Project Information Document (PID)

Appraisal Stage | Date Prepared/Updated: 18-Mar-2021 | Report No: PIDA29416

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Project Name	Parent Project ID (if any)
Turkey	P172562	Turkey Resilient Landscape Integration Project (TULIP)	
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
EUROPE AND CENTRAL ASIA	22-Mar-2021	27-May-2021	Environment, Natural Resources & the Blue Economy
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Republic of Turkey	General Directorate of Forestry (OGM), General Directorate of Agricultural Reform (TRGM), State Hydraulic Works (DSI), General Directorate of Highways (KGM)	

Proposed Development Objective(s)

The project development objective is to strengthen integrated landscape management and increase access to improved livelihood opportunities and resilient infrastructure services for rural communities in targeted areas of Turkey.

Components

Component 1: Investments in Resilient Landscape Integration in targeted areas
Component 2: Institutional Framework, Project Management, and Sustainability
Component 3: Contingent Emergency Response Component

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	229.60
Total Financing	229.60
of which IBRD/IDA	200.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	200.00

Non-World Bank Group Financing

Counterpart Funding	29.60
Borrowing Agency	5.32
Local Beneficiaries	24.28

Environmental and Social Risk Classification

Substantial

Decision

The review did authorize the team to appraise and negotiate

B. Introduction and Context

Country Context

1. **Turkey is a large, upper-middle-income country with a strong record of inclusive growth, but recent shocks are putting the economic and social gains made since the early 2000s at risk.** Turkey achieved rapid economic and social development in the 2000s, with poverty incidence more than halving and real Gross Domestic Product (GDP) increasing by 50% by 2008. Since the global financial crisis, rapid growth continued but was increasingly associated with stagnant productivity, a rising current account deficit and growing foreign exchange-denominated debt stock. Turkey then experienced a sharp external adjustment in mid-2018 as the Turkish Lira depreciated more than 60% against the US Dollar between January and September that year. This triggered a downturn in the Turkish economy as spending fell, inflation spiked, and the corporate sector struggled under an elevated debt burden. Turkey experienced three quarters of negative growth from late 2018 to mid-2019, close to one million jobs were lost, and unemployment rose from 10% in January 2018 to 13.8% by January 2020. GDP per capita has fallen to US$9,000, from a high of US$12,500 in 2013, while poverty increased in 2019, reaching nearly the level recorded in 2015.

2. **An emergent economic recovery starting late 2019 has been undermined by the COVID-19 pandemic.** Over the course of late 2018 and 2019, the economy went through significant adjustments. Current account imbalances declined sharply, banks and corporates reduced their exposure to foreign currency debt, private sector credit growth resumed, and demand had started to recover. By the end of 2019, economic activity was rebounding with strong growth in the fourth quarter, and GDP growth was projected to accelerate to 3% in 2020. However, with the COVID-19 pandemic, real growth during 2020 dropped sharply to -5%.

3. **The COVID-19 pandemic has further exacerbated the significant structural challenges that Turkey had**

already experienced prior to the pandemic. Over 2.5 million jobs (mostly informal) were lost during the first wave of the pandemic, while labor market participation shrunk by 1.9 million workers over the same period. These challenges particularly aggravated the existing trends of high youth unemployment, which rose from 19.7% in 2018 to 24.6% in 2020, and low female labor force participation, which declined from 34% in 2019 to 32% in August 2020. The pandemic also threatens a significant setback in poverty reduction, which was already affected by the economic downturn of 2018. Between 2018 and 2019, the share of people below the $5.5 per capita per day (2011 PPP) poverty line rose from 8.5% to 10%, pushing around 1.5 million additional people into poverty. An extra 1.6 million individuals were estimated to fall into poverty in 2020 due to the pandemic. Loss of employment and income, depressed average real wages, and high price inflation are expected to be the main transmission mechanisms of the crisis for low-income households. Inequality in income and consumption per capita has been on the rise in Turkey over a decade, with the Gini coefficient[1] rising from 0.38 in 2008 to 0.42 in 2019 and could continue to grow as a result of the pandemic.

