. The expected outputs of these activities were: (i) renovated cadastral data and created base maps; (ii) cadastre information and model offices; (iii) prepared HR strategy and strategic and business plans; (iv) prepared property valuation policies, methodologies and standards; (v) feedback from customers. The outputs were expected to support five intermediate outcomes: (i) increased access to cadastral data; (ii) digitalized TKGM services; (iii) improved understanding and definition of property valuation policies based on market values; (iv) modernized land registry and cadastre facilities; (v) improved customer satisfaction. Altogether, the five intermediate outcomes would ultimately lead to the achievement of the two PDO outcomes: increased effectiveness and efficiency of the land registry and cadastre services.

The ToC provided a comprehensive picture of the logic of Project interventions, listing all main inputs and outputs, intermediate outcomes, and the PDO outcomes. Importantly, it also provided a detailed illustration of the links across the results chain, from inputs to outputs, to intermediate outcomes, and to the PDO outcomes, thus presenting the logic of the Project through specific cause-effect relationships. This made the logic of the Project very clear. The critical assumptions were also listed (i.e., “Continued high-level government prioritization of land sector initiatives and reforms” and “Adequate Implementing Agency capacity (technical and human resources) for implementing project activities”).

As discussed in Section 2.e, the Original Project will be assessed based on the targets approved at the fourth (AF) restructuring of October 2015. The Revised Project will be assessed based on the targets approved at the fifth restructuring of December 2018.

### **Outputs:**

Objective 1 outputs were measured by the Original Project using the following indicators:

#### **Cadastre and Land Registry Renovation, Data Improvement and Updating**

- “Land parcels with use or ownership rights recorded as a result of the project-female”. The achievement at closure was 6,020,850 parcels, against the target of 2,415,000 parcels and the baseline of 798,000 parcels. The target was significantly exceeded. At IEG’s request, the team clarified why the result at closure was more than twice above the target. While the target was set correctly, based on relevant data, due to the significant exchange rate fluctuations between the Turkish lira and the Euro (the currency of the loan), the Project had savings and used them for additional cadaster modernization contracts, including for female-owned land parcels. The closing date extensions made it possible.

*Note*: this indicator stayed in the RF until Project’s closure, while the following three similar indicators were dropped, partially eliminated repetition, and their achievement at closure was not known. All three indicators were added as Core Indicators at the first restructuring in February 2013 and dropped at the fifth restructuring in December 2018, as explained in section 2d of this review..

- “Target population with use or ownership right recorded as a result of the project”.



- “Land parcels with use or ownership rights recorded as a result of the project”.
- “Target land area with use or ownership rights recorded as a result of the project”.

- “Base maps including orthophotos are available to government agencies”. The achievement at closure was 265,848 square kilometers, against the target of 140,000 square kilometers and the baseline of zero. The target was significantly exceeded.

- “Cadastre data converted to new database and harmonized with registration data”. The achievement at closure was 57,262,840.00, against the target of 55,000,000 and the baseline of zero. The target was exceeded.

- “Cadastre and registration data integrated”. The achievement at closure was 56,235,496, against the target of 50,000,000 and the baseline of zero. The target was exceeded.

### **Human Resources and Institutional Development**

- “Strategic Plan prepared and approved” (Yes/No). The target was reached.

- “Number of TKGM staff trained for capacity building”. The achievement at closure was 169,033 staff, against the target of 5,000 staff and the baseline of zero staff. The target was significantly exceeded.

- “Completed number of study visits.” The achievement at closure was 10 visits, against the target of 11 visits and the baseline of zero visits. The target was almost fully achieved.

### **Property Valuation**

- “Detailed design for pilot completed and pilot areas selected for Property Valuation” Yes/No. The target was reached.

- “Evaluation of mass valuation pilots completed and policy options developed” Yes/No. The target was reached.

- “Draft property valuation policy is completed and submitted to inform Government's policy discussion” Yes/No. The target was reached.

