



Note to Task Teams: The following sections are system generated and can only be edited online in the Portal.

Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

Concept Stage | Date Prepared/Updated: 06-Nov-2017 | Report No: PIDISDSC21513



BASIC INFORMATION

A. Basic Project Data

Country Dominican Republic	Project ID P163260	Parent Project ID (if any)	Project Name DR Resilient Agriculture and Integrated Water Resources Management (P163260)
Region LATIN AMERICA AND CARIBBEAN	Estimated Appraisal Date Feb 14, 2018	Estimated Board Date Mar 29, 2018	Practice Area (Lead) Agriculture
Financing Instrument Investment Project Financing	Borrower(s) Dominican Republic	Implementing Agency Ministerio de Economia, Planificacion y Desarrollo, Instituto Nacional de Recursos Hidraulicos, Ministerio de Agricultura, Instituto Nacional de Aguas Potables y Alcantarillado (INAPA), Ministerio de Medio Ambiente y Recursos Naturales	

Proposed Development Objective(s)

The Project Development Objectives are to promote sustainable management of productive agroecosystems, to enhance resilience of hydraulic assets and to increase quality and access to water supply and sanitation in the targeted river basins.

Financing (in USD Million)

Financing Source	Amount
International Bank for Reconstruction and Development	80.00
Total Project Cost	80.00

Environmental Assessment Category B-Partial Assessment	Concept Review Decision Track II-The review did authorize the preparation to continue
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Other Decision (as needed)

B. Introduction and Context

Country Context

The Dominican Republic has enjoyed one of the strongest growth rates in Latin America and the Caribbean over the past 25 years. In the period 2001-2013, the Dominican Republic economy grew at an average rate of 5.1 percent, placing the Dominican economy in 4th place in the group of top growth performers (after Panama, Argentina and Peru). This good performance got even better more recently when economic growth rates averaged 7.1 percent in 2014-2016, fueled by strong domestic demand. This overall dynamic growth has enabled a convergence of the DR's GNI per capita (US\$6,198 in 2015) with that of the region¹ from 57 percent in 1992 to 90 percent of the regional average in 2015. In fact, estimates show that if the pace of growth observed during the past five years continues, the gap would disappear by 2020.

Despite this remarkable economic performance, growth has not been inclusive during the period 2000-2013. In 2000, the poverty incidence in the DR was 32 percent. In the wake of the banking crisis of 2003-04, the country's GDP that had grown by 6 percent in 2002 contracted by 0.3 percent in 2003. Thus, an estimated 1.7 million people moved into poverty and the poverty rate reached 50 percent of the population in 2004. When the economy recovered after the crisis, poverty rates began to fall slowly and have only returned to the pre-crisis level in 2015² but above the average for LAC.³ At the same time, it is worth noticing that inequality improved between 2000 and 2015 (with the Gini index falling from 0.507 to 0.455).

Although over the last few years, poverty has declined substantially, more effort is needed to sustain these gains and to address the remaining poverty and equity challenges. The *2016 Policy Note on Poverty and Shared Prosperity* highlights that, after remaining above 40 percent since the crisis observed in 2003 in the DR, poverty calculations for 2014 point to a sizeable one-year reduction and data for 2015 suggest a continued reduction in poverty. Per the latest official data available, monetary poverty declined to 36.4 percent in 2014, dropping further to 32.3 percent in 2015. Extreme poverty declined less, moving from 8.4 percent in 2014 to 7 percent in 2015. To sustain high economic growth rates and address remaining poverty and inequity issues, the DR needs a concerted reform effort. The Policy Notes published in October 2016 stressed four inter-related areas that could self-reinforce effects on long-term growth: (a) macro and fiscal management; (b) competitiveness of the economy for inclusive growth (including several factors, such as, for example the quality of infrastructure, the business environment, the soundness of the financial sector, among others); (c) factors that affect social sustainability (including the quality of public service delivery in core sectors such as education, health, water and sanitation, and electricity); and (d) *environmental sustainability and resilience to climate change*.

¹ GNI per capita, Atlas Method. World Development Indicators.

² World Bank, 2014a. "When Prosperity is not Shared: the Puzzle of the Weak Links between Growth and Equity in the Dominican Republic". Equity Assessment, The World Bank, Washington, DC.

³ See SEDLAC. <http://sedlac.econo.unlp.edu.ar/eng/statistics-detalle.php?idE=34>



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Sectoral and Institutional Context

This section encompasses the main topics covered by the project: agriculture, disaster risk management, water security (including Water Supply and Sanitation and Integrated Water Resources Management) and environmental sustainability and resilience to climate changes.