4. **Increasing poverty and inequality could further amplify regional disparities, which continue to persist in Turkey, despite significant progress made in inclusive growth since early 2000s.** Long term analysis of regional growth in Turkey shows that lagging regions, predominantly located in the eastern and southern parts of the country, are growing relatively faster. Notwithstanding this process of convergence, large regional disparities remain. The most dynamic parts of the country, mostly in the West and Central regions, concentrate the main poles of economic activity and growth and also have the highest standards of living. Median household per capita income in the southeastern regions is less than a third of the level in Istanbul and less than half of the Western Marmara region. At the same time, data suggests that extreme poverty is mostly a rural phenomenon, with 80 percent of the extreme poor population living in rural locations. This is particularly true amongst forest villages[2], most of which experience poverty rates above 43% and reaching nearly 70% in the Mediterranean.[3] Data from OECD countries show that these inequalities far exceed the disparities seen in global comparators.[4]

5. **Investing in natural capital renewal in lagging rural regions can help mitigate COVID-19 economic impacts on some of the poorest and most vulnerable communities in Turkey, while facilitating a sustainable recovery and green transition to enhance resilience to future shocks.** The 2008 financial crisis provides an example of how rural regions are impacted by external shocks, as the crisis put significant pressure on public spending in virtually all rural regions.[5] Poorer households are also especially affected due to high price inflation denting their purchasing power and have fewer means to cope. Agriculture, which employs over 60% of the rural population in Turkey,[6] is among the five sectors with the highest employment vulnerability in Turkey as a result of the pandemic. The sector also employs 89% of self and unpaid workers and 83% of informal workers[7], many of whom are not covered by the Government's social assistance program. Investing in sustainable landscape management to renew natural capital in lagging rural regions can help improve agricultural productivity, increase incomes and job opportunities, and help vulnerable households build buffers against the negative effects of the current pandemic crisis and future shocks. Increased livelihood

[1] The value of the Gini coefficient, a standard measure of inequality, ranges from 0 (total equality) to 1 (full inequality).
[2] Rural populations in Turkey can be classified into two groups: forest villages and other villages. Forest villages are those that contain forest lands within their administrative borders.
[3] World Bank. 2017. Poverty, Forest Dependence and Migration in the Forest Communities of Turkey. Washington, D.C.: World Bank.
[4] OECD. 2019. Regions and Cities at a Glance 2018 – Turkey. Paris: OECD.
[5] OECD. 2016. OECD Regional Outlook 2016: Productive Regions for Inclusive Societies. Paris: OECD.
[6] OECD. 2016. Innovation, Agricultural Productivity and Sustainability in Turkey. OECD Food and Agricultural Reviews. Paris: OECD.
[7] World Bank. 2020. Jobs at Risk in Turkey: Identifying the Impact of COVID-19. Washington, D.C.: World Bank.

opportunities can also help reduce rural-to-urban migration trends and facilitate economic growth and human capital in rural areas.

Sectoral and Institutional Context

6. **Turkey has made progress in addressing a range of environmental issues, but rapid population growth, urbanization, and industrialization continue to take a heavy toll on the country's natural resource base and the environment.**[8]
   (a) Soil erosion, land degradation, and desertification are among the most severe environmental problems in Turkey. The combination of geographic, topographic, climatic, and soil characteristics makes Turkey particularly prone to soil erosion. Combined with human factors such as unsuitable farming practices, soil erosion is observed at vast scales, affecting about 86%[9] of Turkey's territory and putting most of the country under risk of desertification.[10] Degradation of forest, agricultural, and pasture lands also contribute to land degradation and desertification in Turkey.[11,12] Despite impressive progress in reducing soil erosion from 500 million tons per year back in the 1970s to 154 million tons in 2018,[13] more effort is needed for Turkey to achieve its target of reducing soil erosion by an additional 24 million tons in the next five years.
   (b) Turkey has undertaken considerable afforestation efforts, adding a total of 2.14 million hectares of forest land since 1973. Despite this significant increase in forest cover, about 43% of Turkey's 22.34 million hectares of forests are classified as degraded and in need of rehabilitation.[14] Turkey has also increased the coverage of its Protected Areas (PAs), but the combined terrestrial and marine PAs of 9% of the national territory are still significantly lower than the Aichi targets. Significant portions of steppes and wetlands are also seriously degraded, and biodiversity is increasingly under threats due to habitat loss and fragmentation, pollution, climate change, and invasive species.[15]
   (c) Water quality and scarcity are also of grave concern, as they affect water resources available for human consumption and economic uses. Turkey is currently considered a water-stressed country with per capita freshwater availability only half of the global average by international standards. At least 15 of its 25 river basins are water-stressed, with water availability below 1,700 m^3 per year. Deforestation, soil erosion and sedimentation, point source pollution from discharges of untreated industrial and domestic effluents, and diffuse pollution from agricultural activities all contribute to decreased water quality. With rapid population growth and rising demand from economic development, Turkey is predicted to be water-scarce by 2030.[16]