### **Outcomes:**

Objective 1 outcomes were measured by the Original Project using the following indicators:

- “Improved Customer Satisfaction for land registry and cadastre services”. The achievement at closure was 80.3 percent, against the target of 95 percent and the baseline of 40 percent. The target was largely achieved.

- “Reduced Number of cadastre disputes”. The achievement at closure was 0.3 percent, against the target of 1.5 percent and the baseline of four percent. The target was exceeded.

- “Increased number of external users who have online/offline access to digital cadastre information”. The target was 800 users and the baseline was zero users. This indicator was replaced (to better measure the





outcome) with the indicator “Active protocols with other public and private institutions having on-line access to digital cadastre information from TKGM (0/900)” at the fifth restructuring of December 2018, and its achievement at closure is not known.

- “Parcels renovated/ updated in digital format”. The achievement at closure was 14,685,000 parcels, against the target of 9,400,000 parcels and the baseline of zero. The target was significantly exceeded.

- “Parcels renovated”. The achievement at closure was 11,186,000 parcels, against the target of 6,900,000 parcels and the baseline of zero. The target was exceeded.
- “Parcels digitized”. The achievement at closure was 3,499,000 parcels, against the target of 2,500,000 parcels and the baseline of zero. The target was exceeded.

**Rating.** The Original Project almost fully achieved its intended Objective 1 results, and its efficacy rating is Substantial.

**Rating**  
Substantial

## **OBJECTIVE 1 REVISION 1**

### **Revised Objective**

PDO 1: To improve the effectiveness of the land registry and cadastre services.

### **Revised Rationale**

Please see the discussion of the ToC under Objective 1, Original Project.

**The following output indicator was rephrased and the target revised at the fifth restructuring of December 2018:**

- “Cumulative number of TKGM and contractor personnel trained to implement cadastre renovation and digitization (Number)”. The achievement at closure was 169,033 personnel, against the target of 7,000 personnel and the baseline of zero personnel. The target was significantly exceeded.

**The following outcome targets were revised at the fifth restructuring of December 2018:**

- “Improved Customer Satisfaction for land registry and cadastre services”. The achievement at closure was 80.3 percent, against the revised target of 90 percent and the baseline of 40 percent. The target was largely achieved.

- “Parcels renovated/ updated in digital format”. The achievement at closure was 14,685,000 parcels, against the revised target of 11,000,000 parcels and the baseline of zero. The target was significantly exceeded.

- “Parcels renovated”. The achievement at closure was 11,186,000 parcels, against the revised target of 8,500,000 parcels and the baseline of zero. The target was exceeded.



**The following outcome target was added at the fifth restructuring of December 2018, replacing the previous indicator to better measure the outcome:**

- “Active protocols with other public and private institutions having on-line access to digital cadastre information from TKGM (Number)”. The achievement at closure was 4,052 protocols, against the target of 900 protocols and the baseline of zero protocols. The target was significantly exceeded.

**The following outcome target was revised at the fifth restructuring of December 2018:**

- “Land parcels with use or ownership rights recorded as a result of the project-female”. The achievement at closure was 6,020,850 parcels, against the revised target of 2,820,000 parcels and the baseline of 798,000 parcels. The target was significantly exceeded. As mentioned in the discussion of efficacy of the Original Project, Objective 1, this result is significantly above the target because Project’s savings were used for additional cadaster modernization contracts once the Project closing data was extended.

**Rating.** The Revised Project almost fully achieved its intended Objective 1 results, and its efficacy rating is Substantial.

**Revised Rating**  
Substantial

## **OBJECTIVE 2**

### **Objective**

PDO 2: To improve the efficiency of the land registry and cadastre services.

### **Rationale**

Please see the discussion of the ToC under Objective 1, Original Project.

### **Output:**

#### **Improved Service Delivery**

- “Design of model office is completed by end of first year of project implementation” (Yes/No). The target was achieved.