The development of the agri-food sector, one of the engines of growth in the DR, creates important pressure on natural resources. The sector (agriculture, livestock, forestry, fisheries and agroindustry) contributes 16% to the national GDP.⁴ Primary agricultural production has been contributing a relatively constant 6 to 7% to the national GDP over the past 10 years. Agri-food exports (animal, vegetable and foodstuff) accounted for 20% of total value of official exports in 2012. Three quarters of the agricultural production is transformed downstream the value chain by the agroindustry sector⁵, adding value and creating jobs in the country. Despite encouraging progress in reversing deforestation trends and increases of the forest cover, additional efforts are needed to reduce ecosystem degradation in specific regions of the country as a result of intense agricultural activity. This sector is contributing to deforestation in upper watersheds, soil erosion, and pollution of water sources that are threatening the landscapes, the country's economic development and the health of its population. The majority of deforestation (60%) continues to be caused by the expansion of slash and burn agriculture and poor extensive livestock production practices in protected areas on the borders with Haiti. Other direct causes of deforestation and forest degradation include illegal logging, unsustainable cattle grazing, natural disasters, forest fires, and infrastructure projects for mining, energy and tourism.

Like many other countries in the Caribbean, the DR is also extremely vulnerable to natural disasters. The DR is highly exposed to rapid weather related disasters (tropical storms, hurricanes, cyclones, floods and landslides), slow climate change processes (sea-level rise and desertification) and seismic events such as earthquakes and landslides. The country ranks as the 8th most vulnerable country to climate change⁶. Roughly 92 percent of its economic production and 97 percent of its population are located in areas vulnerable to two or more types of natural disaster.⁷ Geographic location plays a large role in explaining this high degree of exposure to weather events, but so do structural weaknesses such as inadequate management of large water storage infrastructures, unplanned urban growth, land degradation, and weak enforcement of building codes and zoning regulations.

The agri-food sector in particular faces important challenges of resilience to climatic vulnerabilities (floods and droughts). This adversity is likely to worsen in the near future. According the National Strategy for

⁴ Junta Agroempresarial Dominicana, 2009: Estrategia para el Desarrollo Agropecuario y Agroindustrial Sostenible para la RD.

⁵ Ministerio de Agricultura, 2011: Plan Estratégico Sectorial de Desarrollo Agropecuario 2010-2012.

⁶ See Global Climate Risk Index 2015 <https://germanwatch.org/en/cr>

⁷ See World Bank, 2005, Natural disaster hotspots: A global risk analysis. Washington, DC: World Bank: <http://documents.worldbank.org/curated/en/2005/04/6433734/natural-disaster-hotspots-global-risk-analysis>



Adaptation to Climate Change in Agriculture 2014-2020,⁸ total annual rainfall may decrease to 1,137 mm in 2030 (11% decrease from 2010). Climate scenarios project an increase of temperature of 0.5 to 1°C by 2030 and by 1 to 2.5°C by 2050. Areas currently subject to drought could become permanently arid with climate change.

Sustainable forest management and conservation may provide additional resilience to climate variability.

Forest cover in agriculture landscapes supports the maintenance of ecosystems services such as biodiversity, water provision, and timber and non-timber forest products. Diversity of sources of income from forest sustainable use provides diversified sources of income, thus enhancing resiliency. DR has been increasing its net forest cover over the last decades. FAO estimated in 1973 the forest cover at 22% coming up to 38% by 2011⁹ consisting mainly of consisting of broadleaf, coniferous, and dry forests. Partially this is due to the reduction of the agricultural areas that, in 1996, covered 48% of the territory while in 2003 were estimated to cover 38%.

The largest user of water in the country is the agricultural sector, consuming 83% of the available volume¹⁰, an amount considered sufficient for the country to enhance its food sovereignty; although, the low efficiency in the management of the irrigation systems (25%), questions this possibility. The water supply sector does not have a large demand on the resource, as it consumes only 7% of the available volume, but represents the second largest polluter of water resources, behind the agricultural sector¹¹.

The Water and Agriculture Sectors have been identified as key areas in the Intended Nationally Determined Contribution (INDC), prepared in August 2015.

The sectors identified as most vulnerable on the Adaptation agenda are: Water Supply, Energy (power generation component), National System of Protected Areas, Human Settlements and Tourism. On the Mitigation agenda, Agriculture, land use changes and forest management are key sectors. The Government has committed to reduce by 2030, the tCO₂e *per capita* emission by 25%¹².

Even though the DR has expanded access to WSS services, service still remains unequal.

As of 2015, 85 percent of Dominicans had access to an improved source of water (85 percent in urban and 82 percent in rural areas), and 84 percent to improved sanitation facilities (86 percent in urban and 76 percent in rural areas). Despite increasing (albeit unequal) coverage levels the quality of service delivery has been deteriorating. The aforementioned figures of access to WSS services hide the fact that public networks are failing to provide quality services and customers need to turn to often costlier alternatives. For example, 78 percent of households consume processed water (*botellones*), while only 11 percent of households drink the water from the public network. This latter figure increases to 21 percent in rural areas.¹³

While access rates to WSS in the DR remain relatively high, the condition of the infrastructure is threatened by the lack of a maintenance, and wastewater collection and treatment continue to lag behind water supply.