7. **Turkey is also vulnerable to a range of natural disasters that cost the country approximately US$1,554 million in asset losses annually.** Seismic risk is the most critical, as the country experiences, on average, one earthquake per year with a magnitude of 5–6 on the Richter scale. Floods and landslides are the second and third most frequent and disastrous natural hazards, accounting for more than 25% and almost 8% of total natural disasters in the country respectively. Floods and landslides have caused significant localized losses

[8] OECD. 2019. OECD Environmental Performance Reviews: Turkey 2019. Paris: OECD.
[9] Gökbulak, F., et al. 2018. Causes of land degradation and rehabilitation efforts of rangelands in Turkey. *Forestist* 68(2): 106-113.
[10] Çetin, S. C., et al. 2007. Global Attention to Turkey Due to Desertification. Environ. Monit. Assess. (128): 489-493.
[11] Approximately 54% of forest lands, 59% of agricultural lands, and 64% of pastures are exposed to erosion.
[12] Republic of Turkey. Ministry of Forestry and Water Affairs. Turkey Land Degradation Neutrality. National Report 2016 – 2030.
[13] UNCCD, 2018. News Archive. Turkey gets results in combating soil erosion. Available online at www.unccd.int.
[14] World Bank. 2017. Turkey: Forest Policy Note. Washington, D.C.: World Bank.
[15] OECD. 2019. OECD Environmental Performance Reviews: Turkey 2019. Paris: OECD.
[16] Uslu, O. 2020. Water Quality. In: Water Resources of Turkey. World Water Resources 2. Springer Nature Switzerland AG.

across all parts of the country. On average, flooding causes Turkey 18% more in damage to assets than earthquakes, and the long-term average of the annual asset losses due to floods is estimated at US$843 million.[17] Between 1975 and 2015, 1,209 floods were recorded, causing loss of 720 lives and damaging 894,474 hectares of land.[18] Devastating floods in 2006 and 2009 totaled almost US$1 trillion in damage. Hazardous floods are mostly observed in the Black Sea, Mediterranean, and Western Anatolia regions. Recent flash floods in Giresun Province resulted in 5 deaths and 12 people missing and cut off access to 98 villages.[19] Landslides and rockfalls present a localized challenge, creating damages to transport networks and properties.

8. **Climate change is expected to further aggravate the pressure on the natural resource base of Turkey and pose severe risks to the welfare and livelihood security for rural populations**. The country is already experiencing an increase in annual mean temperature and changes in the precipitation regime. A long-term downward trend in average yearly precipitation is projected for overall Turkey, although the distribution pattern varies across locations. The Black Sea and northeastern parts of the country will likely experience an increase in the average annual precipitation, while the southern regions will experience a decrease. Projected climate change impacts include reduced surface water availability, more frequent and severe incidences of floods, and more prolonged droughts. Extreme precipitation events will likely further exacerbating soil erosion and increasing the risks of flooding and landslides, particularly in terrains with rough topography[20]. With a mostly arid and semiarid climate and environment, increased frequency and severity of droughts will impact much of central, southern, and south-eastern parts of the country, including Central Anatolia, Mediterranean, Southeast Anatolia, and the Aegean, where agriculture is the main economic sector. More frequent droughts will negatively affect crop yields and threaten food security, while floods and landslides will continue to affect the safety and welfare of hundreds of thousands of people.