- “Model offices constructed”. The achievement at closure was three offices, against the target of three offices and the baseline of zero offices. The target was fully achieved.

- “Average number of days to complete the recordation of a purchase/sale of a property in the land administration system”. The achievement at closure was 0.25 days, against the target of 0.25 days and the baseline of one day. The target was fully achieved. The urban sub-target was also fully achieved.

- “Policy on access and charges of land registry and cadastre data is prepared and approved” (Yes/No). The target was reached.



- “Number of information requests increases by 10 million per year”. The target of 170,000,000 requests and the baseline was zero requests. This indicator was replaced (to better measure the outcome) with the indicator “Number of annual on-line enquiries from TAKBIS (Number)” at the fifth restructuring of December 2018, and its achievement at closure is not known.

**Outcome:**

- “Reduction in time to deliver cadastre data requests.” The achievement at closure was 0.25 percent, against the target of 0.25 percent and the baseline of seven percent. The target was fully achieved.

**Rating.** The Original Project almost fully achieved its Objective 2 intended results, and its efficacy rating is Substantial.

**Rating**

Substantial

**OBJECTIVE 2 REVISION 1**

**Revised Objective**

PDO 2: To improve the efficiency of the land registry and cadastre services.

**Revised Rationale**

Please see the discussion of the TOC under Objective 1, Original Project.

**This output indicator was added at the fifth restructuring of December 2018:**

- “Number of annual on-line enquiries from TAKBIS (Number)”. The achievement was 3,553,000,000 enquiries, against the target of 350,000,000 enquiries and the baseline of zero. The target was significantly exceeded. At IEG’s request, the team explained why the result was more than ten times above the target. The result reflects the enquiries made during the 15-year Project implementation. Customer demand for data was increasing over time, driven by the following (unexpected and exceeding expectations) factors: increased reliability and quality of data, expansion of data coverage, increased associated e-services, undergoing digital transformation across economic sectors, and increased reliance on e-services during COVID-19 and natural disasters.

**Rating.** The Revision 1 Project fully achieved its Objective 2 intended results, and its efficacy rating is High.

**Revised Rating**

High

**OVERALL EFFICACY**



### **Rationale**

#### **Original Project:**

For the Original Project, the rating for efficacy is Substantial: the targets under both objectives were almost fully reached.

#### **Overall Efficacy Rating**

Substantial

### **OVERALL EFFICACY REVISION 1**

#### **Overall Efficacy Revision 1 Rationale**

For the Revised Project, the efficacy rating is Substantial: the targets under Objective 1 were almost fully reached, and the targets under Objective 2 were fully reached.

#### **Overall Efficacy Revision 1 Rating**

Substantial

## **5. Efficiency**

### **Economic analysis**

At appraisal, economic analysis focused on Component 1. The benefits from the improved TKMG services within the TKMG system, for the users and for the larger economy, were estimated using a discount rate of 15 percent over 10 years (PAD, pages 61-65). Specifically, the Project benefits considered in the model were as follows: (i) enhanced TKMG services to users, mainly for land information systems (cadastre information, line maps and orthophotos); (ii) savings to users from access to data; and (iii) savings to the economy and society, including from reduced cadastre-related litigation. The results of the analysis were as follows: the economic internal rate of return (EIRR) was 18.0 percent, the net present value (NPV) was US\$23 million, and the cost-benefit ratio was 1.23. (PAD, pages 67-68) The estimated EIRR was above the opportunity cost of capital reflected in the discount rate of 18 percent, making the Project efficient.

At closure, the ex-ante economic analysis was replicated. Despite the very conservative assumptions, the EIRR turned out to be 23 percent, the NPV was EUR 426 million, and the Benefit-Cost Ratio was 5.03, pointing to a highly efficient investment. (ICR, pages 47-48) The EIRR was significantly above the opportunity cost of capital of 18 percent, making the Project efficient.

