



**The World Bank**

Environmental Sustainability and Urban Resilience (P174000)

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INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROGRAM DOCUMENT FOR A

PROPOSED LOAN

IN THE AMOUNT OF US\$750 MILLION TO

UNITED MEXICAN STATES  
FOR THE

ENVIRONMENTAL SUSTAINABILITY AND URBAN RESILIENCE  
Development Policy Financing (DPF)  
November 23, 2020

Environment, Natural Resources and Blue Economy Global Practice  
Latin America and the Caribbean Region

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United Mexican States  
**GOVERNMENT FISCAL YEAR**  
*January 1 – December 31*

**CURRENCY EQUIVALENTS**  
(Exchange Rate Effective as of November 19, 2020)

Currency Unit  
MXN 20.20 = US\$ 1.00

### ABBREVIATIONS AND ACRONYMS

AAP	Ambient Air Pollution
ASA	Advisory Services and Analytics
CO	Carbon Monoxide
CONAVI	National Housing Commission ( <i>Comisión Nacional de Vivienda</i> )
CONEVAL	National Council for the Evaluation of Social Development Policy ( <i>Consejo Nacional de Evaluación de la Política de Desarrollo Social</i> )
CPF	Country Partnership Framework
DOF	Federal Official Gazette ( <i>Diario Oficial de la Federación</i> )
DPF	Development Policy Financing
ETS	Emissions Trading System
FCL	Flexible Credit Line
FDI	Foreign Direct Investment
FM	Financial Management
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoM	Government of Mexico
GRS	Grievance Redress Service
IBRD	International Bank for Reconstruction and Development
IMF	International Monetary Fund
MFD	Mobilizing Finance for Development
MSMEs	Micro, Small, and Medium Enterprises
NDC	Nationally Determined Contribution
NDP	National Development Plan
NO <sub>2</sub>	Nitrogen Dioxide
NOM	Mexican Official Norm (Norma Oficial Mexicana)
O <sub>3</sub>	Ozone
OECD	Organisation for Economic Co-operation and Development
PA	Prior Action
PEMEX	Mexican Petroleum (Petróleos Mexicanos)

PFM	Public Financial Management
PM	Particulate Matter
PM <sub>10</sub>	Particulate Matter with a Diameter of less than 10 Micrometers
PM <sub>2.5</sub>	Particulate matter with a Diameter of less than 2.5 Micrometers
PROMARNAT	Program for Environment and Natural Resources ( <i>Programa Sectorial de Medio Ambiente y Recursos Naturales</i> )
PSBR	Public-Sector Borrowing Requirements
PSIA	Poverty and Social Impact Assessment
SADER	Secretariat of Agriculture and Rural Development ( <i>Secretaría de Agricultura y Desarrollo Rural</i> )
SCD	Systematic Country Diagnostic
SDR	Special Drawing Right
SEDATU	Secretariat of Agrarian, Land, and Urban Development ( <i>Secretaría de Desarrollo Agrario, Territorial y Urbano</i> )
SEMARNAT	Secretariat of Environment and Natural Resources ( <i>Secretaría de Medio Ambiente y Recursos Naturales</i> )
SHCP	Secretariat of Finance and Public Credit ( <i>Secretaría de Hacienda y Crédito Público</i> )
SINACIC	National System of Concurrent Incentive Consultation ( <i>Sistema Nacional para la Consulta de Incentivos Concurrentes</i> )
SO <sub>2</sub>	Sulfur Dioxide
USMCA	United States-Mexico-Canada Agreement
WBG	World Bank Group

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**UNITED MEXICAN STATES**

**ENVIRONMENTAL SUSTAINABILITY AND URBAN RESILIENCE DPF**

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**SUMMARY OF PROPOSED FINANCING AND PROGRAM**

**BASIC INFORMATION**

Project ID	Programmatic
P174000	No

**Proposed Development Objective(s)**

Support (i) strengthening environmental sustainability and resilience, and (ii) expanding access to resilient urban infrastructure and social housing.

**Organizations**

Borrower: UNITED MEXICAN STATES

Implementing Agency: SECRETARÍA DE HACIENDA Y CRÉDITO PÚBLICO

**PROJECT FINANCING DATA (US\$, Millions)**

**SUMMARY**

<b>Total Financing</b>	<b>750.00</b>
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**DETAILS**

International Bank for Reconstruction and Development (IBRD)	750.00
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**INSTITUTIONAL DATA**

**Climate Change and Disaster Screening**

This operation has been screened for short and long-term climate change and disaster risks

**Overall Risk Rating**

Substantial

**Results**

Indicator Name	Baseline	Target
Results Indicator #1: Number of farmers with deforestation-free agriculture support	0 (01/2020)	2.8 million (12/2021)
Results Indicator #2: Share of national greenhouse gas (GHG) emissions regulated under an aggregated annual GHG emissions cap	0% (01/2020)	40% (12/2021)
Results Indicator #3: Share of cities with a population of more than 2 million that: (i) have an air quality network in operation, and (ii) publicly disseminate air quality information throughout the year	0% (01/2020)	100% (12/2021)
Results Indicator #4: Share of highly climate vulnerable municipalities that adopt measures that improve their adaptive capacity to climate change	0 (01/2020)	5% (12/2021)
Results Indicator #5: Increase in conservation area of urban forest	0 (01/2020)	1,000,000 ha (12/2021)
Results Indicator #6: Number of beneficiary households of the re-prioritized Social Housing Program	0 (01/2020)	165,000 (12/2021)
Results Indicator #7: Number of beneficiaries under enhanced Urban Upgrading Program	0 (01/2020)	1,078,000 (12/2021)
Results Indicator #8: Number of households living in units damaged by the 2017 and 2018 earthquakes that receive technical and financial assistance through the National Reconstruction Program in 2020	0 (01/2020)	20,000 (12/2021)
Results Indicator #9: Share of female beneficiaries affected by the 2017 and 2018 earthquakes supported under the National Reconstruction Program	0% (01/2020)	52% (12/2021)



## IBRD PROGRAM DOCUMENT FOR A PROPOSED LOAN TO THE UNITED MEXICAN STATES

### 1. INTRODUCTION AND COUNTRY CONTEXT

1. **The proposed Development Policy Financing (DPF) supports part of the Mexican authorities' program to enable environmental sustainability and urban resilience.** Beyond the health and human life consequences, the pandemic has brought demand and supply shocks to the Mexican economy, with deep impacts on firms, employment, and households. Through the channels of trade (including the U.S output drop and oil prices collapse), finance (flight to liquidity in U.S dollars and other foreign exchange denominated securities), investment (high uncertainty), and massive disruptions in economic activity to flatten the contagion curve domestically, it is expected that Mexico's output will drop significantly in 2020. As in other emerging economies, the recovery path is likely to be complex, marked with uncertainties, and it will need to be supported by critical economic reforms. At the same time, the current juncture presents an opportunity to complement those efforts with reforms to enable more resilience to the shocks arising from climate change while still contributing to a stronger and better medium-term recovery. In this context, the Program Development Objectives of this operation are to support the authorities' program of: (i) strengthening environmental sustainability and resilience; and (ii) expanding access to resilient urban infrastructure and social housing. This DPF is aligned with the strategic framework outlined in the World Bank Group (WBG) COVID-19 Crisis Response Approach Paper (AP), specifically with its Pillar 4 "focused on strengthening policies, institutions and investments for rebuilding better". The policies supported by this operation are also fully aligned with the objectives set out in the FY 2020-25 Country Partnership Framework (CPF) discussed by the Board of Executive Directors in February 2020, specifically with objectives 6 and 7, and its *institutional building* features

2. **The Covid-19 pandemic has had significant human, poverty, and employment costs.** The official statistics as of mid-November 2020 show that close to 1 million people contracted the virus and over 94,000 died (Figure 1). Since mid-March the government implemented measures to control the spread of the virus, including the suspension of all non-essential economic activities, move to at-home work and schooling nationwide, and a broad social distancing initiative. The government established a "traffic light" system for a gradual activity reactivation, which commenced in mid-May, but significant uncertainties remain ahead until the availability of a vaccine. The overall impact of the crisis has been significant on jobs. Total employment fell drastically in the early months of the pandemic. Since then it recovered gradually, but with 5 million less jobs by July 2020 compared to the previous year, more than 1 million of them lost in the formal sector. Poverty reduction was limited for decades before the crisis compared to peer countries, as growth rates were insufficient to support significant progress.<sup>1</sup> Similarly the annualized growth rate of the median per capita income was low.<sup>2</sup> The contraction in economic activity will likely lead to a large impact in monetary poverty, increasing the (US\$5.5 line) poverty rate from 21 percent in 2019

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<sup>1</sup> The official poverty rate fell from 46.1 to 41.9 percent of the population between 2010-18 due to increased labor income and a reduction in social deprivations. Monetary poverty amounted to 23 percent in 2018 using the upper middle-income poverty line (US\$5.5 a day, 2011 purchasing power parity (PPPs)). Mexico's median per capita income in 2018 was US\$3,295 (in 2011 PPP terms) equivalent to US\$1,990 in nominal U.S. dollars.