Although water supply and sanitation providers report having an installed capacity for drinking water of 62m³/s, enough to satisfy 2.33 times the current demand of 26 m³/s, the service infrastructure is

⁸ *Estrategia Nacional de Adaptación al Cambio Climático en el sector Agropecuario de la RD 2014-2020*, prepared by the National Council for CC and Clean Development Mechanism (*Consejo Nacional para el CC y el Mecanismo de Desarrollo Limpio*).

⁹ See: Mapa de uso y cobertura del Ministerio de Medio Ambiente y Recursos Naturales (2011)

<http://www.ambiente.gob.do/Noticias/Documents/Informe%20USO%20Y%20COBERTURA-%20web.pdf>; y FRA FAO (2010) “Evaluación de los Recursos Forestales”

¹⁰ FAO, 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on [2017/04/14].

¹¹ Monitoring Water and Sanitation Dominican Republic Country Report-MAPAS (INAPA, 2017).

¹² According to INDC document, the 2010 base year emissions in 2010 were set at 3.6 tCO₂e per capita.

¹³ Demographic and Health Survey (ENDESA), 2013.



insufficient, many networks present the need for rehabilitation, including wastewater collection and treatment¹⁴ plants. Only 53 percent of the DR's water treatment plants and 26 percent of the fully-functioning wastewater treatment plants were estimated to be at an adequate operating level.

Overall there is an indicative of poor management of WSS systems in the rural sector in DR. The country has approximately 3,000 water supply systems, of which only 26% have public management, the remaining 74% are operated by NGOs, with technical assistance from INAPA. Despite the assistance, the quality of the water supplied and the monitoring efforts continue to be deficient. It is estimated that only 25% of the rural systems have sanitary control, and only 14 percent of the inventoried water systems practiced chlorination¹⁵. This has significant potential health impacts, especially for the poor, and notably in relation to water and excreta-related diseases, which are difficult to monitor in a country with 11,488 rural communities. To close the information gap, INAPA is gradually registering the rural systems in SIASAR¹⁶, with the objective to monitor more closely the quality of services, as well as the rural providers' constraints.

To cope with these and other challenges, the Government declared the 2016-2020 period as the “Quadrennium of Water” (*el Cuatrienio del Agua*), proposing a four-pillar strategy and creating, under the MEPyD, a Coordinating Roundtable (*la Mesa del Agua*) responsible for coordinating the actions of public and private entities committed to the preservation and integrated management of watersheds. La Mesa del Agua efforts combined with the proposed Water Law (*Ley de Aguas*) and WSS Law (*Ley de Agua Potable y Saneamiento*), will create the conditions to guide and implement effectively the principles of integrated water resources management and the modernization of the WSS services, supporting the long-term vision developed by the Government in the Development National Strategy (*Estrategia Nacional de Desarrollo – END*).

A Project Identification Document for a large program of **Promotion of Resilient Agriculture and Integrated Management of Natural Resources**¹⁷ has been submitted end of June 2017 to the Ministry of Economy, Planning and Development (MEPyD) for its inclusion in the SNIP (*Sistema Nacional de Inversión Pública*) and in the 2018 national budget. This program will be the umbrella for the current proposed project.

Relationship to CPF

The proposed project is aligned with the 3 out of 5 Results Areas of the CPS for the period FY15-FY18 as follows:

Results Area 1: Improving the investment climate and fostering private sector development where the WBG planned to support a more inclusive development of the agribusiness sector. The CPS program aims to: (i) provide investment support for agricultural value-chains and, (ii) strengthen linkages between agriculture and the local tourism industry, and at making agriculture more resilient. This included how best to develop Climate Smart Agriculture in the DR to enable the country to better assess the geospatial impacts on agriculture of looming climate variability and increasing frequency and intensity of extreme events (rainfall, heat) and

¹⁴ MAPAS Country Report, Dominican Republic.

¹⁵ MAPAS Dominican Republic Country Report, 2017.

¹⁶ Rural Water and Sanitation Information System (SIASAR), having registered in Dominican Republic over 414 systems and 1,097 rural communities, www.siasar.org.

¹⁷ Gestión Integrada de los Recursos Naturales y Agricultura Resiliente en las Cuencas Hidrográficas Yaque del Norte y Ozama-Isabela en la República Dominicana. [Prepared with technical assistance from FAO](#)



make investments in value-chains more resilient to climate and weather shocks.

Results Area 3: Supporting the Government in building resilience to external shocks with improved DRM planning and investment to ensure an increased resilience of infrastructure to extreme climatic events. The project will contribute to the result area through the rehabilitation of dam and improvement of dam operation.

Results Area 5: Strengthening social services delivery. The CPS Outcomes includes the strengthening water and sanitation as a fundamental pillar for a healthier population. Building on the on-going water project in touristic areas, the Bank had the plan to expand its support to the sector, which currently faces major challenges related to equal access, quality, sustainability, and clear policy direction. Moreover, the outbreak of cholera in Haiti has also spilled over to the DR—albeit with a much lower incidence—and solid water and sanitation programs will be essential to eliminate cholera and other water-borne diseases from the entire island. The CPS includes the following statements: “an assessment of the feasibility of policy reforms would be a key factor in deciding on the nature of further support” with the recommendation that “Water and sanitation should also be better integrated with water resources management”.

