Ex-Ante Evaluation (for Japanese ODA Loan)

Europe Division, Middle East and Europe Department

Japan International Cooperation Agency

1. Name of the Project

(1) Country: The Republic of Türkiye

(2) Project Site / Target Area

Adana Province, Hatay Province, Kahramanmaraş Province, Gaziantep Province, Adiyaman Province, Şanlıurfa Province, Diyarbakır Province, Elazığ Province, Malatya Province, Kilis Province, Osmaniye Province

(3) Project: Emergency Earthquake Disaster Reconstruction Project

Loan Agreement: April 25, 2024

2. Background and Necessity of the Project

(1) Current State and Issues of the Reconstruction from the Earthquake Damage and the Priority of the Project in Türkiye

On February 6, 2023, two earthquakes with their epicenter in Kahramanmaraş Province in southeastern Türkiye occurred (magnitude 7.7 and 7.6), while on February 20, an earthquake with its epicenter in southeastern Hatay Province (magnitude 6.4) also occurred. These earthquakes affected an area covering 110,000 m^2 across 11 provinces in southeastern Türkiye, causing major earthquake damage that is unparalleled in recent times, notably including entire towns suffering catastrophic damage in some affected regions of Hatay Province and Kahramanmaraş Province.

The Government of Türkiye conducted the Türkiye Recovery and Reconstruction Assessment (TERRA) ahead of the International Donors' Conference on March 20, 2023, announcing the damage situation and future reconstruction funding needs, plans, etc. TERRA reported that there were around 48,000 deaths and 126,000 injured people due to the earthquakes, along with several thousand people missing. Furthermore, in Hatay Province, Kahramanmaraş Province, Malatya Province, Adiyaman Province, and Gaziantep Province, which were devasted by the earthquakes, over 500,000 public infrastructure facilities, buildings, etc. were damaged, and many hospitals also suffered damage. It was further reported that 518,000 homes in the affected region were completely destroyed and 3.3 million people from the region had taken refuge in other provinces or regions, while around 2 million people had taken refuge in tents or temporary container housing in the affected region. Massive economic losses have occurred due to these impacts: the total amount of damage caused by the earthquakes has been

estimated as $103.6 billion (equivalent to 9% of the projected GDP in 2023), including $12.9 billion for public infrastructure such as water and sewer systems and hospitals and $56.9 billion for housing.

Core infrastructure such as the water and sewer network was impacted the most in Kahramanmaraş Province, Hatay Province, and Adiyaman Province in particular, which suffered devastating damage. It has been reported that around 4,000 km of the water supply network and 2,000 km of the sewer network have been destroyed, while in other regions, 4 water purification plants, 7 sewage treatment plants, 50 dams and reservoirs, and 5 pumping stations have suffered damage. The damage amount is estimated at around $790 million for water and sewage facilities alone, while future reconstruction and construction of water and sewage facilities for newly built residential areas will cost a further $2.65 billion. Therefore, in total, the required amount would be $3.45 billion. However, since this amount does not include expenses such as reconstruction to existing facilities that have not yet been surveyed, funding needs are expected to increase further in the future. Based on the above, TERRA indicated the necessity of new, more concessional financing for the purpose of water and sewer system reconstruction and construction by local municipalities.

With respect to the health sector, ambulances and ambulance stations, which play a vital role in ensuring access to medical services, were damaged or destroyed, and over half of regions do not meet the ambulance deployment plan standards currently stipulated by the law because some residential districts have grown as a result of other regions being uninhabitable due to earthquake damage. The Government of Türkiye estimates that funding of $6.7 billion is needed for recovery of the entire health sector, including the various initiatives involved.

Moreover, the Government of Türkiye estimates that the amount of damage in the housing sector, which suffered the greatest impact following the earthquakes, is $56.9 billion, and it has announced a recovery plan that includes reconstruction of housing. As a short-term response, it is providing cash allowances to each affected household, moving allowances to households whose houses were destroyed, suffered moderate to severe damage, or urgently need to be torn down, support for the purchase of tents or containers, support related to household belongings such as blankets for those using tents and containers, and support for food, accommodation costs,

etc. With the aim of avoiding evacuees living in tents or containers for more than 6 months, it is handling the situation by prioritizing reconstruction of around 649,500 homes so that they will be able to relocate to permanent housing as quickly as possible. Since the handling of these efforts has placed an enormous financial burden on the Government of Türkiye, and additional funding is needed.