<sup>2</sup> Mexico's median per capita income in 2018 was US\$3,295 (in 2011 PPP terms) equivalent to US\$1,990 in nominal U.S. dollars.





to at least 27 percent in 2020 (or close to 8 million of new poor by this measure), with only a gradual reduction in 2021-2 (Figure 2).

3. **The authorities have implemented measures to face the crisis.** Aside from the health response, the authorities have launched a set of monetary, financial, fiscal, economic and social measures to mitigate the impact of the crisis. On the monetary-financial side, currency swap lines, liquidity facilities, a regulatory forbearance, and other important measures were adopted. The fiscal response has been more limited, probably too tight for the large shock received by the economy and households. The authorities' expressed rationale is that they are trying to strike a balance between short-term larger fiscal imbalances and a sustainable fiscal framework over the medium term, considering that risks remain high and fiscal space for further action may be needed in the months ahead. The support applied was targeted to support vulnerable households, workers, and Micro, Small and Medium Enterprises (MSMEs). Box 1 presents a list of the measures taken as of September 2020.

4. **Mexico's 2018 Systematic Country Diagnostic (SCD) highlighted a number of fiscal, social, and environmental sustainability challenges that would hamper development, inclusion, and poverty reduction well before the crisis.** It underscored the country's high vulnerability to climate change and environmental degradation, particularly as regards to forests, water, agriculture, air quality, and natural disasters. In the context of COVID 19, poor urban living conditions and environmental quality intensify Mexico's vulnerability. Disadvantaged groups suffer disproportionately from the adverse consequences of climate change and environmental degradation, since they are more exposed and thus more susceptible to climate-induced damage. Moreover, their ability to cope and recover is significantly lower.<sup>3</sup> This is particularly the case of the *states in the south* of the country.

5. **Despite the challenging circumstances, the Mexican authorities' have maintained their efforts to implement reforms for a more environmentally sustainable and resilient recovery over the medium term.** This operation is part of a broader and larger medium-term agenda and efforts to face climate change challenges. The protection of natural capital such as forests is critical in this regard, as they are key in reducing GHG emissions and increasing the uptake of climate-smart agriculture practices in the country. Another challenge in Mexico is the Ambient Air Pollution (AAP), resulting in an estimated 40,000 premature deaths and 1.4 billion days of illness per year. In this context, a number of tools, economic instruments, and incentives can be critical to help combat these challenges. Moreover, resilience efforts to reduce the vulnerability to natural disasters, particularly those arising from climate change are critical for the country. This is very pressing for critical urban infrastructure and housing, serving poorer areas of the country and vulnerable households. All these challenges are hard to face, and some sectoral policies, particularly in the energy renewable sector, created concerns. This operation focuses on a positive climate change and resilience agenda ahead. But understanding that the reforms supported are one step in the right direction on a broader reform agenda to address Mexico's multiple development challenges, including in the areas covered in this operation.

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<sup>3</sup> (Islam & Wikel, 2017, pág. 6).



- ***The operation's first pillar aims to strengthen the authorities' efforts to improve environmental sustainability and resilience.*** Mexico continues to be extremely vulnerable<sup>4</sup> to increasing climate variability and occurrence of extreme weather events such as recurring cyclones, heat waves, droughts, and floods that can damage infrastructure, including rural and urban housing, disrupting supply lines, commercial operations, and strengthening environmental sustainability and resilience economic activities. In addition to implementing an agenda to reduce this vulnerability, Mexico has important commitments to decarbonize to improve its competitiveness and reduce GHG by 2030 through its Nationally Determined Contribution (NDC). A large array of instruments and interventions across sectors are critical to achieving those commitments. The reforms supported include a critical phase of the implementation of the Emissions Trading System (ETS). The policies supported also aim at protecting forests, which are essential contributors to the national efforts to mitigate climate change via carbon sequestration. The reforms also support adaptation capacity in the most vulnerable municipalities to climate change impacts. Finally, AAP is a significant environmental and development challenge that affects the whole population and the economy. The reforms supported establish ***a central institutional structure*** to gather, analyze and disseminate uniformed measures/information on AAP across the country, and based on that give directions to local entities on how to reduce the impact of AAP on the population.
  
  - ***The operation's second pillar supports the authorities' reforms geared to expand access to resilient urban infrastructure and social housing.*** The housing deficit and the susceptibility of the existing housing stock to natural events are important challenges, affecting acutely a large number of vulnerable households. Under the supported new policies, targeting mechanisms are being introduced to ensure that the funds are allocated to poor households, vulnerable populations and those exposed to natural disasters (including those stemming from climate risks). Critically, the policy reforms introduce strict resilience criteria for construction and renovation. Mexico's urban expansion has exacerbated spatial inequalities, increased deficits of social and urban services, and expanded development, often in areas highly exposed to natural disasters. The policy changes supported aim to address these problems by enabling targeted financial and technical support for resilient urban infrastructure and territorial planning to mid-sized cities in the ***southeast of the country*** characterized by a high concentration of vulnerable populations and municipalities with high deficits of urban infrastructure. The operation also supports a new policy that enables national capacity to “build back better” (i.e., with greater resilience to natural shocks including those that are climate change related) the housing and urban infrastructure damaged by the 2017 and 2018 earthquakes, part of which still needs work. The policy measures being supported help to ensure that the reconstruction and renovation of these urban assets will be done with a greater focus on resilience to disasters, including to those that stem from climate change.
6. **The operation has been designed as a stand-alone DPF to provide the needed flexibility for supporting reforms in this complex and difficult time.** Moreover, development partners were involved in the authorities' reforms, including from the governments of United Kingdom (BEIS, DEFRA), France (AFD), United States (DOS) and Germany (BMZ, BMU, GIZ and KfW), among others. The operation also supports a

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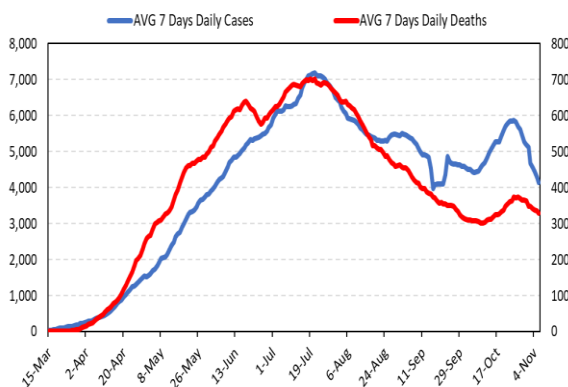
<sup>4</sup>In Mexico, the magnitude of this problem translates into 68% of the population negatively exposed to direct impacts from climate change.



number of policies and institutional reforms that have significant potential for *global knowledge transfer*, as Mexico is at the cutting edge of these reforms in Latin America and emerging economies. This operation complements the authorities’ reforms and efforts supported under the Financial Access DPF approved by the World Bank Board in May 2020 and a parallel DPF focused on reforms to strengthen Mexico’s economic sustainability, all critical components to face the current situation and future challenging medium term.

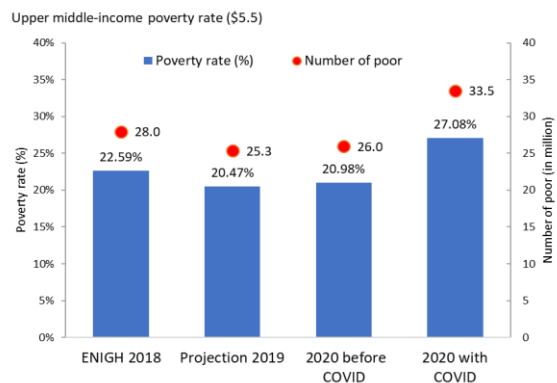
7. **The macroeconomic policy framework is adequate for this proposed operation despite prevailing economic conditions.** In the context of the expected global fall in output, Mexico’s GDP is expected to contract substantially in 2020. The current account deficit, which narrowed markedly during 2019 and into 2020, will remain moderate and continue to be financed by Foreign Direct Investment (FDI) over 2020-22. Mexico has an independent Central Bank and a flexible exchange rate regime that has been the first line of defense against the external shocks experienced over the last months. Inflation converged toward the 3 percent target in 2019 and is likely to stay within the Central Bank’s bounds of tolerance (2-4 percent) over the medium-term. The country is judiciously using its monetary policy and the Central Bank’s balance-sheet space to respond in the context of the volatile global capital markets. The financial sector entered the crisis well-capitalized and the authorities took critical measures to ensure stability and liquidity, but it will require close monitoring. Fiscal consolidation over the last years enabled Mexico to achieve public debt stabilization over 2017-19, ahead of most emerging economies. In the current context, a re-prioritization of spending is expected to attend to health needs, protect social assistance, and target investments with high fiscal multipliers, while net revenues will decline with the output drop, even after the cushion stemming from the stabilization fund and the receipts/payouts of the oil-price hedge contracted. Public debt remains sustainable (and relatively resilient to different shocks) despite the large one-off increase expected for 2020.