The proposed project is also aligned with two of the four inter-related areas of the 2016 Policy Notes mentioned in the section dedicated to the country context: (i) competitiveness of the economy for inclusive growth; and (ii) environmental sustainability and resilience to climate change.

C. Proposed Development Objective(s)

Note to Task Teams: The PDO has been pre-populated from the datasheet for the first time for your convenience. Please keep it up to date whenever it is changed in the datasheet.

The Project Development Objectives are to promote sustainable management of productive agroecosystems, to enhance resilience of hydraulic assets and to increase quality and access to water supply and sanitation in the targeted river basins.

Key Results (From PCN)

The results of the proposed Project will be measured through the following set of PDO indicators:

- Farmers adopting improved agricultural technology (Number), of which female – Corporate Result Indicator
- Land area under sustainable landscape management practices (Ha) – Corporate Result Indicator
- People provided with access to improved water sources (Number) – Corporate Result Indicator
- Direct project beneficiaries (number), of which female (Percentage)

At this stage the proposed Intermediate Outcome Indicators are:

- Number of Watershed Management and Investment Plans prepared at sub-watershed level
- Volume of Biological Oxygen Demand (BOD) removed under the project
- Number of dams rehabilitated and with improved operation procedures
- Number of Productive Alliance agreements signed between farmers’ organizations and private buyers
- Area provided with new/improved irrigation or drainage services (Ha) – Corporate Result Indicator



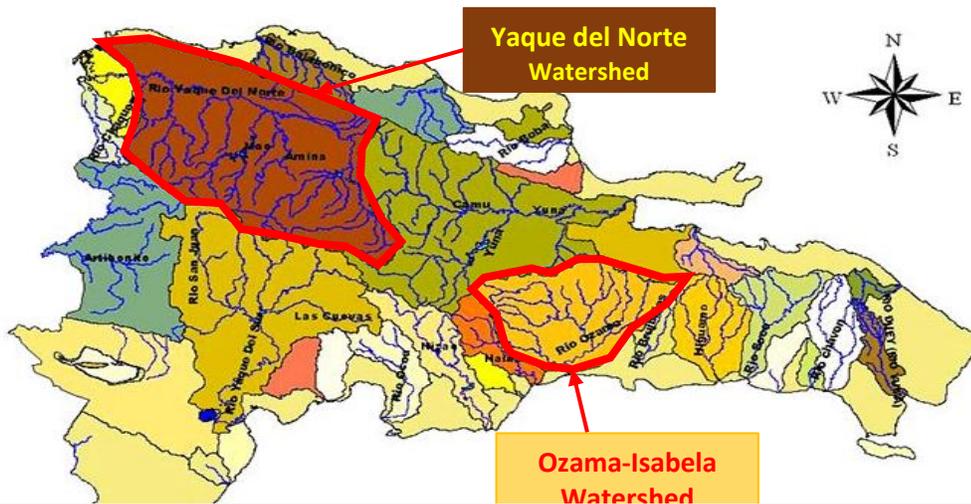
- People provided with access to improved sanitation services (Number) – Corporate Result Indicator

D. Concept Description

Proposed Intervention Areas

The project will target two of the largest watersheds and amongst the most important economically for the country: (i) Ozama-Isabela; and (ii) Yaque del Norte (areas circled in red in the map below).

Figure 1: Project Intervention Areas



The main factors that most influenced the selection of the indicated watersheds were: (i) The degree of deforestation in the upper part of the basins; (ii) the risk of sedimentation in the dams on the middle section of watersheds due to bad agricultural practices and deforestation; (iii) the risk of floods; (iv) the presence of protected areas in upper section of watersheds; (v) the strategic water demand especially for the two major cities of the country: Santiago (Yaque del Norte) and Santo Domingo (Ozama-Isabela) in the lower part of the basins; (vi) the existence of conflicts over water quality and quantity; (vii) the deficit of the water balance in the future, especially for Yaque del Norte¹⁸; (viii) the susceptibility to desertification of soils, and (ix) the presence of significant problems of sanitation.

The project intervention areas are vast (7,000 km² for Yaque del Norte, 2,700 km² for Ozama-Isabela) encompasses several provinces (Vega, Santiago de los Caballeros, Santiago Rodríguez, Monte Cristi, Valverde, Monte Plata, y Santo Domingo) and densely inhabited.

The project will contribute to the high-level objectives defined by the Government under the “Quadrennium of Water” (*el Cuatrienio del Agua*), by supporting the enforcement of the IWRM principles under a multisectoral,

¹⁸ For Yaque del Norte watershed, the water uses will exceed the available resource in 2025: 3,191.58 Hm³/year of projected water abstractions while the water availability will be 3,086.46 Hm³/year (INDRHI, 2009). This water scarcity is already creating tensions between sectors and users in some hot spots as described in the next sections of CN (cf. priority N°2).



pragmatic and sustainable approach.