(2) Japan and JICA's Policy Cooperation Policy and Operations in the Earthquake-Affected Area

At the International Donors' Conference held in Brussels by the EU and Sweden on March 20, 2023, Japan declared that, based in part on its experience of the 2011 Great East Japan Earthquake, it would dispatch Japan Disaster Relief Teams to Türkiye and donate emergency relief supplies and provide further financial cooperation in the future, and contribute by leveraging the exceptional disaster prevention and recovery knowledge and techniques possessed by Japan. In the Country Assistance Policy for Türkiye (September 2018), under the basic assistance policy of "deepening the strategic partnership through the supports aimed at sustainable economic growth," Japan also identified "supporting the development of strong urban infrastructure assisting economy" as one priority area. It has indicated that it will support disaster prevention and disaster response for the purpose of making the social infrastructure supporting Türkiye more robust. This project is consistent with this priority area. Furthermore, at the G20 Osaka Summit held in 2019, former Prime Minister Abe announced the Sendai Cooperation Initiative for Disaster Risk Reduction Phase 2 and stated that support would be provided to disaster victims, indicating an intent to make a greater contribution to international society by leveraging Japan's advanced knowledge and techniques relating to disaster response. This project is aligned with this policy. JICA's Country Analysis Paper (March 2015) also indicated that, under the Urban Environment Improvement Program, it would provide support for the water and sewer system, healthcare, etc., and in response to the recent earthquake damage, JICA has seamlessly engaged in activities from emergency relief via Japan Disaster Relief Teams to recovery and reconstruction. This project will also contribute to the JICA Global Agenda "Disaster Risk Reduction through Pre-Disaster Investment and Build Back Better."

This project will support the Government of Türkiye, which is undertaking

reconstruction/construction of infrastructure, local housing, etc. as part of its earthquake recovery and reconstruction policy. To date, JICA has identified emergency needs such as the health sector through technical cooperation projects and dispatching experts, and based on these, plans to arrange medical equipment (examination equipment, physical therapy equipment, etc.) and equipment needed for waste management such as rubble disposal (vacuum trucks, garbage trucks, dump trucks, etc.) via grant aid (the Programme for the Rehabilitation and Reconstruction in Earthquake-affected Areas). In the health sector in particular, equipment urgently needed by the counterparts is covered by the aforementioned grant aid project, while this project will provide ambulances and reconstruct/construct ambulance stations, which are necessary in the medium to long term. In addition, since it is expected that equipment granted for the purpose of handling waste, etc. will also be used for infrastructure reconstruction and rehabilitation by local municipalities, there will be a synergistic effect between technical cooperation, grant aid, and ODA loan.

To date, JICA has supported local municipalities' development of water and sewer systems and waste disposal sites via "Local Authorities Infrastructure Improvement Project" and "Local Authorities Environmental Improvement Project", which are both ODA loan projects. Moreover, support is also planned via the Post-Earthquake Support Project for Micro, Small and Medium Enterprises (MSMEs), an ODA loan to provide emergency liquidity support to MSMEs who have been affected by the earthquakes which hit the southeastern region.

(3) Other Donors' Activities

At the International Donors' Conference held on March 20, 2023, support worth a total amount of around €6.05 billion (approx. ¥850 billion) was announced, including €1.5 billion from the European Bank for Reconstruction and Development (humanitarian aid, etc.), which is recorded as the European Union's contribution, €500 million from the European Investment Bank (humanitarian aid, etc.), $1.78 billion from the World Bank (public infrastructure, health sector, housing support, SME support, etc.), $0.24 billion from Germany (SME support, etc.), and $0.05 billion from the U.S. (humanitarian aid, etc.).

3. Project Description

(1) Project Description

① Project Objective

The project aims to stabilize the lives of residents in the affected region by reconstructing/constructing public infrastructures such as water and sewer system, ambulance stations, local housing, and procuring ambulances for local municipalities in 11 provinces that suffered damage in the earthquakesthat occurred in Türkiye, thereby contributing to a sustainable socio-conomic growth in the region.