Figure 1. Evolution of COVID-19 cases.



Sources: Secretaria de Salud de México.

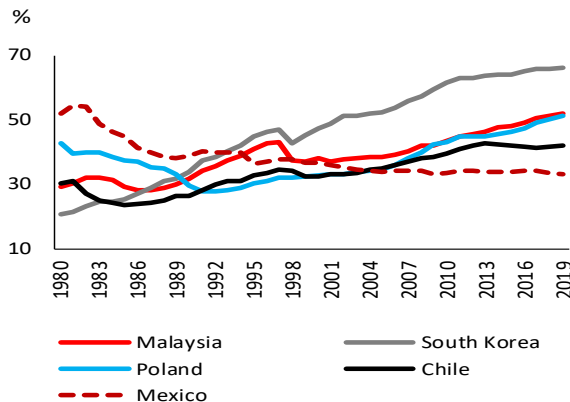
Figure 2. Poverty before and after COVID-19



Sources: Total Economy Database; World Bank calculations

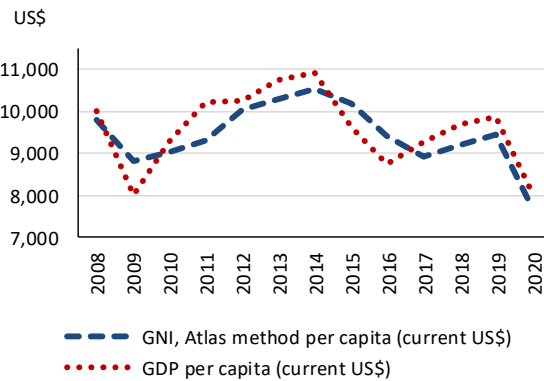


Figure 3. Per capita income as a share of U.S.



Sources: World Development Indicators, World Bank.

Figure 4. Per capita GDP dynamics 2008-2020



Sources: World Bank calculations.

## 2. MACROECONOMIC POLICY FRAMEWORK

### 2.1. RECENT ECONOMIC DEVELOPMENTS

8. **Economic growth halted in 2019 and is expected to drop significantly in 2020 as the global recession unfolds due to the COVID-19 pandemic.** The expansion of economic activity at a moderate annual rate of 2.1 percent during 2017-8, turned into a marginal contraction of -0.3 percent in 2019. Private consumption growth dipped, whereas a change in public sector priorities and programs led to a slowdown of government consumption. Investment also slowed, which had been weak since 2016. On the supply side, the decline in hydrocarbon production placed a drag on growth, even as the decline in production under way since its 2004 peak was arrested in the last quarter of 2019. The COVID-19 pandemic is taking a heavy toll on the Mexican economy as economic activity contracted by 1.3 and 18.6 percent year on year, in the first and second quarters of 2020, respectively. The economic downturn bottomed out in June and has been largely concentrated in the industry and services sectors. Construction has been down by more than 30 percent from April to July, whereas activity in the hotel and restaurant sector has been down by 58 percent. The latter is also in line with a reduction in international tourist arrivals which was still down by nearly 70 percent in August this year.

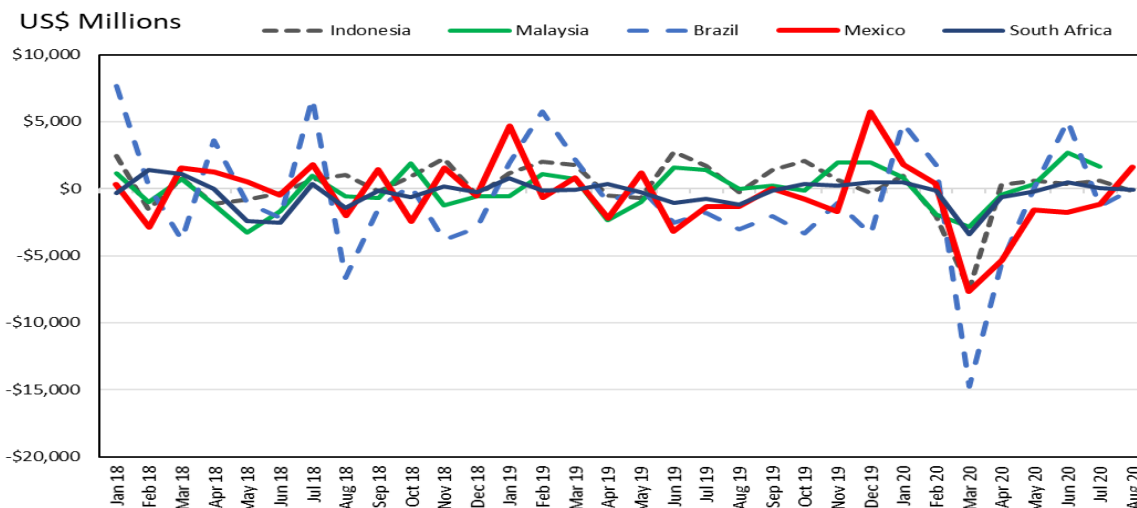
9. **With a marginal import compression and on the back of strong remittances growth, the current account deficit (CAD) narrowed significantly in 2019 and into 2020.** The CAD continued to be fully financed by foreign direct investment, which in 2019 remained close to (albeit below) past years' levels. International reserves remained robust, at US\$193 billion by end August 2020, and are sufficient to cover more than 6 months of imports and more than 300 percent of short-term external debt. At the end of 2019 the country also renewed a Flexible Credit Line (FCL) with the IMF for about US\$61 billion. The trade balance for the first two quarters of 2020 was positive at US\$2,659 million (as they were for the whole of 2019 as well).



10. **At the onset of the COVID-19 pandemic crisis, there was a sharp increase in risk aversion in international capital markets that triggered capital outflows from Mexico and other emerging economies.** During March of 2020, most emerging economies suffered capital outflows, with Mexico as one of the most affected economies (Figures 5 and 9). This continued in April, though at a declining pace. Emerging economies also took a hit in debt markets, with spreads soaring to over 700 bps at the end of April for Mexico (Figure 4). However, since the end of May the outlook for emerging economies on debt and capital markets gradually improved, including for Mexico.

11. **Mexico has a flexible exchange rate regime that has been the first line of defense against external shocks.** Over the first quarter of 2020, the peso was hard hit by the shocks and volatility experienced by capital markets, which prompted a rapid depreciation of the peso against the US dollar (Figure 5). This took place as non-resident holders of domestic currency securities, investors hedging positions with Mexican peso, and other investors have been unwinding their positions to seek dollar liquidity. The Central Bank enabled a swap program with the U.S. Federal Reserve for around US\$60 billion, and together with the Ministry of Finance provided swap facilities to market participants and enabled more liquidity for the financial sector (see Box 1 on the initial response from the authorities). Since the end of March, the peso appreciated about 15 percent against the USD.

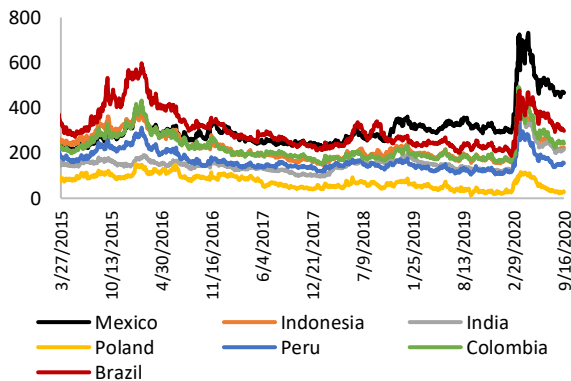
**Figure 5: Net non-resident purchases of Emerging Market (EM) bonds (portfolio debt flows) in USD millions**



Source: Institute of International Finance, WB staff calculations

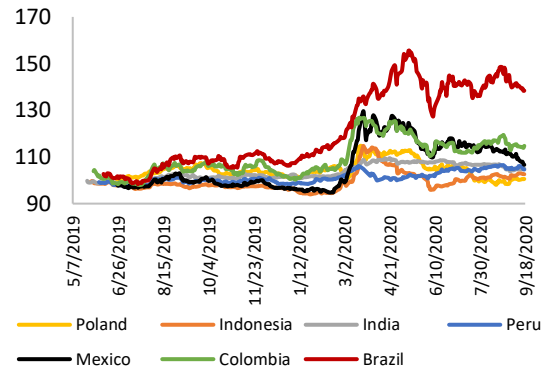


**Figure 6. Emerging market bond index global spreads**



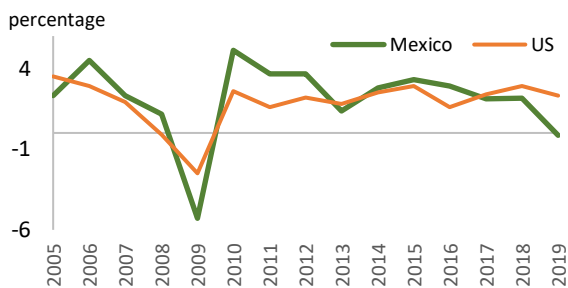
Source: Bloomberg.