9. **Degradation of natural resources and natural and climate-induced disasters disproportionately impact the rural poor, who are most vulnerable due to their low level of socio-economic resilience.** Poor communities, especially in lagging rural areas, are highly dependent on natural resources and agricultural income, and therefore, are more vulnerable to the impacts of natural disasters on agricultural yields and the health and functioning of ecosystems. Poor households also tend to have less diversified portfolios; their savings are more vulnerable to natural hazards (i.e., home and agricultural assets); and they struggle more to cope with loss and recover from disasters with little resources to cut back or draw on[21]. Degradation of natural resources also inflict long-term adverse consequences on the welfare and livelihood of the rural poor through reductions in available resources for subsistence (i.e., timber and non-timber forest products, clean water, etc.) and decreases in ecosystem services that sustain agricultural productivity and provide a buffer against natural disasters and climate-induced risks. This is especially prominent among poor households in higher elevation forest areas in Turkey, where incomes and productivity are much lower compared with the lowlands, even in more wealthy regions, due to the precarious state of the natural resource base and limited opportunities for income diversification. Therefore, preserving natural capital and building resilience to

[17] World Bank & Global Facility for Disaster Reduction and Recovery. 2020. Country Snapshot, June 2020. Turkey: Understanding Disaster and Climate Impacts on the Poorest and Most Vulnerable. Washington, D.C.: World Bank.
[18] Hafzullah, A. 2020. Surface Water. In: Water Resources of Turkey. World Water Resources 2. Springer Nature Switzerland AG.
[19] https://www.dw.com/en/turkeys-black-sea-coast-pummeled-by-flash-floods/a-54667226
[20] Turkes, M., et al. 2020. Impacts of Climate Change on Precipitation Climatology and Variability in Turkey. In: Water Resources of Turkey. World Water Resources 2. Springer Nature Switzerland AG.
[21] Hallegatte, S., Vogt-Schilb, A., Rozenberg, J., Bangalore, M. and Beaudet, C. 2020. From Poverty to Disaster and Back: a Review of the Literature. *Economics of Disasters and Climate Change* (2020) 4: 223–247.

natural disasters and climate change, while increasing livelihood opportunities is critical for the economic security and social welfare of millions of rural poor in lagging regions in Turkey, whose development needs and dependency on natural resources are greatest.

10. **Recognizing the importance of adapting to the impacts of climate change and protecting the country's natural capital to sustain current gains, Turkey's Eleventh Development Plan (2019-2023) pays significant attention to a sustainable and inclusive growth pathway**. The Plan places "*Livable Cities and Sustainable Environment*" among its five fundamental pillars of development. Priorities and targets embraced under this pillar include reduction of environmental pollution, protection of biodiversity, and sustainable management and use of land, forests, water, and other natural resources through Integrated River Basin Management. This pillar also includes targets to ensure access to healthy drinking water, combat poverty, promote the employability of rural labor force, prevent and mitigate disaster risks, and develop climate adaptation capacity and resilience of affected communities. The Plan highlights agriculture and forestry as one of the three priority development areas, with the objective of promoting an environmentally, socially, and economically sustainable and competitive agricultural sector. The Plan also emphasizes the need to bridge regional disparities and increase job opportunities for women and youth.

11. **The Eleventh Development Plan also sets out clear objectives for rural development and reduced regional disparities**. The National Strategy for Regional Development (2014-2023) was approved in 2014 to improve national-level coordination for regional development and competitiveness and strengthen the linkages between spatial and socio-economic development policies, and Regional Development Plans were developed under the coordination of Regional Development Agencies.[22] The National Rural Development Strategy (RDS) (2014-2020) and its Action Plan was adopted in 2015, and is currently being updated. The objectives of the RDS include (i) economic development and increase in job opportunities; (ii) institutional capacity building; (iii) infrastructure development in rural areas and increase in the quality of life; and (iv) environmental protection and sustainability in rural areas.