② Project Components

a) Public infrastructure reconstruction and construction by local municipalities (local competitive bidding as a general rule)

b) Ambulance station reconstruction and construction and ambulance procurement (local competitive bidding)

c) Local housing reconstruction and construction (local competitive bidding)

d) Consulting services (needs assessment, F/S, bidding support, construction supervision, etc.) (shortlist method)

Since this project is a sector loan, sub-projects are provisionally approved at the time of screening, but it is possible that they will be revised at the implementation stage based on the degree of urgency. However, if sub-projects are modified, prior approval relating to the changes will be obtained from JICA. The selection criteria for component a) to c) above are as follows.

a) Other than environmental and social consideration category A, etc.

b) Construction and deployment in areas with a large population, environmental and social consideration category C only, etc.

c) Environmental and social consideration category C only, etc.

③ Project Beneficiaries (Target Group): residents impacted by the disaster (approx. 14.01 million people)

(2) Estimated Project Cost

Total project cost: 60,963 million yen (Japanese ODA loan: 60,000 million yen)

(3) Schedule (Cooperation Period)

February 2023 to April 2032 (111 months in total). The project will be considered complete when use of all facilities has started (April 2031).

(4) Project Implementation Structure

1) Borrower: The Republic of Türkiye

2) Guarantor: None

3) Executing Agency: Public infrastructure reconstruction and construction: ILBANK, ambulance station reconstruction and construction and ambulance

procurement: Ministry of Health, local housing construction and reconstruction: Ministry of Environment, Urbanization and Climate Change; overall coordination to be handled by the Ministry of Treasury and Finance.

4) Operation and Maintenance System: Operation and maintenance of public infrastructure that is reconstructed and constructed under this project will be carried out by local municipalities. Operation and maintenance of ambulances and ambulance stations will be carried out by each ambulance station, while residents and local municipalities will carry out operation and maintenance of local housing etc. repaired and constructed under this project. Each of these operation/maintenance organizations handled operation and maintenance for public infrastructure, ambulance stations, etc. before the earthquakes, so they have ample experience. Furthermore, since local housing will be purchased by residents and become their homes, appropriate maintenance will be done by residents.

(5) Collaboration and Sharing of Roles with Other Donors

1) Japan's Activity

To learn skills related to seismic reinforcement as part of the technical cooperation project "Project for Capacity Building for Local Municipalities on Disaster Risk Reduction and Waste Management," staff members from one of this project's executing agencies, the Ministry of Environment, Urbanization and Climate Change, were invited to Japan to take part. There are also plans to develop and implement country focused training on seismic reinforcement of public infrastructure (e.g., water and sewer system, hospitals), etc. in the future. This aims to improve the capacity of the Government of Türkiye, including the executing agencies, with regard to earthquake response, which is expected to improve the seamless implementation of projects and future initiatives.

2) Other Donors' Activity

This project is co-financed with the World Bank's project "Türkiye Earthquake Recovery and Reconstruction Project", and project development and supervision etc. will be carried out in close collaboration with the World Bank. Supporting the enormous needs of the impacted region with co-financing is intended to have the effect of realizing rapid recovery. The World Bank signed a loan agreement in September 2023 (equivalent to $1 billion).

The World Bank is providing financial support related to public infrastructure development, procurement of primary healthcare mobile units, ambulances,

etc., and construction and reconstruction of family healthcare centers, local housing, etc.

(6) Environmental and Social Consideration

1) Environmental and Social Consideration

① Category: FI

② Reason for Categorization: As per the "JICA Guidelines for Environmental and Social Considerations" (January 2022), the sub-projects cannot be specified prior to JICA's approval of funding, and those sub-projects are expected to have a potential impact on the environment.

③ Other/Monitoring: In this project, the executing agencies categorize each sub-project based on Türkiye's national laws and the "JICA Guidelines for Environmental and Social Considerations" (January 2022) and take the necessary measures for each category. Category A projects will not be included in sub-projects for the public infrastructure reconstruction and construction component to be implemented by ILBANK. Moreover, Category A and B projects will not be included for the ambulance station construction to be implemented by the Ministry of Health and the local housing construction to be implemented by the Ministry of Environment, Urbanization and Climate Change.

(7) Cross-Sectoral Issues:

① Climate change: Not applicable.

② Consideration for people with disabilities: The plan is to construct local housing that is accessible to the elderly and people with disabilities based on international standards.

③ Other: Since many Syrian refugees live in the impacted region, consideration will be given to vulnerable populations such as providing explanations in Arabic at local housing information sessions, etc.