**Figure 7. Exchange rate indices (1/1/2019=100)**

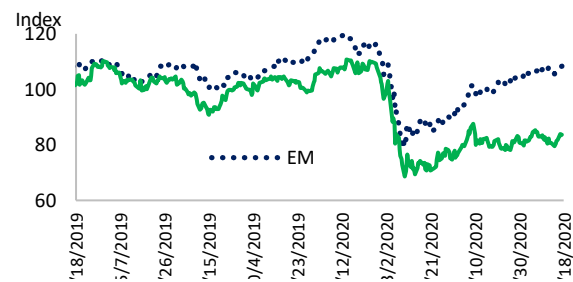


Source: Banxico.

**Figure 8. Mexico and US growth rate**



**Figure 9. Mexico and EM capital flow index (1/1/2019=100)**



12. **Inflation pressures remained subdued.** Even with the significant minimum wage increase enacted at the beginning of 2019 and 2020, inflation converged to the Central Bank's 3.0 percent target by late-2019. Headline inflation has fluctuated in recent months, going from 3.7 percent in February to 2.1 percent in April and then back to 3.6 percent in July. The recent uptick in inflation is not generalized, however, as it has mainly been driven by increases in the prices of processed food and beverages. With mid-term inflation expectations within the Central Bank's band of tolerance (3 percent plus/minus 1 percent), and in the context of policy easing measures in the U.S. and Europe, the Central Bank reduced the policy rate from 8.25 percent to 4.5 percent between August 2019 and August 2020.

13. **The financial sector entered the economic fallout of the COVID-19 pandemic crisis well capitalized.** Growth of bank credit to the non-financial private sector had moderated in 2019, reaching a real annual rate just below 5 percent. Credit expansion was driven by corporate sector and mortgage lending, while consumer lending contracted in real terms. The banking system has a strong return on equity (12.4 percent as of June 2020) and is well capitalized (with a capital adequacy ratio of 16.4 percent).<sup>5</sup> At 2 percent in June 2020, the non-performing loans (NPL) ratio was relatively low and has been stable around that level since 2016. At the onset of the crisis, the authorities established a regulatory forbearance program through commercial banks. Under this program, temporary special accounting criteria applies to

<sup>5</sup> Bank of Mexico and National Banking and Securities Commission (CNBV).



consumer, corporate and mortgage loans that were current in their payments as of February 28<sup>th</sup>, 2020. Financial institutions will continue to classify the loans as current for up to six months even without payment and will not report the payment deferral as late payment to the credit reporting systems. This regulatory forbearance measure included a sunset clause, inclusion only of borrowers in good standing at the beginning of the program, adequate loan restructuring processes, and constant monitoring of borrowers, with the aim to help avoid a wave of defaults in the short term, while offering immediate relief to the real sector and additional time to banks and borrowers. At the end of the period a process of loan restructuring commenced. However, the impact of the economic recession in 2020 will likely continue to put pressure on the banks' balance sheets that will need to be closely monitored by regulators even as liquidity has been made available. Structurally, the sector is characterized by significant concentration: the five largest banks account for close to 70 percent of assets.

14. **Fiscal consolidation between 2017-19 enabled pre-pandemic public debt stabilization.** Prior to the crisis, Mexico was first among emerging markets in stabilizing public debt as a share of GDP (44.8 percent on net terms as reported by the authorities or 53.7 percent in gross terms). Expenditure rationalization measures applied throughout 2019 together with the use of resources from its revenue stabilization fund, broadly enabled the authorities to compensate for lower than expected revenue collection during 2019. In this context, the Public-Sector Borrowing Requirements (PSBR) ended up at 2.3 percent of GDP with a primary fiscal surplus of the budgetary non-financial public sector at just above 1 percent of GDP. Amid worsening economic conditions and dragged by the vulnerabilities of the state oil company PEMEX, the rating of sovereign debt was downgraded, but it remains investment grade. Raising oil production and refining at the cost of operational losses may place additional burdens on the federal budget.

15. **The administration presented its 2020 budget with a primary surplus, but fiscal balances are deteriorated over the year in the context of the economic shock.** Despite the drastic impact of the output drop on fiscal revenues, the authorities were able over the first two quarters of the year to maintain collection levels similar to those in 2019, particularly for income taxes, owing to the settlement of past tax liabilities disputed in the courts with large multinational and national firms. Tax administration efforts for the Value Added Tax (VAT) and other taxes were also strengthened through the electronic invoice control system and a crackdown on fake sale invoices. But the fiscal deficit is expected to widen in 2020 (see section 2.2), even after accounting for the utilization of the resources from the revenue stabilization fund and the receipt of the payments of oil hedge contracted by the authorities. On the spending side, a re-prioritization of spending has been taking place in 2020 away from wages, operating expenses and financial capital transfers, and toward health needs, social assistance to vulnerable groups, and on-going investments.

16. **Markets have been closely following the implementation of measures to remedy the weak short and medium-term financial position of PEMEX.** Over the last 15 months they included a lower transfer obligation and tax burden on the company vis-a-vis the federal budget, as well as the reprofiling of its debt obligations, to enable better cash flows. Still, PEMEX recorded losses of US\$ 17.5 bn in 2019 and of US\$26.9 billion in the first two quarters of 2020; the latter mostly due to the currency depreciation effect. The Mexican-Mix oil price declined to an average of US\$55.6/barrel in 2019 and the annual volume of crude oil production by PEMEX dropped by 7.7 percent. In the first two quarters of 2020, the Mexican-Mix oil price dropped to US\$34/barrel by end June 2020 amid the global oil production tensions. On April 17, 2020



Moody's downgraded PEMEX debt to below investment grade, following a similar move of Fitch ratings in the summer of 2019. All PEMEX debt was reprofiled with an extended maturity and reduced payments in the short term. PEMEX debt is part of the public debt figures reported for the consolidated public sector (Tables 1 and 2).

17. **Despite the economic stagnation, both labor income growth and job creation increased in 2019, but those gains were rapidly offset during the first half of 2020.** Labor incomes grew by 5.9 percent in real terms supported by an increase in minimum wages. Most job growth took place in commerce, while there were job losses in construction, financial services and the extractive industries. However, during the first half of 2020 there was close to one million formal jobs, or close to three times the number of jobs created in 2019.





**Table 1: Mexico Key Macroeconomic Indicators, 2017-2023**

	2017	2018	2019	Projected		2022	2023
				2020	2021		
<b>Real sector</b>	Annual percentage change, unless otherwise indicated						
Real GDP	2.1	2.2	-0.3	-9.0	3.7	2.6	2.2
Contributions:							
Consumption	2.2	1.9	0.1	-8.0	3.5	2.3	2.0
Investment	-0.2	0.2	-1.0	-3.2	1.6	0.8	0.8
Net exports	-0.7	0.0	0.9	2.2	-1.4	-0.5	-0.6
Unemployment rate	4.0	4.0	4.2	..	..	..	..
GDP deflator	6.7	4.9	3.3	3.2	3.4	3.6	3.5
CPI (period average)	6.0	4.9	3.6	3.5	3.5	3.5	3.5
<b>Fiscal accounts</b>	Percent of GDP, unless otherwise indicated						
Revenues	22.6	21.7	22.2	22.9	22.5	22.2	21.8
Expenditures	23.6	23.9	24.6	27.9	26.1	25.3	24.6
Fiscal balance	-1.1	-2.2	-2.3	-5.0	-3.6	-3.1	-2.8
Net public debt	45.7	44.9	44.8	55.2	55.0	54.9	54.7
Gross public debt	54.0	53.6	53.7	64.0	63.4	63.0	62.6
<b>Monetary accounts</b>	Annual percentage change, unless otherwise indicated						
Base money	8.8	8.3	4.1	9.9	5.5	5.2	5.2
Policy interest rate	7.25	8.25	7.25	..	..	..	..
<b>External sector</b>	Percent of GDP, unless otherwise indicated						
Current account balance	-1.8	-2.1	-0.4	1.0	-0.4	-1.1	-1.8
Imports (% change, real)	6.4	5.9	-0.9	-17.0	15.0	7.0	5.4
Exports (% change, real)	4.2	5.9	1.4	-10.8	10.1	5.4	3.7
Foreign direct investment	2.6	2.2	1.9	1.5	1.9	2.1	2.0
Gross reserves (US\$ billion)	172.8	174.6	180.7	192.7	194.6	191.8	180.3
In months of imports	4.5	4.1	4.4	5.8	4.9	4.4	3.8
% of short-term ext. debt	329.6	285.6	288.3	367.6	348.9	326.6	292.8
Terms of trade (% change)	2.6	0.0	2.2	-2.2	0.2	0.3	0.2
Exchange rate MXN/US\$)	18.93	19.24	18.86	..	..	..	..