12. **Turkey has developed a number of strategies and plans in an effort to comply with the EU environmental acquis and to tackle environmental, climate, and natural resource management (NRM) challenges.** The key strategies for climate change and NRM include, among others, the Climate Change Strategy (2010-2023), National Climate Action Plan (2011-2023), Climate Change Adaptation Strategy and Action Plan (CCASAP), National Forestry Program (2004-2023), Biodiversity Strategy and Action Plan (2018-2028), National Strategy and Action Plan to Combat Desertification (2015-2023), National Drought Management Strategy and Action Plan (2017-2023), National Water Plan (2019-2023), and National Basin Management Strategy (2012-2023) (NBMS). Turkey also submitted its Intended Nationally Determined Contribution (INDC) for 2021-2030 in 2015, indicating its intention to reduce up to 21% GHG emission from the Business as Usual level by 2030; and forestry is listed as a source of carbon sink. Overall, however, the objectives and targets among various plans and strategies are not fully aligned and NRM and climate adaptation are not yet systematically integrated into sectoral planning. The NBMS attempts to integrate the objectives of several sectoral strategies and plans by promoting an integrated ecosystem approach at basin or sub-basin scale to enhance the sustainability while also improving the productivity of natural resources in Turkey's river basins. However, the various planning instruments under the NBMS[23] are not well integrated nor sufficiently detailed to be

[22] OECD. 2019. Regional Outlook 2019. Turkey. Regional Development Policy in Turkey. Paris: OECD.

[23] Instruments under the NBMS include River Basin Management Plans (RBMPs), Flood Management Plans, Drought Management

operationalized at the sub-basin level, while the investments for meeting water quality and quantity, as well as disaster risk mitigation targets outlined in the NBMS focus mostly on gray infrastructure, which can be costly, not always effective, and can create capital lock-in.

13. **Turkey's 25 river basins vary in their ecological, socio-economic, and demographic conditions, but face common and interlinked challenges.** Rural poverty and high levels of livelihood dependency on natural resources are more common in the upper basins, especially in the lagging eastern and southeastern parts of the country. Resources in these upper basins are more commonly used for livestock grazing, small-scale subsistence agriculture, and forestry activities. Agricultural activities, especially irrigated agriculture, are generally more common in the middle and lower basins. The western basins are characterized by higher population density, increasing urbanization and industrialization, decreasing agricultural employment, and more environmental pollution. Soil and water pollution from chemical fertilizers and pesticides concentrate in lower basins and western and southern regions. Notwithstanding these differences, the 25 basins in Turkey face common problems, namely the degradation of natural resources, including pastures, agricultural, and forest areas due to overexploitation for many years.

14. **Addressing the chronic and multi-faceted problems in Turkey's river basins requires next-generation solutions that can deploy a range of interventions across sectors and institutions through coordinated efforts under an integrated approach that can deliver multiple benefits.** The complex and interrelated problems in many river basins of Turkey, including employment and livelihood insecurity, natural resource degradation, climate and disaster vulnerability, and water risks, cannot be addressed by one institution alone or by a single-sector program. Integrated landscape management, incorporating Nature-Based Solutions (NBS), has been championed as an efficient, cost-effective, and sustainable approach to the combined environmental, social, and economic challenges of river basins.[24] NBS utilizes ecosystem services and natural features (i.e., forests, wetlands, etc.) to address specific problems and deliver multiple benefits simultaneously. These include, inter alia, protection against natural and climate-induced disasters, improvement of water and air quality, reduction of soil erosion and sedimentation, carbon sequestration, and provision of habitats for biodiversity.[25] In many cases, combining Green infrastructure, a type of NBS, with traditional human-built gray infrastructure (i.e., reservoirs, retaining walls, embankments, etc.) can create next-generation solutions that can better protect communities by tackling their immediately pressing problems while restoring ecosystems' regulatory functions to enhance the long-term performance, life cycle, and cost-effectiveness of gray infrastructure, while also generating multiple income streams.