### **Administrative efficiency**

Administrative efficiency had some deficiencies, especially at the start of implementation when the Project experienced delays (ICR, page 13). The Project was restructured seven times. However, there was no reduction



in the scope or ambition, and the restructurings were often related to the need to reallocate funds due to currency devaluation and changes in government priorities, creating the need for extensions of the closing date. The closing date was extended six times, for a total of nine years and eight months (or 116 months), from September 30, 2013, to May 30, 2023, the date of the Project’s actual closure. However, the ICR mentions that the original Project was only extended to December 31, 2015 (for two years and three months or 27 months) (ICR, page 21). The AF was originally scheduled to close on December 31, 2020 (AF Restructuring Paper, page 4), but the closure was on May 31, 2023, two years and five months later (or 29 months later).

At the same time, the strong performance of the implementation agency (TKMG) and the close involvement of the World Bank team efficiently supported project implementation, which were major factors in achieving the PDO (ICR, page 24).

On balance, considering economic efficiency and a strong implementation record, while taking into account closing extensions, Project’s efficiency rating is Substantial, with moderate shortcomings.

**Efficiency Rating**

Substantial

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	✓	18.00	83.50 <input type="checkbox"/> Not Applicable
ICR Estimate	✓	23.00	89.80 <input type="checkbox"/> Not Applicable

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

**6. Outcome**

With both the Original Project and the Revised Project rated as Satisfactory, the Overall Project outcome rating is Satisfactory. For information, the disbursed funds before the restructuring of December 2018 were US\$196.66 million, or 82.4 percent of the Project costs at closure.

**a. Outcome Rating**

Satisfactory

**7. Risk to Development Outcome**



**Technical, institutional, and financial.** The technical innovations and related capacity development supported by the Project will need to be maintained to sustain Project outcomes. However, this risk is evaluated as low. First, at closure, TKGM (the responsible agency) had high technical and human resources capacity to sustain and further develop Project-created assets. Second, the government provides budget allocations and uses a revolving fund to finance the land registration and cadastre data production, management, and maintenance. Third, TKGM has “continuous learning” initiatives, which support technical and human capacity building. (ICR, page 28).

## 8. Assessment of Bank Performance

### a. Quality-at-Entry

The ICR reported that Project preparation was diligent and involved accounting for lessons learned from other Bank operations. The economic analysis was sound. All appropriate safeguards and fiduciary assessments were conducted to ensure that TKGM had the capacity to implement the Project. While there were no conditions for loan effectiveness, the World Bank was proactive in including Legal Covenants in the Financing Agreement for the original loan, requesting TKGM to complete the policy for data sharing and pricing for NSDI development and develop its Strategic Plan and Human Resources Development Plan at the start of Project implementation. (ICR, page 27) Even though the PDO was well defined and the RF indicators aligned to the PDO, the RF design had deficiencies (including missing indicator baselines and targets, imprecise measurement of some of the expected results, and unclear formulation of some of the indicators), and the RF had to be significantly modified during implementation.

#### Quality-at-Entry Rating

Satisfactory

### b. Quality of supervision

The ICR reported that the supervision was effective. The World Bank provided close and continuous support, both during in-country missions and remotely. The country-based staff was actively involved in the supervision and in high-level policy discussions when needed. The arising issues were flagged and addressed; this included actions taken in relation to the decrease in the M&E ratings from Satisfactory to Moderately Unsatisfactory and then to Unsatisfactory level, leading to an efficient mitigation of the challenges and the improved M&E ratings. In response to the government requests, the World Bank agreed to provide AF to scale-up cadastre modernization and maintain the dialogue and technical support to activities that were financed independently by TKGM (including property valuation and further IT development). The AF was executed successfully. (ICR, page 28)

#### Quality of Supervision Rating

Satisfactory



## Overall Bank Performance Rating

Satisfactory

## 9. M&E Design, Implementation, & Utilization

### a. M&E Design

The original RF reflected the logic of Project interventions in the PAD, was sufficiently linked to the PDO and the ToC, and was comprehensive yet manageable. The PDO outcome indicators reflected all expected Project outcomes. The intermediate indicators were linked to the PDO indicators, providing more details and measuring intermediate outcomes and outputs. The indicators measured both objective results (e.g., reduced number of cadastre disputes and reduced time to deliver cadastre data requests) and customer satisfaction with improved cadastre service. Most of the RF indicators were quantitative, and all of them were time-bound and attributable to the Project.