**Table 2: Mexico: Key Fiscal Indicators for the Public Sector, 2017-2023 (% of GDP)**

	2017	2018	2019	Projected		2022	2023
				2020	2021		
<b>Total Revenue</b>	<b>22.6</b>	<b>21.7</b>	<b>22.2</b>	<b>22.9</b>	<b>22.5</b>	<b>22.2</b>	<b>21.8</b>
Federal Government	17.5	16.5	16.5	17.1	16.7	16.4	15.9
Tax revenue	13.0	13.0	13.2	14.0	14.0	14.0	14.0
Nontax revenue	4.5	3.4	3.3	3.1	2.7	2.4	1.9
Oil	2.0	2.3	1.8	0.9	0.9	1.1	1.1
Revenue Stabilization Fund/oil hedge*	0.0	0.0	0.5	1.0	0.0	0.0	0.0
Other**	2.5	1.1	1.0	1.2	1.8	1.3	0.8
Agencies and Public enterprises	5.1	5.3	5.7	5.8	5.8	5.8	5.8
PEMEX	1.8	1.9	2.2	2.1	2.1	2.1	2.1
CFE, IMSS, ISSSTE	3.3	3.4	3.5	3.7	3.7	3.7	3.7
<b>Total Expenditure</b>	<b>23.6</b>	<b>23.9</b>	<b>24.6</b>	<b>27.9</b>	<b>26.1</b>	<b>25.3</b>	<b>24.6</b>
Budget expenditure	23.6	23.8	23.9	26.0	25.6	24.8	24.1
Programmable	17.6	17.3	17.4	19.2	18.8	18.1	17.4
Current	14.0	14.2	14.4	15.8	15.4	15.0	14.5
Wages	5.2	5.2	5.0	5.7	5.4	5.1	4.8
Pensions	3.2	3.4	3.6	4.3	4.4	4.4	4.4
Subsidies and transfers	3.1	2.9	3.2	3.5	3.3	3.2	3.1
Other operating expenses	2.5	2.7	2.6	2.4	2.3	2.2	2.1
Capital	3.6	3.1	3.0	3.4	3.4	3.2	2.9
Physical capital	2.6	2.6	2.3	3.0	3.0	2.8	2.6
Financial capital	1.0	0.4	0.7	0.4	0.4	0.4	0.4
Nonprogrammable	6.0	6.5	6.4	6.8	6.8	6.7	6.7
Revenue sharing	3.5	3.6	3.6	3.7	3.6	3.6	3.6
Interest payments	2.4	2.6	2.7	3.1	3.0	3.0	3.0
Other	0.1	0.3	0.1	0.1	0.1	0.1	0.1
<b>Primary Budget Balance</b>	<b>1.3</b>	<b>0.5</b>	<b>1.1</b>	<b>-0.1</b>	<b>-0.1</b>	<b>0.3</b>	<b>0.7</b>
<b>Budget Balance</b>	<b>-1.1</b>	<b>-2.1</b>	<b>-1.6</b>	<b>-3.1</b>	<b>-3.1</b>	<b>-2.6</b>	<b>-2.3</b>
Adjustments to the budget balance***	0.0	0.1	0.7	1.8	0.5	0.5	0.5
<b>Overall Fiscal Balance (PSBR)</b>	<b>-1.1</b>	<b>-2.2</b>	<b>-2.3</b>	<b>-5.0</b>	<b>-3.6</b>	<b>-3.1</b>	<b>-2.8</b>
<b>Gross Financing Needs</b>	<b>7.5</b>	<b>7.6</b>	<b>9.0</b>	<b>12.8</b>	<b>11.1</b>	<b>10.1</b>	<b>9.6</b>
Overall fiscal balance (PSBR)	1.1	2.2	2.3	5.0	3.6	3.1	2.8
Amortizations	6.4	5.4	6.7	7.8	7.5	6.9	6.7
Net public debt****	45.7	44.9	44.8	55.2	55.0	54.9	54.7
Gross public debt	54.0	53.6	53.7	64.0	63.4	63.0	62.6

\*Includes the payout of oil price hedge acquired by Ministry of Finance (MOF)

\*\*Includes revenue from the sale of financial assets such as from trust fund to be extinguished and dividends from the central bank

\*\*\*Includes the inflationary component of inflation-indexed debt, income from debt repurchase, as well as an adjustment for income derived from the net sale of financial assets and from the net acquisition of liabilities other than public debt.

\*\*\*\*Net of cash balances and financial assets of non-financial public sector entities, including public sector trust funds

**Table 3: Balance of Payments Financing Requirements and Sources, 2017-2023 (US\$ billion)**

	2017	2018	2019	Projected 2020	2021	2022	2023
<b>Financing requirements</b>	<b>106.8</b>	<b>110.6</b>	<b>104.4</b>	<b>104.2</b>	<b>100.3</b>	<b>107.8</b>	<b>113.1</b>
Current account deficit	20.4	25.3	4.3	-10.7	4.7	12.3	22.1
External debt amortization	91.2	84.9	97.4	103.0	93.7	98.2	102.5
Medium and long term	38.1	32.4	36.3	40.3	41.3	42.4	43.8
Short term	53.1	52.4	61.1	62.7	52.5	55.8	58.7
Gross reserve accumulation	-4.8	0.5	2.6	12.0	1.8	-2.7	-11.5
<b>Financing sources</b>	<b>106.8</b>	<b>110.6</b>	<b>104.4</b>	<b>104.2</b>	<b>100.3</b>	<b>107.8</b>	<b>113.1</b>
FDI (net)	30.3	27.1	23.6	23.6	15.8	21.1	24.1
External debt disbursements	111.7	98.7	117.8	102.3	108.8	114.5	120.1
M/L term	59.3	37.5	55.1	49.8	53.0	55.8	58.5
Short term	52.4	61.1	62.7	52.5	55.8	58.7	61.6
Other capital flows (net)	-35.2	-15.2	-36.9	-21.7	-24.3	-27.8	-31.1

## 2.2. MACROECONOMIC OUTLOOK AND DEBT SUSTAINABILITY

18. **A significant contraction of the economy is expected for 2020.** The combination of the global recession (including a drop in U.S. output, Mexico's main trading partner), disruptions in global and domestic supply chains, measures to flatten the contagion curve, financial disruptions and investment risk aversion, among other, are likely to take heavy toll on the key components of aggregate demand. Growth is projected to contract by around 9 percent in 2020.

19. **Mexico's gradual recovery in 2021 and 2022 will partly depend on the rebound in the U.S. economy.** It is expected that will take the country close to three years to recover the same income level it had in 2019. Against this backdrop, the ratification of the United States-Mexico-Canada Agreement (USMCA) together with a more open approach from the authorities toward private sector involvement in infrastructure sectors would enable a boost in domestic demand.

20. **The CAD is expected to turn into surplus in 2020, as imports are compressing at a higher rate than exports and remittances show resilience to the global shock.** However, as imports recover faster than exports in 2021 and 2022, a moderate CAD will return over the medium term. FDI will slow but would still be enough to cover the moderate CAD over the medium term. The ratification of the USMCA should ease uncertainties which limited export and FDI performance in 2017-9, particularly in the manufacturing sector, and be another engine of recovery into 2021-22. Volatility in financial markets over the next 12 months may tighten external finance, even as the international reserves level would comfortably cover imports and short-term external debt. Mexico also renewed its FCL with the IMF for about US\$61 billion at the end of 2019 for two years.

21. **Inflationary pressures are expected to remain within the Central Bank's 2-4 percent band of tolerance over the medium term.** Even with a tempered increase in some prices in 2020 due to the pass-



through effect of the exchange rate depreciation and supply side considerations, the widening output gap will eventually curb price increase pressures. Moreover, continued vigilance by the Central Bank, which underpins the institution's long-established credibility in maintaining price stability, is expected to keep inflation within the tolerance band. The monetary policy trajectory in the U.S. (and Europe), as well as the level of risk aversion to EMs, including Mexico, is likely to determine the extent of the space for further monetary policy action during the rest of 2020 and 2021.