Therefore, the project will **give priority to its interventions in the following prioritized areas** to ensure **concrete, reachable and measurable impacts**:

- **Priority N° 1: Micro-watersheds of dam reservoirs** (Tavera, Bao, Monción, Chacuey, Maguaca, Mijo, etc.) are priority areas for protection against: (i) sedimentation (due to inadequate use of agricultural soils and pressure on forest cover); (ii) pollution of stored water (due to lack of sanitation upstream of the basin and / or inadequate management of pesticides) and; (iii) reduction of hydrological inflows (due to lack of source protection, reduction of forest cover, etc.).
- **Priority N°2: Areas of existing and/or potential conflicts on use of the water resource, both on quality and quantity aspects** such as, for example, in the zones of Monsieur Bogaert and Ulises Francisco (Cienfuegos) with concurrent water demands between water supply and irrigation (intake for water supply is withdrawing water from the irrigation canal). The project will be able to intervene by financing solutions of water economy for irrigation sector (improvement of efficiency at different levels: conveyance, distribution and/or on-farm application), for WSS (reduction of losses) and/or increase of water availability (mobilization of additional water resources) that would reduce the potential conflicts.
- **Priority N°3: Priority areas resulting from planning exercises at basin or sub-basin scale.** These intervention areas should be prioritized based on the results of the Master Plans of Watersheds or Sub-basins (to be developed during project implementation) and / or planning exercises of actions carried out by institutions with different scales.

The project activities under Priorities 1 and 2 will be well-defined at the time of the project's submission to the Board, which will ensure a quick implementation of project during the first two years. The activities under priorities 3 will be selected on the basis of planning exercises to be carried out in parallel during years 1 and 2.

Proposed Approach

The approach will take a multisector and integrated spatial approach to the management of land, water and vegetation, taking account of upstream and downstream impacts; combine measures to support sustainable intensification on the most fertile rain fed and irrigated lands, with landscape restoration and soil and water conservation on degraded land; aim to create resilience in hydraulic assets and agriculture through a balance of environmental, social, and economic benefits from the use of land, water, forests and trees within a broader pattern of land and water use, and reduce pollution load through expansion of access to sanitation . These combined measures will target to achieve reducing the vulnerability to the adverse impacts of climate change, increasing the adaptive capacity to respond to the impacts of climate change and reducing potential conflict around the resources, especially the water resources (quantity and quality aspects).

The proposed project will apply an integrated landscape management approach at watershed level consistent with adaptation needs identified in the INDCs ¹⁹. The project proposes an integrated approach for the agricultural sector with the following four entry points: (i) making producers more productive and resilient,

¹⁹ In its Intended Nationally Determined Contribution (INDC), the proposal of the Government for mitigation is to reduce the GHG emission by 25% in 2030, in relation to the 2010 baseline (3.6t of CO₂ equivalent) and the agricultural sector can play an important role in achieving this objective.



while lowering their carbon footprint, through climate smart agriculture²⁰ ; (ii) integrating producers into domestic and global value chains; (iii) strengthening institutions and the provision of public goods; and (iv) promoting the sustainable use and management of natural resources at the watershed level.

Building resilience in the agricultural sector (rain fed agriculture in upper and middle watershed and in irrigated agriculture on the lower watershed) to address increased evapotranspiration and water scarcity during these months will be critical to support food security and competitiveness of agricultural sector. In order to support adaptation of farmers to the detrimental effects of climate change, this project will help farmers to address soil erosion and damaging floods and landslides by strongly promoting reforestation initiatives; will help to secure livelihoods by mainstreaming disaster risk management activities into agricultural interventions; will provide plans and technical assistance to farmers to halt land degradation and to engage in sustainable practices, such as the planting of appropriate crops for steep sloped land; will promote livelihood diversification; and improve irrigation infrastructure management to agricultural areas at the watershed level.

Proposed Components

A short description of components and activities is proposed in the next paragraphs.

Component 1: Sustainable Productive Management of Agroecosystems with the following activities: (i) Support to conservation of protected areas (zoning and delimitation of parks, development of management plans, reforestation and protection of degraded areas, support for implementation of payments for environmental services, etc.); (ii) Promotion of sustainable agroforestry and ranching practices through subprojects including training and investments to agricultural producers' organizations and; (iii) Support rain fed agriculture in the middle part of the basins by providing grants for collective demand-driven investments; (iv) Support irrigated agriculture in collective systems co-managed by INDRHI (*Instituto Nacional de Recursos Hidráulicos*) and the Water Users Associations in the lower part of the river basin (same modality than previous item). For items (iii) and (vi), the component will use **Productive Alliances** mechanisms (see detailed description in the technical annexes) where integrated support is sought including training, investments (production technologies, machinery, storage infrastructures, land irrigation, transportation, product transformation, etc.) and technical assistance to formalize a purchase contract with private allies (supermarkets, exporters, etc.) and / or public (public purchase for schools, etc.). This component will mainly be implemented through local NGOs under a competitive selection.