However, many of the baselines and targets were missing from the RF in the PAD: none of the PDO indicators had targets and none of the intermediate indicators had baselines. The missing baselines and targets were approved only five years after Project approval, at the first restructuring of February 2013. Also, the phrasing of several indicators had to be corrected at the restructurings, in some cases, significantly.

### b. M&E Implementation

The ICR reported that TKGM collected, recorded, and analyzed data soundly throughout the implementation, with significant improvements in data collection over time. The indicator targets and baselines missing from the RF in the PAD were diligently filled in. The World Bank worked closely with TKGM to develop standardized progress reports on indicator achievement, and TKGM's team was compiling information across relevant TKGM departments.

However, in June 2017, challenges arose: no data could be provided on cadastre renovation and digitization (the core Project activity), and the Project's M&E rating was downgraded from Satisfactory to Moderately Unsatisfactory and then Unsatisfactory, until the challenges were resolved and the rating was restored to Satisfactory. This happened as a result of the World Bank working closely with TKGM to develop a standardized template to report on cadastre modernization and to switch from the semi-annual progress reports to the quarterly ones. (ICR, page 27)

The RF had to be significantly adjusted during the M&E implementation, with many indicators being phased out and the new ones added. Mostly, this was done to improve the measurement of the outcomes or to formulate the indicators better.

### c. M&E Utilization

The ICR reported that the RF was utilized to monitor outputs and to focus on areas where expected results were not achieved. Indicators were monitored and reported upon during regular World Bank implementation support missions and in Aide-Memoires. TKGM maintained M&E specialists to compile



and review RF information. An external M&E Specialist was hired at the start of implementation, but TKGM later transferred this responsibility to in-house staff. (ICR, page 26)

Even though there were significant shortcomings in M&E design in terms of lack of baseline and targets, these were then subsequently addressed during implementation. Thus, overall, the M&E is rated as Substantial.

## M&E Quality Rating

Substantial

## 10. Other Issues

### a. Safeguards

**Environmental and Social Safeguards.** At appraisal, the Project was classified as Environmental Category B. This was related to Component 2 of the Project, which included reconstruction works for cadastral and land registry offices. The World Bank policies on Environmental Assessment (OP 4.01) and on Physical Cultural Resources (OP/BP 4.1 1) were triggered, and an Environmental Management Framework (EMF) was prepared and disclosed as required in December 2007 (PAD, page 69). The Project closed in full compliance with World Bank safeguard policies, with no outstanding social or environmental issues, resulting in a Satisfactory rating. TKGM continuously tracked and reported the number of cadastral complaints and court cases, registering decreases in both by the end of the Project. TKGM also carried out a social impact assessment at the end of the Project. The study found that most of the beneficiaries did not raise any objections during the cadastre modernization process, although some raised objections related to demarcations and area measurements. Most of the objections were resolved. (ICR, page 27)

### b. Fiduciary Compliance

**Financial management (FM).** TKGM maintained Satisfactory FM arrangements throughout implementation, documented with 13 FM supervisions, as well as desk reviews of quarterly interim un-audited financial reports and annual audit reports. TKGM prepared a Financial Management Manual for the Project and revised it as needed and used an off-the-shelf accounting and reporting software tailored to the Project, with strong additional internal control measures over expenditures. The FM arrangements were successfully adapted during the transition from the original loan to the AF. (ICR, page 27)

**Procurement.** TKGM maintained Satisfactory procurement implementation throughout Project implementation. Although some World Bank-financed projects were delayed due to the February 2023 earthquake in Türkiye, TKGM successfully completed the procurement. The “Lots” approach TKGM used to identify the most economical options for their tenders may be a helpful example for other projects, both in Türkiye and in other countries, to consider. (ICR, page 27)