22. **Adherence to overall fiscal prudence is expected to continue.** Revenues are expected to fall in 2020, but not as much as the economy, owing to stronger tax administration measures and tax settlements of past years (see section 2.1). An overall PSBR balance close to - 5 percent is expected for 2020. Bank staff projections assume an overall fiscal balance (PSBR) of -3.6 for 2021. This is close to that projected by the authorities, under which the somewhat optimistic revenue assumptions are likely to be compensated by the transfer of the Central Bank, as established in the budget law stemming from the earnings due to the revalorization of the reserves. The spending composition is expected to favor health, social protection, and investment spending as in 2020. State development banks have strong balance sheets to support liquidity and credit to SMEs and firms in the most affected sectors. Beyond 2020, revenue growth will be tamed in line the moderate output recovery, keeping the larger take of PEMEX vis a vis the federal government on the oil revenues. The situation of PEMEX is expected to worsen in 2020. This may require further relief from its tax and transfer obligations, as oil prices for the Mexican mix continue to be low. The state oil company would require a strong package of measures to reduce its operational losses and mitigate its medium-term financial vulnerabilities, including to avoid further negative effects on the sovereign rating.

23. **The medium term, including 2021-2022, will be challenging.** With a negative output gap widening, eroded fiscal buffers, and growing spending pressures—including the need for higher infrastructure investment to support growth— further fiscal space will be needed. This space will likely need to come from a needed tax reform. The pension reform supported by this operation will be critical in ensuring long term sustainability of the pension system while avoiding additional pressures on the fiscal side down the line.

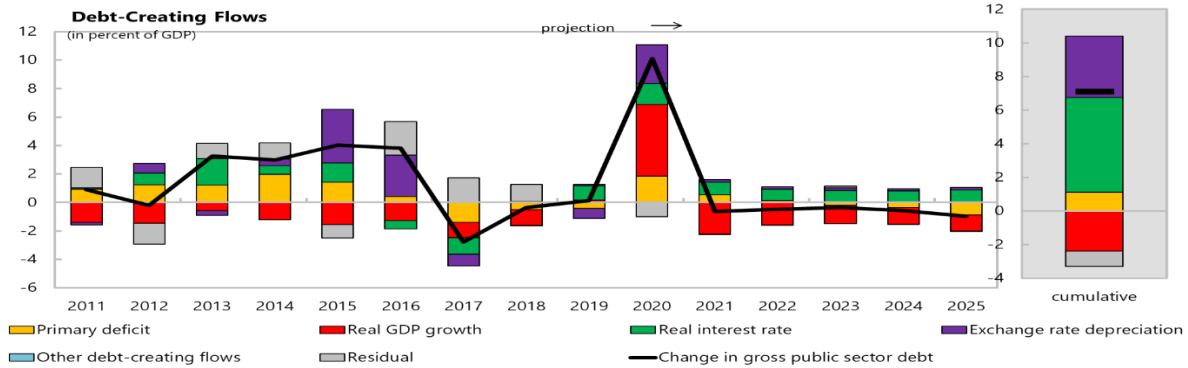
24. **Since more than two thirds of public debt is denominated in local currency, and the sovereign benefits from a long maturity structure<sup>6</sup>, rollover and foreign exchange risks are moderate.** Public debt is expected to have a large one-off increase due to the larger overall deficit in 2020, the lower GDP denominator, and the exchange rate depreciation effect on external debt, but it would stabilize again after that. Public debt is expected to reach nearly 56 percent of GDP (in net terms, as reported by the authorities) or nearly 64 percent of GDP in gross term in 2020, before stabilizing and beginning a gradual decline over the medium term. Fiscal gross financing needs would increase from 9.0 percent of GDP in 2019 to 13 percent of GDP in 2020 before declining to below 10 percent of GDP over the medium-term. *Stress test scenarios suggest that public debt sustainability is relatively resilient to a range of different shocks.*

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<sup>6</sup> The federal government debt denominated in pesos has an average maturity of about 8 years. The average maturity of FX bonds is 20.7 years.

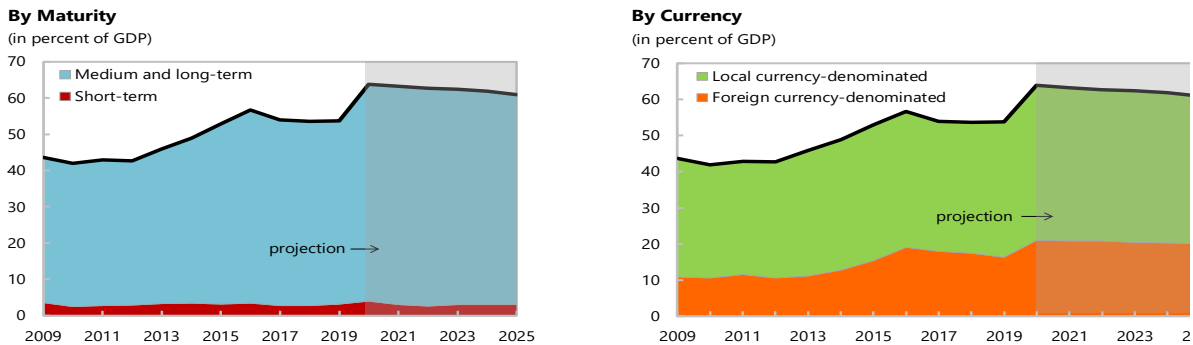


**Figure 10: Mexico Debt Sustainability Analysis Debt-Creating Flows (in percent of GDP)**



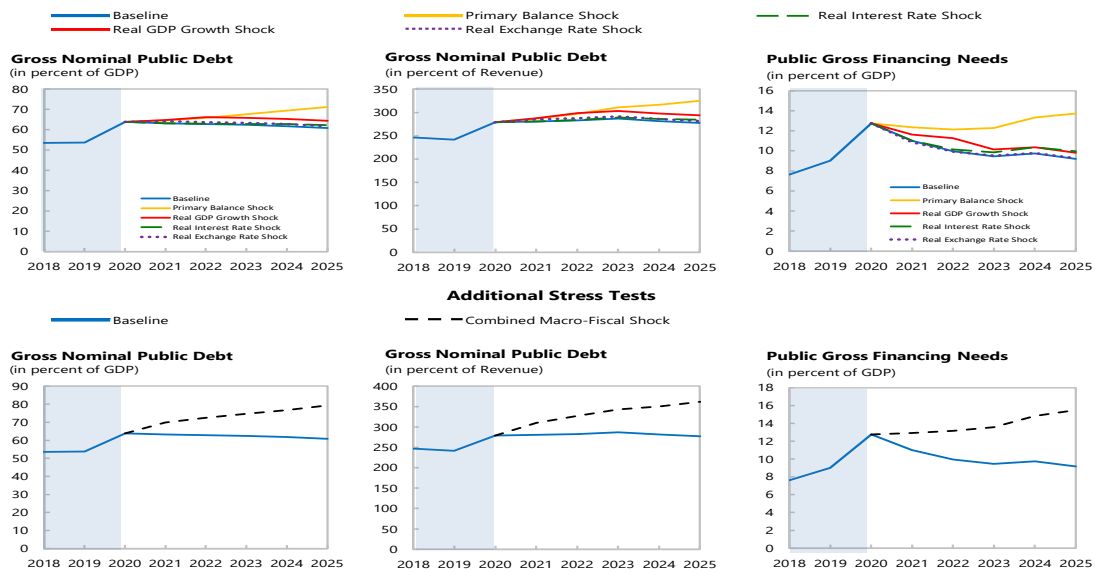
Source: World Bank staff estimations

**Figure 11: Mexico Debt Sustainability Analysis Composition of Public Debt**



Source: World Bank staff estimations

**Figure 12: Mexico Debt Sustainability Analysis Stress Test**



Source: World Bank staff estimations



25. **Mexico faces significant external and domestic risks.** Triggered by the COVID-19 pandemic, the global economic landscape has deteriorated drastically, and it is still evolving. There is a high degree of uncertainty as to the duration of the pandemic, and to its economic, social, and health ramifications. On the health side, the lack of a vaccine, domestic constraints, and early opening of social and economic activities could translate into a longer period of social distancing policies needed, stubbornly high infection rates, and increases in out-of-pocket health expenditures for COVID19-affected households, with longer-lasting negative impacts on households' income. On the economic front, there is uncertainty about when the transmission channels of the crisis, e.g., trade, finance, commodity prices (oil chiefly in the case of Mexico) would start to normalize globally, having significant impact on the shape of the recovery. The recovery over 2021-22 may be slower than expected if the approach from the authorities toward private sector involvement in energy and other infrastructure sectors is not lifted. Moreover, the vulnerabilities represented by PEMEX may be heightened, and further measures to enable financial soundness and sustainability in the state company would be needed to avoid further credit rating downgrades on the company and its impact on the sovereign credit rating. The expected recovery hinges on the containment of the pandemic and on a more favorable external environment. A stronger impact of the economic crisis on employment and labor incomes, formal and especially informal, could further undermine the economy through tamed consumption, and could hamper the recovery as the costs of formal jobs re-matching may be high, affecting productivity growth. A deterioration of the fiscal position due the combination of the above factors may raise financing costs for the sovereign, as capital markets are already penalizing Mexico's debt, with an EMBIG bond spread (that includes PEMEX) above countries in the same rating category.