15. **The proposed project will develop and implement an integrated landscape management approach in three selected sub-basins, which are characterized by a combination of challenges commonly faced by many lagging rural areas in Turkey's river basins.** The Bolaman River Basin (BRB), located in the Eastern Black Sea region, and Cekerek River Basin (CRB), located in the Central Anatolia Region, both face a complex set of problems. These include low socio-economic status and high rates of poverty among rural communities, particularly among forest villages in the upper basins, low agricultural productivity, degradation of natural

Plans, and Sectoral Water Allocation Plans. RBMPs have been prepared for each of the basins to address the water quality and quantity issues and meet the ecological status for both surface and groundwater bodies as per the requirements of related EU water legislation, including the EU Water Framework Directive, Flood Directive, Drinking Water Directive, and Urban Waste Water Directive.

[24] World Bank and World Resources Institute. 2019. Integrating Green and Gray: Creating Next Generation Infrastructure. Washington, D.C.: World Bank.

[25] Faivre, N., et al. 2017. Nature-Based Solutions in the EU: Innovating with nature to address social, economic and environmental challenges. *Environmental Research* 159: 509–518.

resources, which further perpetuates the cycle of poverty, vulnerability to and frequent impacts from climate and disaster risks, inadequate infrastructure and connectivity, and loss of human capital over the years due to massive outward migration. As such, they were selected by the Government of Turkey both for their urgent needs for recovery efforts, as well as their replication potential in other priority basins in regions with similar characteristics in the Black Sea and Central Anatolia. A third basin will be selected during the first year of implementation following the development of a national strategy on landscape resilience. The project will lay the foundations for scaling-up such an integrated model for NRM through a national program for landscape resilience and sustainable recovery that can bring transformative changes to vulnerable areas in Turkey, provide a significant number of jobs, and raise incomes in lagging regions.

C. Proposed Development Objective(s)

Development Objective

The project development objective is to strengthen integrated landscape management and increase access to improved livelihood opportunities and resilient infrastructure services for rural communities in targeted areas of Turkey.

Key Results

16. The key results expected by the project and respective PDO indicators are:
    i. National Strategy for Landscape Resilience and Sustainable Recovery adopted (Yes/No)
    ii. Land area under sustainable landscape management practices (ha)
    iii. Poor households benefitting from improved livelihood opportunities supported by the project (Number)
    iv. People provided with access to resilient infrastructure services included in an integrated NRM plan (Number, disaggregated by type of service). Composite indicator including the following underlying supplemental indicators:
        a. People provided with access to protection against flooding and/or landslides
        b. People provided with access to improved water sources
        c. People provided with access to irrigation schemes
        d. People provided with access to rural roads rehabilitated for climate and disaster resilience

D. Project Description

17. **Component 1: Investments in Resilient Landscape Integration in targeted areas (US$ 194.92 million).** This component will finance an integrated set of investments in the forestry, agriculture, water, and transport sectors under a landscape approach aimed at building the resilience of natural resources and rural livelihoods in targeted basins. These investments aim to address the multifaceted constraints in these basins that result in higher rural poverty and outward migration, such as resource degradation, water insecurity, and vulnerabilities to climate and disaster risks. Investments under this component will include a variety of green and gray infrastructure measures identified in Integrated Landscape Management Plans (ILMPs), including sustainable land management and livelihood diversification by the General Directorate (DG) of Forestry (OGM) and the DG of Agricultural Reform (TRGM); and resilient infrastructure systems for drinking water storage, irrigation water supply, flooding and sediment control, and road rehabilitation for improved rural connectivity and market access by the State Hydraulic Works (DSI) and the DG of Highways (KGM).

18. **Subcomponent 1.1: Green infrastructure and sustainable livelihoods in the Bolaman and Cekerek Basins.** The objective of this subcomponent is to restore and maintain the health, function, and productivity of critical ecosystems and promote sustainable land uses within the target basins to improve the sustainability of the

natural resource base, enhance the livelihood security of local communities, and build resilience against climate-induced hazards. This sub-component will finance a range of investments which will be planned in a participatory manner with target communities in each basin. Investments will include a variety of green infrastructure measures, sustainable and climate-smart agricultural practices, and livelihood diversification activities to be implemented by OGM and TRGM. The project will maximize the synergies among different interventions to the extent possible. Green infrastructure will improve ecosystem services and produce long-term climate adaptation and mitigation co-benefits such as soil, water and sediment retention, flood and landslide risk reduction, and carbon sequestration, which will help sustain productive agriculture and generate economic benefits in the long run. Income generation and livelihood diversification for the rural poor will enhance their livelihood security and welfare, reduce pressure on the forest ecosystems, and could contribute to reducing outward migration.