Component 2: Enhancement of Resilience and Management of Hydraulic Infrastructures. This component includes the subcomponents of: (i) Rehabilitation of the Chacuey and Maguaca dams based on feasibility studies performed under the recently closed project Emergency Recovery Project (P109932)²¹, studies about Tavera and Mijo dams and improvement of the dam management in the two river basins; (ii) Rehabilitation, modernization and improvement of the operation and maintenance of irrigation schemes located in the lower section of river basins (storage, regulation, improvement of conveyance and distribution efficiency, on-farm irrigation, etc.)²²; and (iii) Strengthening the capacities of INDRHI and the Water Users' Association.

²⁰ Climate-smart agriculture (CSA) is an approach that seeks to increase productivity in an environmentally and socially sustainable way, strengthen farmers' resilience to climate change, and reduce agriculture's contribution to climate change by reducing greenhouse gas emissions and increasing carbon storage on farmland. CSA is therefore about adaptation and mitigation of the agricultural sector.

²¹ Feasibility study and final design is ready for Maguaca, while the existing studies need to be updated for Chacuey.

²² INDRHI is working currently on the preparation of the studies for these investments with national funding.



Component 3: Improvement of Water Supply and Sanitation Services

This component will contribute to improving the access and quality of drinking water and sanitation services to selected rural and urban communities through actions of: (i) Mapping, diagnosis and planning of water supply and sanitation systems services provided; (ii) Promotion of the sustainable management of water supply and sanitation services, including the strengthening of management for the provision of water and sanitation services in the participating communities and the management of the corresponding micro-watershed, and environmental and health education; and (iii) Construction, expansion and / or improvements to the infrastructure for potable water and sanitation services in participating urban and rural communities.

Component 4: Capacity Building for Natural Resources Management and Governance, and Project Management

This component includes activities of: (i) Strengthening of the Water Roundtable (*Mesa del Agua*), basin level planning (preparation of Master Plans) and implementation of sectoral policies to enhance water security (governance, and drinking water, and sanitation); (ii) Consolidation of the National System of Soil Conservation (SNCS); (iii) Support to creation of the 2 River basin Councils and the Micro-Watershed Committees (18 for Yaque del Norte and 15 for Ozama Isabela); (iv) Information and monitoring systems; (v) Capacity strengthening to all implementing agencies; and (vi) Administrative, financial and technical management of the project.

Note to Task Teams: The following sections are system generated and can only be edited online in the Portal.

SAFEGUARDS

A. Project location and salient physical characteristics relevant to the safeguard analysis (if known)

The project locations and activities will be:

1. Yaque del Norte watershed (north central portion), and Ozama watershed (south central portion) of the Dominican Republic.
2. Yaque del Norte has high mountains (> 3000 m in natural protected areas); a middle section with mountains (400-1000 m) with tourist towns and local villages dedicated to temperate agriculture and animal husbandry practices. In this section of the watershed, there are several reservoirs with strategic value, producing power, supporting aqueducts and irrigation and flood control.
3. Along the main river and its tributaries, towns and villages have settle and grown with an unplanned urban development, affecting the natural systems by discharges of untreated (sewer urban and from farms and animal husbandry), also there is solid wastes discharges from these small communities and settlements.
4. Deforestation, unsustainable agriculture and non-sustainable husbandry practice have affected the quality of ecosystem services along the watersheds reaching the coastal regions. Ozama watershed, is smaller with median high (<1000 m) mountains and in a relative short distance turns into a coastal flat were sugarcane, pastures, intensive commercial and animal husbandry activities are implemented. Also encompasses light and heavy industries and the largest urban concentration of the island around 4 million inhabitants
6. Nevertheless, due to its neighboring to the capital city Santo Domingo, this region's population has increased. Due to this, small villages have evolved without planning with the consequence impact on the nearby environments (forests,



savannas, and riverine and lagoon and coastal ecosystems)

8. The activities of the project will try to remediate with sustainable forest conservation and agriculture practices. Nevertheless the positive impacts, other actions must be considered in the ESMF to prevent impacts, such as: sound management of pesticides, soil uses and conservation practices.

9. In villages and towns in the Yaque del Norte watershed, sanitation and potable water improvement and infrastructure construction will be implemented, as well as Infrastructure repairs and enhancement of exiting reservoirs and dams.

B. Borrower's Institutional Capacity for Safeguard Policies

1. Ministerio de Economía, Planificación y Desarrollo (MEPyD), will act as the overall coordinator of the project, will create a Project Implementation Unit (PIU). The institution does not have an Environmental Unit. The institution has experience with WB project (PASCT) and has created a specialized unit within the projects PIU. For this project, it's recommended to form an Environmental Unit to be the coordinator and supervisor for the environmental and social aspects, amongst all other participating agencies for this project.