26. **There are also important mitigation factors.** The flexible exchange rate will continue to be the first line of defense against external shocks. Moreover, the independent Central Bank of Mexico still has monetary policy and balance-sheet space to respond in the context of the volatile global capital markets. The financial sector entered the crisis well-capitalized, but it will require close monitoring. Mexico has a strong track record of responsible fiscal policy, which has been maintained under the current administration, even as it may be too tight in the context of the shock. The authorities' rationale is that they are also striking a balance between short-term larger fiscal imbalances with a sustainable fiscal framework over the medium term, given that risks remain on the downside in 2021 and additional fiscal support to the economy may be needed. On the upside, the USMCA agreement (that started on July 1, 2020) will reduce one source of uncertainty and help support future investment and export demand, which could further strengthen Mexico's recovery if the U.S rebound in 2021 remains strong.

27. **The macroeconomic policy framework is deemed adequate for this operation and public debt is sustainable despite the deterioration of global and domestic economic conditions.** The country is judiciously using its monetary policy and the Central Bank's balance-sheet space to respond in the context of the volatile global capital markets. Mexico has an independent Central Bank and a flexible exchange rate regime that has been the first line of defense against the external shocks experienced over the last months. The financial sector entered the crisis well-capitalized and the authorities took critical measures to ensure stability and liquidity. The fiscal response has been more limited, perhaps tight for the situation, but targeted to support vulnerable households, workers, and MSMEs. Public debt remains sustainable (and relatively resilient to different shocks) despite the large one-off increase expected for 2020.



### 2.3. IMF RELATIONS

28. **On November 2, 2020, the Executive Board of the International Monetary Fund (IMF) had the Article IV consultation with Mexico.** On November 18, 2020 the IMF reviewed the two-year precautionary FCL arrangement approved on November 22, 2019 for SDR 44.6 billion (about US\$61 billion). This is a successor arrangement to the 2017 FCL to an initial amount equivalent to SDR 62.4 billion (about US\$88 billion) that was reduced in November 2018 to SDR 53.5 billion (about US\$74 billion) with a subsequent reduction in the current arrangement at the request of the Mexican authorities. The IMF and the World Bank (WB) maintain close collaboration on macroeconomic and structural issues, which has been further intensified.

## 3. GOVERNMENT PROGRAM

29. **The authorities have implemented a sequenced and targeted policy response to mitigate the impact of the crisis and support economic recovery.** Aside from the health response, the authorities have launched a set of monetary, financial, fiscal, economic and social measures to mitigate the impact of the crisis.

30. **On the monetary-financial sector side, the response was geared to enable liquidity in the financial system and support to SMEs.** The Central Bank had a quick response with a number of instruments that included lowering the policy rate, establishing a swap-line with the U.S. Federal Reserve, and enabling more liquidity in the system through lower reserve requirements and lower rates to access its liquidity facility; and more recently through the establishment of a number additional credit facilities. In order to support MSMEs and individuals who face difficulties in paying their existing loans during the COVID-19 crisis, the Mexican Government (through the banking regulator), implemented a temporary and time-bound measure to defer loan principle and interest payments for up to 6 months. The temporary special accounting criteria applies to consumer, corporate and mortgage loans that were current in their payments as of February 28<sup>th</sup>, 2020. Financial institutions will continue to classify the loans as current for up to six months even without payment and will not report the payment deferral as late payment to the credit reporting systems.

31. **The fiscal response has been limited, even tight for the situation.** The authorities' rationale is that they are also striking a balance between short-term larger fiscal imbalances with a sustainable fiscal framework over the medium term, given that risks remain on the down-side in 2021 and additional fiscal space needs to be preserved in case it is needed in the months ahead. Nonetheless, the limited support has been targeted to vulnerable households, workers, and MSMEs. They included support for vulnerable groups of the population, including protection of public spending for health services and for priority social programs. The authorities expanded coverage and advanced payments of social pensions and disability benefits for more than 8+ million beneficiaries (and the households where they live in)<sup>7</sup> to make the necessary purchases up front and smooth their consumption. Similarly, they expanded support to the

<sup>7</sup> For instance, an estimated 4.9 million informal workers, reside in households that includes a beneficiary of social pensions for elderly.



program of children of working mothers to cushion the shock on this vulnerable group. Relief programs also included micro credit programs to support formal MSMEs, formal employees, and independent formal workers, as well as a new program to expand urban infrastructure and housing. To support the informal sector, they established and expanded credit programs to support informal micro firms and individual informal entrepreneurs. Moreover, the 2019-2024 National Development Plan and the specific sectoral plans that implement it, had already proposed a reorientation of public spending toward new and expanded social programs that have been fully deployed during the crisis. Additionally, fiscal authorities mandated a more rapid VAT refund to firms and a faster timetable of payments to government suppliers and a deferent in the payment of the personal income tax was also established. The authorities are prioritizing their limited capital spending to on-going (initiated) infrastructure projects and short-cycle completion projects (including at the sub-national level), in order to enable a faster use of resources and higher fiscal multipliers.

**Box 1: The authorities' initial economic response to the COVID-19 pandemic**

**Monetary/Financial:**

- Banco de México reduced the monetary policy rate by 225 bp to 5.0 percent (in subsequent steps announced in February, March, April, May and June, 2020).
- The foreign exchange commission announced an increase in the maximum amount of Non-Deliverable Forward Exchange program (NDF) from US\$20bn to US\$30bn.
- A temporary U.S. dollar liquidity arrangement (known as “swap line”) from the U.S. Federal Reserve with the Central Bank for an amount of US\$ 60 billion was established on March 19, 2020. Banco de México has conducted several US dollar auctions among credit institutions since.
- Banco de México reduced by 50 billion pesos the amount of the Monetary Regulation Deposit held by commercial and development banks. Currently, the total Monetary Regulation Deposit amounts to approximately 320 billion pesos.
- The Central Bank reduced the cost of its Ordinary Additional Liquidity Facility that offers liquidity to commercial banks via secured credits or repos.
- The National Commission for Banking and Securities (CNBV) issued, on a temporary basis, special accounting criteria for the partial or total deferral of principal and/or interest payments for up to 4 months, with the possibility of extending it to an additional 2 months, for consumer, housing and commercial credit, for customers whose source of payment is affected by the crisis. Only borrowers who were current in their payments as of February 28<sup>th</sup> are eligible.
- The National Insurance Commission allows temporary regulatory facilities so that the Insurance Institutions can extend the terms for the payment of premiums and include in their policies risks derived from COVID-19.
- The Ministry of Finance is accelerating and ramping up its financial access agenda with focus on establishing instruments for improved access (payment system, Fintechs, unique ID system).

**Fiscal/social:**

- Budgetary resources were made available to ensure that the Ministry of Health has sufficient resources and does not face red tape, in the purchase of medical supplies and equipment.
- The government made advance payments for the social pension programs for the elderly and





for people with disabilities for the May-June and September-October periods in March-April and July-August, respectively.

- The government has continued the coverage expansion of social programs such as social pension program for people with disabilities and the program of support to children with working mothers.
- The government has established a new microcredit program called the financial support (credit) to microenterprises program and scaled-up the Microcredits for Welfare Program (known as *Tandas para el Bienestar*). These programs will mitigate liquidity constraints faced by MSMEs and independent workers.
- The government launched an emerging urban infrastructure and housing program as a countercyclical measure to increase economic activity and employment in at least 50 cities.
- Procurement processes and payments to suppliers are being accelerated.
- Value added tax (VAT) refunds to the private sector have been accelerated.
- Resources from a large number of off-budget vehicles have been clawed back and these vehicles have been closed. These resources will be deployed to the budget.
- A significant number of additional medical personnel is being hired.
- The National Workers' Housing Fund has established an emergency fund to cover affected workers' mortgages for up to three months in case of job loss and has increased flexibility to the Payment Protection Fund to protect affected workers' homes.
- The Institute for the National Fund for Employee Consumption has established a concessional credit program to formal workers to allow consumption smoothing

**Other economic:**

- Development Banks will make available loans and guarantee facilities to support SME and the most affected sectors of the economy.
- Measures have been implemented to ensure business continuity of banking services.