19. **Subcomponent 1.2: Resilient gray infrastructure in the Bolaman and Cekerek basins.** The objective of this subcomponent is to help local communities in targeted basins adapt to the impacts of climate change, including floods, sedimentation, landslides, and drought, through improved access to resilient infrastructure services in the water and transport sectors to help address these challenges. The locations of these investments will be determined through subproject-specific feasibility studies, economic analysis, environmental and social assessments, and other relevant analysis. Green infrastructure will be designed to complement the gray infrastructure and optimize the functionality, cost-effectiveness, and resilience of the integrated natural and built system. This subcomponent will be implemented by DSI and KGM.

20. **Sub-component 1.3. Investments in Resilient Landscape Integration in Additional Priority Basin to be Selected During Implementation.** This sub-component will finance an integrated package of investments to build landscape and socio-economic resilience for an additional basin to be selected during project implementation. Activities to be financed will include both the preparatory and management costs, as well as subproject investments to be identified during preparation. It will be expected that the additional basin will face complex and interlinked challenges, similar to those of BRB and CRB, and will be selected based on criteria such as: (i) high levels of rural poverty and low level of socio-economic resilience; (ii) high level of vulnerability to climate and disaster risks; and (iii) high level of natural resources degradation.

21. **Component 2: Institutional Framework, Project Management, and Sustainability.** The objective of this component is to strengthen the capacity and coordination among the Project Implementing Agencies to ensure not only effective and efficient project implementation, but also the establishment of sustainable institutional structures and processes to support integrated landscape planning and management in both the project area and elsewhere. Scaling up the project approach to other vulnerable rural areas can enable adaptation and resilience building, as well as job creation and sustainable recovery from the pandemic, on a large scale. Implementation of this component will be under the overall responsibility of OGM and will include the following two sub-components:

22. **Sub-component 2.1: Implementation Framework for Integrated Landscape Management.** Activities under this subcomponent include: (i) support for the establishment of the implementation framework for Integrated Landscape Management, including the development and adoption of a national strategy for landscape resilience and sustainable recovery in vulnerable rural areas; (ii) technical assistance for the development of guidelines to support the implementation of the national strategy for landscape resilience, including the design of integrated planning tools at the landscape level combining green and gray

infrastructure solutions; (iii) assistance for the development of ILMPs and sub-basin participatory plans for the BRB and CRB; and (iv) capacity building and awareness raising for relevant institutions, local authorities, and rural communities for the application of sustainable landscape management practices.

23. **Sub-component 2.2: Project management and sustainability.** Activities under this sub-component will include support for the establishment of a Project Coordination Unit (PCU) and Regional Support Teams (RSTs) under OGM, and Project Implementation Units (PIUs) under KGM, TRGM and DSI for: (i) strengthening capacity for day-to-day project management on technical, fiduciary, monitoring and evaluation, environmental, and social issues; (ii) environmental and social risk management, including preparation of site-specific Environmental and Social instruments and dam safety issues; (iii) grievance redress, citizen engagement, and communications; and (iv) monitoring and evaluation of project activities, including impact assessments, beneficiary satisfaction surveys, and development of an integrated data platform for monitoring and assessment of key landscape variables.

24. **Component 3: Contingent Emergency Response Component (CERC).** This component would support carrying out emergency response and recovery efforts under an agreed action plan of activities designed as a mechanism to implement the government's response to an emergency. This provisional component would allow rapid reallocation of the IBRD financing to cover emergency response costs (i.e., contracting emergency works) following an adverse natural event. The CERC would be triggered by an official government declaration of an emergency per the country's laws and policies.

Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

Summary of Assessment of Environmental and Social Risks and Impacts

25. **The overall environmental risk is rated as Substantial.** The rating is determined by the nature and magnitude of infrastructural improvements considered under the project (water reservoirs, flood and sedimentation control structures, rural roads), by potential adverse impacts on ecosystems and associated ecosystem services anticipated due to the high dependence of local communities on natural resources for maintaining their livelihoods, and by the need to strengthen the capacities of the Implementing Agencies on the applicable Environmental and Social Standards (ESS) of World Bank financed projects.