(8) Gender Category: GI（S）(Gender Informed (Significant))

<Details of Activities/Reason for Categorization>

In response to gender issues such as the difficulty of female participation in discussions and decision-making in the target region, this project plans to promote the involvement of female consultants and engineers, consider locations for parks and streetlighting installation from an access and safety perspective, install separate men's and women's washrooms, etc., and monitoring will be performed by setting the proportion of women among "beneficiaries who responded that the project's consensus-building is effective"

as an indicator. Furthermore, there are plans to install women's-only washrooms, changing rooms, etc. when rebuilding or constructing ambulance stations.

(9) Other Important Issues: Not applicable.

4. Target Outcomes

(1) Quantitative Effects

Outcomes (Operation and Effect Indicators)

Indicator	Baseline (Actual value in 2023)	Target (2033) [2 years after project completion]
Water supply Water supply population (people) Supplied water (m^3/day) Water supply coverage rate (%) Supplied water per person (L/person per day)	Planning to conduct F/S and set baseline and target values after finalizing sub-projects, including sectors and indicators other than those on the left	Planning to conduct F/S and set baseline and target values after finalizing sub-projects, including sectorss and indicators other than those on the left
Sewerage Sewage treatment population (people) Sewage treatment amount (m^3/day) Sewer system coverage rate (%) Water quality improvement (BOD)	Planning to conduct F/S and set baseline and target values after finalizing sub-projects, including sectors and indicators other than those on the left	Planning to conduct F/S and set baseline and target values after finalizing sub-projects, including sectors and indicators other than those on the left
Ambulances* Population per ambulance (people)	16,793	16,200
Ambulance stations* Population per station (people) Number of requests handled (times/day)	25,706 5.1	25,000 4.9

Local housing, etc. Beneficiaries of local housing construction and infrastructure construction/reconstruction (people) No. of homes constructed (units) No. of municipalities with infrastructure construction/reconstruction (municipalities)	0 0 0	Planning to set target values after finalizing sub-projects

*Average values for the 11 impacted provinces. Target values include items arranged by other donors' and governments' budget.

(2) Qualitative Effects

Stabilizing the lives of residents and society in the impacted region, supplying stable water and sewerage, providing sanitary sewage treatment services, maintaining and improving health, etc.

(3) Internal Rate of Return

For the public infrastructure reconstruction and construction component, the plan is to calculate it for each sub-project when conducting F/S after finalizing the sub-projects. The financial internal rate of return (FIRR) related to ambulance station reconstruction and construction, ambulance procurement, local housing, etc. will not be calculated because charging of fees is not anticipated. The economic internal rate of return (EIRR) will also not be calculated since quantifying benefits from improved medical services and convenience is difficult (calculating benefits is difficult) with regard to ambulance station reconstruction and construction and ambulance procurement, while with regard to local housing, etc., there is no alternative option.

5. External Factors and Risk Control

(1) Preconditions

Not applicable

(2) External Factors

Not applicable

6. Lessons Learned from Past Projects

The following lessons for project implementation have been learned from past projects to support rehabilitation from a natural disaster (e.g., the Programme for Rehabilitation and Recovery from Typhoon Yolanda in the Philippines): 1) it is necessary to set up a progress management committee

composed of counterparty-related organizations and hold regular meetings, 2) prices will surge due to recovery and rehabilitation-related demand, and 3) it is necessary to consider recovery support, etc. based on disaster risks. In light of the above, following discussion with the World Bank, which is the co-financing partner, this project plans to: 1) establish an implementation and monitoring structure for the purpose of smooth project implementation, 2) conduct estimates and determine sub-projects by taking surging material and personnel costs into account, and 3) pursue build back better in compliance with Türkiye's current seismic reinforcement standards.

Furthermore, in the Khyber Pakhtunkhwa Emergency Rural Roads Rehabilitation project in Pakistan (flooding damage countermeasure), Sri Lanka Tsunami Affected Area Recovery and Takeoff Project and Emergency Natural Disaster Rehabilitation Project, Post Ondoy and Pepeng Short-Term Infrastructure Rehabilitation Project in the Philippines, and other disaster recovery projects, it was noted that flexible application of procurement rules promotes faster disaster rehabilitation work and that it is necessary to adopt procurement conditions that include limited tender contracts and the like, not just for main contractor procurement but also in the consultant recruitment process. The application of retroactive financing was also proposed. In light of the above, since rapid procurement for the purpose of earthquake recovery is required, the basic plan is to implement this project through local competitive bidding or limited tender contracts for main construction, material procurement, and consultant recruitment. Furthermore, some retroactive financing will be applied.