2. Ministerio de Medio Ambiente y Recursos Naturales (MIMARENA). This is the official environmental institution of the country and is responsible for environmental permitting. It has trained personnel capable to train and supervise the environmental and social issues for all other agencies involved in the project. Nevertheless, MIMARENA has not worked with WB project, thus its personnel must be trained in the WB Safeguards Policies.

3. Ministerio de Agricultura (MA). This organization will be mainly involved in extension and sustainable production and agribusiness promotion and supervision. They have an Environmental department within the organization, nevertheless has not worked with WB project, thus its personnel must be trained in the WB Safeguards Policies.

4. Instituto Nacional de Recursos Hidráulicos (INDRHI). Their main involvement will be related to the rehabilitation of two reservoirs in the Yaque del Norte watershed, and enhancement of irrigation canals. They have an Environmental department within their organization and have worked recently in a WB project (Emergency and Recovery project closed in 2017)

5. Instituto Nacional de Aguas Potables y Alcantarillado (INAPA). Their role is the construction and operation of public water works in rural areas (potable and sewer). They shall be assisted to create or strengthened an Environmental department within the organization, as well as never have worked with WB project, thus its personnel must be trained in the WB Safeguards Policies.

6. During the project preparation, a review and assessment of each of the relevant executing agencies will be performed regarding their capacity to implement the applicable bank safeguards for this project, and the needs for the PIU.

C. Environmental and Social Safeguards Specialists on the Team

Ramon E. Anria, Social Safeguards Specialist

Robert H. Montgomery, Environmental Safeguards Specialist



D. Policies that might apply

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	<p>The Project is proposed to be categorized as B given the potential limited negative environmental and social impacts and risks due to sub-project works that are not anticipated to be significant and can be readily mitigated with standard measures.</p> <p>The Project is expected to generate positive environmental impacts in terms of more effective management of protected areas reforestation, sustainable agriculture, soil conservation and overall improvement of the watersheds conditions through a landscape approach. Positive impacts are also expected in terms of social aspects as the Project will have a strong focus on sustainable livelihood options for the people that depend on natural resources for their living within the Project area of influence. The Project will reduce deforestation and biodiversity loss and strengthen the provision of ecosystem services by promoting access to more resilient livelihood options, controlling of anthropogenic pressures and promoting sustainable use of natural resources. The resilient agriculture and landscape approach will stimulate inter-institutional and participatory collaboration for increasing sustainability of land use.</p> <p>The primary potential negative environmental and social impacts are related to civil works associated with Component 3 (construction of relatively small water supply systems and waste water plants in small rural or urban areas), Component 2 (relatively limited focused rehabilitation of portions of existing dams), and Component 1 (small sub-projects or grants for agroforestry, ranching and rain-fed agriculture projects). The potential negative impacts could include: typical construction work impacts such as dust, noise, waste generation, etc. for all three components. No significant cumulative impacts are anticipated.</p> <p>As the designs for specific sub-project investments and their physical location will only be developed (using project funds) during Project implementation for component 1, portions of component 2, and most</p>



likely all or significant portion of component 3, the project will prepare an Environmental and Social Management Framework (ESMF). The ESMF will include screening criteria and process/procedure and potential standard environmental mitigation and monitoring measures for the likely types of sub-projects to be developed. The ESMF will also define the requirements for Environmental and Social Management Plans (ESMPs) for applicable sub-projects.

If an ESMP is developed under the ESMF, the ESMP will cover all the necessary ESIA related elements of an ESIA, as defined under OP 4.01.

For those sub-projects in component 2 that have already design studies (e.g., rehabilitation works for Maguaca and Chacuey dams), an ESMP will be developed prior to appraisal. ESMPs will also be developed for any component 3 sub-projects (waster related) that are included in the Project and have established designs. These ESMP will cover all the necessary ESIA related elements of an ESIA, as defined under OP 4.01.

Given the strong focus on development of livelihoods for potential project beneficiaries and the promotion of more resilient livelihood options, the social assessment carried out will include a better understanding of:

- current socio-economic conditions of expected beneficiaries,
- their degree of dependence on natural resources and ecosystem services,
- community and family support structures and
- the feasibility and implications of potential different livelihood options for improving incomes and resilience while promoting sustainable conservation approaches.

The ESMF will include references to the applicable WBG Environmental Health and Safety Guidelines, i.e. Water and Sanitation; Mammalian Livestock Production; Forest Harvesting (relevant sections on managed natural forests).