26. **The overall social risk is rated as Substantial** due to contextual risks associated with the project and capacity of the multiple implementing state agencies to implement the Environmental and Social Framework (ESF). Contextual risks include child labor associated with the hazelnut production in Turkey, and the use of seasonal migrant workers in the agriculture, including hazelnut. The relevance and significance of these risks within the project scope have been assessed during the Environmental and Social Assessment (ESA) process carried out during project preparation. The proposed investments may require land acquisition and economic and physical displacement of a small scale and may generate temporary community health and safety risks and impacts and Occupational Health and Safety (OHS) risks among civil works contractors. SEA/SH risk based

on labor influx is assessed as moderate. It is anticipated the majority of the workforce will be Turkish, and the project will undertake efforts to use local workforce for unskilled jobs for most sub-projects. However, some large civil works and other activities may require a large number of workers coming into the basins. As a result, labor related risks associated with the civil works contractors and their compliance with the ESF are assessed as substantial.

E. Implementation

Institutional and Implementation Arrangements

27. **The responsibility for overall project management and coordination will lie with the General Directorate of Forestry (OGM) under the Ministry of Agriculture and Forestry (MoAF).** OGM is tasked with the protection and sustainable management of the country's forest resources, including soil rehabilitation and erosion control. It is the institution assigned with the responsibility for the implementation of integrated watershed rehabilitation projects under the Forest Code (Law No6831) and has gathered significant experience in working both with the World Bank and other development partners. OGM operates through 21 Departments located in its headquarters, 28 Regional Directorates of Forestry and 12 Research Institute Directorates, with a total of approximately 40,000 staff at the national level. A project preparation team led by the Head of the Soil Conservation and Basin Rehabilitation Department of OGM was established early on and has been working closely with other agencies in the preparation of the project in a coordinated way.

28. **Other agencies that will be involved in project implementation include the General Directorate of Agricultural Reform (TRGM) and the State Hydraulic Works (DSI) under the MoAF, and the General Directorate of Highways (KGM) under the Ministry of Transport and Infrastructure.** TRGM is tasked with improving living conditions in rural areas by promoting the country's agricultural development and competitiveness and supporting agricultural infrastructure and capacities. DSI, affiliated with the MoAF since 2018, is the state agency responsible for water resources planning, operations, and management. Its primary focus is to plan, design, construct and operate dams, hydroelectric power plants, water supply and wastewater treatment infrastructure, irrigation schemes, and structural flood protection and control measures. KGM is tasked with the identification, construction, and maintenance of highways, state and provincial road networks, and bridges to ensure safe transport across the country.

29. **A Project Steering Committee (PSC) will be established to ensure effective coordination among Implementing Agencies (OGM, TRGM, DSI, KGM).** The PSC will include senior leadership from all Implementing Agencies, as well as representatives of the Strategy and Budget Office of the Presidency (SBO), the Ministry of Treasury and Finance (MOTF), and other agencies involved in NRM. The PSC will periodically review progress, provide policy guidance, and resolve potential bottlenecks in project implementation.

30. **Responsibility for day to day project management, coordination and supervision will be assigned to a Project Coordination Unit (PCU) and line agency-specific Project Implementation Units (PIUs).** The PCU will be housed under OGM, reporting directly to the Deputy Director General. It will be headed by a Project Coordinator (PC) and will consist of a dedicated multi-disciplinary team with project management, technical, financial management, procurement, monitoring and evaluation, environmental and social experts. Central-level PIUs in each of the other IAs (TRGM, DSI, KGM) will be established to oversee Ankara-based project activities under their respective sub-components. At the basin level, the project will be implemented by the Regional/Provincial Directorates of each IA and their respective Field Offices. A Regional Support Team (RST)

will be established in each basin and housed under OGM to strengthen field implementation capacity, as well as Regional Steering Committees to ensure participation of and coordination with local stakeholders.

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