7. Evaluation Results

Based on the basic policy of the Sendai Cooperation Initiative for Disaster Risk Reduction announced by Japan in March 2015, this project will promote rapid earthquake recovery by supporting reconstruction of public infrastructure, etc. that was damaged by the earthquakes. The project is also consistent with Türkiye's post-earthquake recovery needs and Japan and JICA's aid policies. Furthermore, since it may contribute to SDG Goal 3 (health and well-being), Goal 6 (sustainable management of water and sanitation), Goal 9 (building resilient infrastructure), Goal 10 (reducing inequality), Goal 11 (sustainable cities and communities), and Goal 16 (promoting peaceful and inclusive societies), there is a strong need for JICA to support the implementation of the project.

8. Plan for Future Evaluation

(1) Indicators to be Used

As indicated in Section 4.

(2) Future Evaluation Schedule

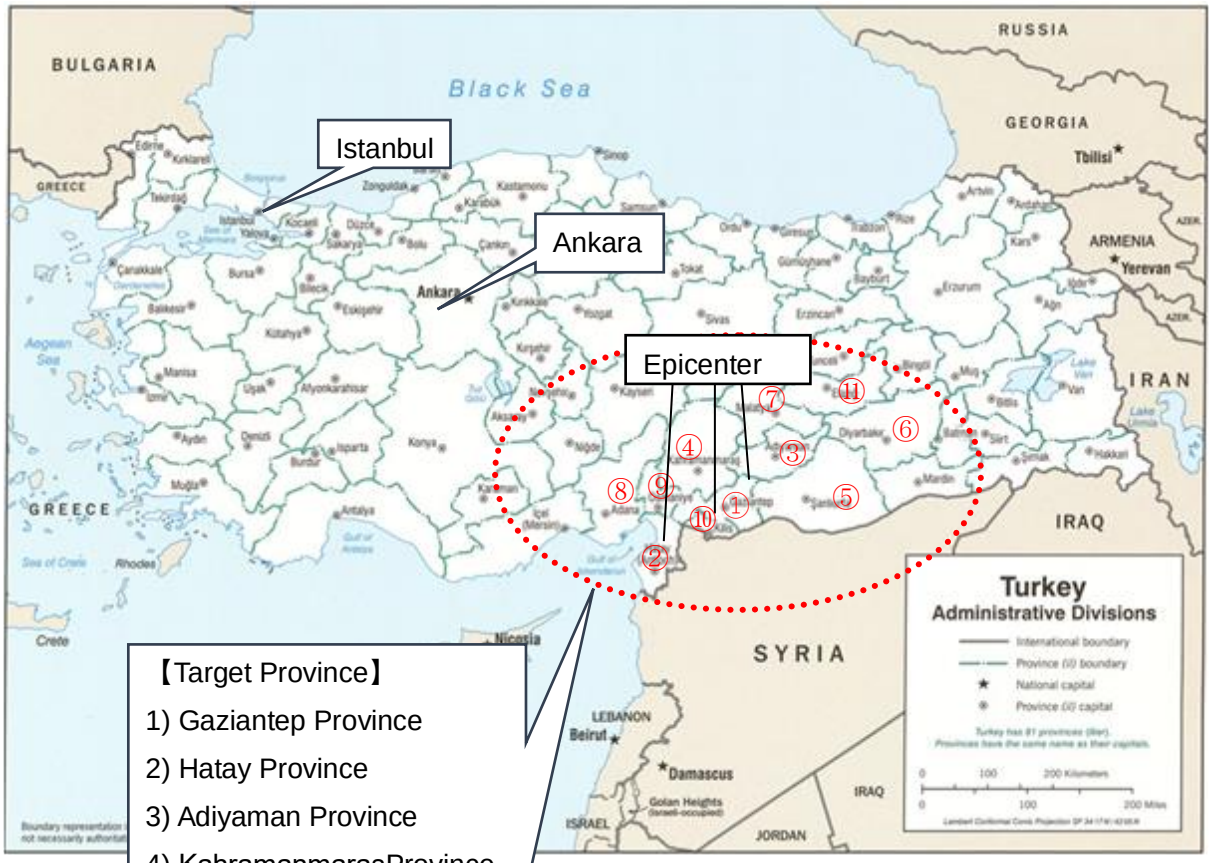
Ex-post evaluation: 2 years after project completion

END

Appendix Materials – Emergency Earthquake Disaster Reconstruction Project: Map

Appendix

Emergency Earthquake Disaster Reconstruction Project: Map



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