Natural Habitats OP/BP 4.04	Yes	Support to resilient productive landscapes and integrated landscape restoration is expected to expand benefits to natural habitats to the private areas surrounding the targeted protected areas and high mountains nearby, increasing connectivity and the availability of suitable habitat for biodiversity. The targeted protected area represents the management category of Natural Park. They present different types of human settlements in or around its buffer zone. The ESMF for Component 1 (sub-projects or grants for good agroforestry, ranching and rain-fed agriculture) will include a negative list of activities that not be eligible for Project funding, and procedure to assess and manage potential negative impacts on natural habitat. Portions of the capacity building to the Ministry of Agriculture and Ministry of Environment (component 1) should also assist in protection of natural habitats.
Forests OP/BP 4.36	Yes	The Project is expected to generate positive impacts on forests through support for integration and management of forests within agricultural production systems through restoration and natural regeneration of native vegetation and promotion of agricultural practices that secure conservation and promote establishment of forest patches in agricultural landscapes (e.g. agroforestry and silvopastoral systems). Some of the livelihood activities to be promoted might entail use of forest resources. Associated with Component 1 (sub-projects or grants for good agroforestry, ranching and rain-fed agriculture), any forest area involved with the Project area is expected to be small-scale and/or low impact in nature. The ESMF will define eligibility criteria (including only those that comply with existing legal framework) and safeguard requirements including assessment of impacts and standards and practices applicable to community or small-scale forestry activities. Portions of the capacity building to the Ministry of Agriculture and Ministry of Environment (component 1) should also assist in improving forest protection.



			<p>The Project would support vegetation restoration activities and the adoption of forest-friendly production practices such as agro-forestry, and other agricultural and husbandry practices, which will favor integrated, natural methods for managing pests. However, certain cases like control infestation might require use of chemical pesticides or other agricultural chemicals, always excluding yellow and red label products.</p>
Pest Management OP 4.09	Yes		<p>The Project ESMF for Component 1 will include preventive and mitigation measures for pest management compatible with OP 4.09 to guide related Project activities, as well as clear restrictions on not permitted use of stronger toxic chemicals. Depending on the scale of project activities which would include pest management, during project preparation an assessment will be made whether these measures can be included in the EA instruments under 4.01 or if a stand-alone Integrated Pest Management Plan is needed.</p>
Physical Cultural Resources OP/BP 4.11	Yes		<p>This safeguard is triggered as a precaution in any project involving civil works. Chance finds procedures will be detailed in the ESMFs and applicable sub-project ESMPs developed under 4.01.</p>
Indigenous Peoples OP/BP 4.10	No		<p>OP 4.10 should not be triggered as there are no distinct Indigenous Peoples in the Dominican Republic that fulfill the four characteristics indicated under this policy.</p>
Involuntary Resettlement OP/BP 4.12	Yes		<p>OP 4.12 should be triggered considering that some activities of WSS and irrigation infrastructures (such as small reservoirs along the main irrigation canals) may require acquisition of areas of lands from private owners. A RPF is to be prepared by appraisal. Site-specific RAPs [or compensation notes] will be prepared during project implementation where needed.</p>
Safety of Dams OP/BP 4.37	Yes		<p>The Project component 2 will include some works on partial dam rehabilitation (e.g., Chacuey and Maguaca)</p>



in order to improve dam and reservoir operation. The project allows a better protection to flood damages for downstream population and assets.

The two dams have the followings characteristics:

- Maguaca (height 26 m., Storage volume 15.6 million m3) and
- Chacuey (height 32.8 m., Storage volume 13.7 million m3).

For large dams, the Bank requires reviews by an independent Panel of Experts of the investigation, design, construction and start-up phases. The Bank also requires preparation and implementation of detailed Dam Safety Plans. An international Safety Panel of Experts will then be constituted as in the previous project. The team and the INDRHI's counterparts will use the same specialists than in previous project. The Bank also requires periodic safety inspections of the dam after completion.

For component 2 dam rehabilitation works that have established designs (e.g., rehabilitation works for Maguaca and Chacuey dams), the appropriate plans will be developed prior to appraisal. For the component 2 dam rehabilitation works that do not have designs (i.e., to be developed by the Project during implementation) (e.g., Mijo and Tavera dams), the ESMF will include the process for establishing the necessary plans to comply with OP/BP 4.37.

This policy should not be triggered because it will not affect International Waterways OP/BP 7.50.

None of the situation described below applies to the two river basins targeted (Yaque del Norte and Ozama-Isabela) :

- (a) any river, canal, lake, or similar body of water that forms a boundary between, or any river or body of surface water that flows through, two or more states, whether Bank1members or not;
- (b) any tributary or other body of surface water that is a component of any waterway described in (a) above; and
- (c) any bay, gulf, strait, or channel bounded by two or more states or, if within one state, recognized as a necessary channel of communication

Projects on International Waterways
OP/BP 7.50

No



between the open sea and other states--
and any river flowing into such waters.

Projects in Disputed Areas OP/BP 7.60

No

This policy should not be triggered because the proposed project will not affect disputed areas as defined under the policy OP/BP 7.60

E. Safeguard Preparation Plan

Tentative target date for preparing the Appraisal Stage PID/ISDS

Nov 10, 2017

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

The project will develop an Environmental and Social Management Framework (ESMF) for the whole project and Environmental and Social Management Plans for specific defined sub-projects in components 2 (dams, irrigation) and 3 (Water Supply and Sanitation). All ESMPs under the Project will cover all the necessary ESIA related elements of an ESIA, as defined under OP 4.01. A Resettlement Policies Framework (RPF) is to be prepared and approved by the World Bank before Project Appraisal.

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APPROVAL

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