**c. Unintended impacts (Positive or Negative)**

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**d. Other**

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**11. Ratings**

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Satisfactory	
Bank Performance	Satisfactory	Satisfactory	
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

**12. Lessons**

**The following lessons were derived from the ICR (ICR, pages 28-29):**

**1. The World Bank can take advantage of the IPF and AF tools for land sector reforms that take a long time to ensure outcomes and sustained client engagement and dialogue.** Land sector reform takes long periods of time to ensure successful outcomes. The reforms implemented by the Project took fifteen years. The success of the Project relied on continued collaboration between TKGM and the World Bank, enabled by a combination of extensions of the closing date of the original loan and the AF. The lifting of the three-year implementation requirement for AFs was a key factor in the World Bank’s ability to leverage this operational tool and to strengthen long-term cooperation on land sector reform, particularly for countries that are transitioning from analogue systems to digital ones.

**2. Investment project financing (IPF) can be an important tool for continued policy dialogue.** IPFs can act as a platform for advocating policy solutions. The Project’s property valuation activities were considered novel in 2008, but also a means to identify ways to address taxation and registration revenue shortfalls in Türkiye, and discussions concerning how to address property valuation challenges in Türkiye may not have occurred without the Project’s focus on this issue. Moreover, the World Bank’s continuous engagement with TKGM, along with broader stakeholder consultations, helped to develop the policy options reflected in the draft valuation policy and the establishment of TKGM’s Property Valuation Department in 2019.

**3. Private sector participation can provide a strong signal of an advanced public sector reform.** The involvement of the private sector can provide a strong signal that the public sector is capable of contract development and management, as well as transparency and accountability. Private sector participation was a major success factor for the overall reform of Türkiye’s land administration system. Nearly the entire cadastre modernization process, including cadastre



renovation and digitization, was carried out by the private sector based on clear procedures, as specified in contracts but with a comprehensive quality assurance program carried out by TKGM—a major lesson for many countries. In general, countries that procure services from the private sector for land administration reform tend to reap financial, managerial, and technological benefits.

**4. “Continuous learning” can provide an opportunity to open a discussion on the needed changes to the agency mandates.** A “continuous learning” model can provide many examples of how cadastral data can be used and what human and technical capacities are required to maximize the benefits. TKGM recognized that its staff had to go through routine training to achieve the agency’s vision, mission, and strategic goals. The concept of “continuous learning” was also instrumental in helping TKGM identify how its cadastral data, once it was fully modernized, could be utilized by other agencies. This offers a good example for other land agencies that are defining their strategic goals and roles in public administration mechanisms.

**5. The use of career staff with strong technical capacities by an implementing agency can be a major factor in the success of a Project.** TKGM utilized internal staff to manage Project activities, resulting in highly reduced costs for Project management. Nearly all of the staff continued to work on the Project throughout its fifteen-year implementation. This lesson may help the World Bank to consider medium- to longer-term building of in-house capacities of Implementing Agencies that new projects can use.

### 13. Assessment Recommended?

No

### 14. Comments on Quality of ICR

The ICR provides sufficient technical details to understand the logic of the Project, the factors of Project performance, the outcomes of the Project, and various aspects of Project implementation. It provides a good justification of the PDO relevance, comprehensive and well-supported evidence on all aspects of Project’s evaluation, a clear linking of evidence to findings, and suggests lessons that are useful for future lending operations.

However, there is a minor deficiency: the presentation of Project costs is confusing because they are presented in EUR in some cases, in USD in other cases, and both in USD and EUR in yet other cases. This makes it hard to understand the related discussion. However, because the Project was denominated in Euros and because there were savings of Project proceeds during implementation (and therefore no overspending), this deficiency is considered minor.

#### a. Quality of ICR Rating

Substantial