32. **The authorities' effort is now progressively moving towards designing and implementing reforms to support environmental sustainability and urban resilience over the medium term.**

33. **Reducing environmental degradation, improving agriculture, ensuring access to water of adequate quantity and quality, protecting ecosystems, managing forests sustainably, strengthening integrated territorial planning, enhancing waste management, controlling air pollution, improving administrative procedures for environmental protection and addressing climate change are an integral part of the authorities' development plan vision to improve competitiveness, resilience and sustainability.** While many these lines of action were already highlighted in the Government's sectoral plans derived from the National Development Plan, the authorities have reaffirmed and accelerated these priorities as part of their response to the current situation. The reform agenda is also responsive to Mexico's needs and demands for integrated territorial planning, sustainable forest management, improved waste management infrastructure, administrative procedures and increased reliability and sustainability of services. Examples of these government initiatives are: improving the access and quality of housing, water and sanitation services; ensuring food security and increasing the competitiveness of agricultural producers, particularly women and indigenous populations; and addressing regional and territorial



inequalities. The government has also launched a number of programs under the 2019-2024 National Development Plan, such as the *Programa BIENESTAR, Sembrando Vida*, the *Programa Nacional de Reconstrucción* or the *Programa de Mejoramiento Urbano y Programa de Vivienda Social*. These programs have been prepared and launched at very early stages of the crisis, and hence respond to pandemic related considerations and contribute to crisis release aspects.

34. **The authorities chose to tackle a series of environmental sustainability and climate change action dimensions as integral parts of its recovery efforts.** The need to protect the country's natural resources and biodiversity and to promote initiatives that consider climate change adaptation and mitigation measures is reaffirmed in the *Programa Sectorial de Medio Ambiente (PROMARNAT)*. In this regard, the *Secretariat of Environment and Natural Resources (SEMARNAT)* established five priority goals: (i) conservation, protection, restoration, and use of ecosystems and biodiversity; (ii) strengthening climate action to transition towards a low-carbon economy and resilient population, ecosystems, productive systems, and infrastructure; (iii) managing water as a pillar of welfare and through more transparent, trustworthy, efficient, and effective institutions; (iv) promoting an environment free of pollution that contributes to exercising the right to a healthy environment; and (v) strengthening environmental governance through free, effective, and meaningful participation.

35. **Another priority of the authorities has been urban infrastructure and social housing with a strong focus on inclusion and resilience, targeting the needs of the poorest and vulnerable groups and those that have traditionally been excluded from public assistance programs.** The government's new housing approach is based on making the policy changes required to address persistent inequalities and deficiencies in Mexico's housing sector. At the same time, the new approach emphasizes doing so in a way that this critical asset of poorer, vulnerable, and indigenous households is resilient to natural disasters, including those that stem from climate change. The authorities also have a targeted approach to support more resilient urban local infrastructure in more marginalized regions of the country.

## 4. PROPOSED OPERATION

### 4.1. LINK TO GOVERNMENT PROGRAM AND OPERATION DESCRIPTION

36. **Mexico's SCD explained the low growth and limited poverty reduction experienced over the last decades, pointing toward a number of structural impediments.** Among them, it underscored constraints in: (i) product and factor markets; (ii) public resource allocation and institutional policy coordination; (iii) other structural constraints; and (iv) rule of law issues. The SCD also highlighted several fiscal, social, and environmental sustainability challenges that have and would hamper development and poverty reduction ahead. Among this later group, it stated the country's high vulnerability to climate change and environmental degradation, particularly as regards to forests, water, agriculture, air quality, and natural disasters, including those stemming from climate change. The SCD highlighted in detail those vulnerabilities and their costs in terms of poverty reduction, and human and economic development. The SCD highlighted a broad reform agenda to tackle those issues.

37. **The proposed DPF supports the authorities' reforms on selected key items of that reform agenda, specifically in strengthening environmental, urban and social housing resilience.** This reform agenda is also part of a broader aim of building back better and with more climate change sustainability



over the recovery and the medium term. As economic activity slowly and gradually resumes, the recovery is expected to be long, difficult and with a high level of uncertainty. A number of economic and social policies are clearly needed to spur a stronger recovery. At the same time, the current juncture presents an opportunity to complement those efforts with reforms to enable more resilience to the shocks arising from climate change while still contributing to a stronger and better medium-term low carbon recovery. In this context, the program development objectives of this operation are to help to: (i) strengthen environmental sustainability and resilience, and (ii) expand access to resilient urban infrastructure and social housing. Both have at their core policies which help address mitigation and adaptation to climate change.

**38. The first pillar aims to support the authorities' efforts to strengthen environmental sustainability and resilience.** Mexico has important commitments to reduce GHG emissions by 2030 through its NDC submitted under the United Nations Framework Convention on Climate Change. A large array of instruments and interventions across sectors and issues are critical to achieve those commitments. The reforms include supporting a critical phase of the implementation of a carbon ETS to help achieve GHG goals. Across countries, agriculture, livestock, and in some cases growing urban areas, have been the main drivers of deforestation. The policies supported aim at protecting forests, which are essential contributors to the national efforts to mitigate climate change via carbon sequestration and improve environmental health. The reforms also support adaptation capacity in the most vulnerable municipalities to climate change impacts. AAP is a significant environmental and development challenge that affects the whole population and hampers productivity in the economy. The reforms supported establish a central institutional structure to gather, analyze and disseminate uniformed measures/information on AAP across the country, and based on that give directions to local entities on how to reduce the impact of AAP on the population. This is particularly critical in a large federation like Mexico and it is also essential to foster demand side support for environmental and sustainable and low carbon policies at the sub-national level.

**39. The second pillar supports the authorities' reforms geared to expand access to resilient urban infrastructure and social housing.** The housing deficit and the lack of resilience of the existing housing stock are important shortcomings in the country, acutely affecting a vast number of vulnerable households. Under the supported new policy, targeting mechanisms are being introduced to ensure that the funds will be allocated to poor households with high indices of poverty and vulnerability, including indigenous communities, older populations, women and female-headed households, persons with disabilities, households in marginalized regions (particularly in the south of the country), and those most exposed to natural disasters, including those stemming from climate risks. Mexico's urban expansion over the past decades exacerbated spatial inequalities and led to urban developments disconnected from social and urban infrastructure services and in areas highly exposed to natural disasters and AAP. The policy changes supported enable targeted financial and technical support to build resilience in mid-sized cities mainly in the southeast of the country characterized by a high concentration of vulnerable populations, cities in tourist hotspots and with a pre-existing high inequality, and municipalities with high deficits of urban infrastructure. The operation also supports a new policy that increases national capacity to "build back better" the housing and urban infrastructure damaged by the 2017 and 2018 earthquakes, part of which still needs work. But the rebuild/renovation will be done with more resilience to natural disasters, including to those that stem from climate change.



40. **The design of this DPF considers lessons learned from the World Bank’s prior engagements through DPFs in Mexico.** Given its political and economic context, the country has adopted and implemented reforms in waves. A stand-alone DPF provides the needed flexibility for supporting reforms in a complex country context. Past experience also shows that DPFs should also be accompanied by a broader program of technical and analytical tools to support implementation of the wider reform agenda and respond to the country’s needs and demands. Work to provide the analytical underpinnings for this operation has been performed over the recent past. Complementarity between engagements has also shown to be important in the past. This operation complements the authorities’ reforms and efforts supported under the Financial Access DPF approved by the World Bank Board in May 2020 and a parallel DPF focused on reforms to strengthen Mexico’s economic sustainability, all critical components to face the current situation and future challenging recovery. The design of this DPF considers a number of aspects related to crisis recovery support, while bringing much needed emphasis on critical sustainability-related medium-term reforms in alignment with objectives of the CPF. This DPF is aligned with the strategic framework of the WBG’s COVID-19 pandemic response outlined in the World Bank Group COVID-19 Crisis Response Approach Paper, specifically with its Pillar 4 “focused on strengthening policies, institutions and investments to rebuilding better”.

#### 4.2. PRIOR ACTIONS, RESULTS, AND ANALYTICAL UNDERPINNINGS

##### **Pillar 1: Strengthening environmental sustainability and climate resilience in agriculture, forestry, and local government development**

***Prior Action #1: The Borrower included a forest conservation provision in the country’s most important agriculture support program (Producción para el Bienestar) for small landholders, as evidenced by the rules for the operation of the program as published in the Official Gazette on February 7, 2020.***

41. **Rationale.** Agriculture and livestock have been historically among the main drivers of deforestation across countries, including in Mexico. Agricultural support programs have been key in supporting small-scale farmers, but some of them have encouraged deforestation. Natural resources directly support the livelihoods of over 30 million people in rural areas in Mexico, and 57 percent of the rural households in the poorest quintile obtain income from natural resources extraction. Moreover, Mexico’s forests are home to more than 12 million people, most of whom directly depend on this natural resource, to generate income, alleviate poverty, and act as a buffer against shocks. The COVID-19 pandemic has caused large supply disruptions, compressed demand, and resulted in job losses. With more than 50 percent of extreme poor living in rural areas, protecting their income that may be derived from natural resources, in particular small-holder agriculture and forestry, is key to mitigating the pandemic’s economic impacts on the rural poor. However, it is also critical to have in place policies to make that economic activity competitive, sustainable and climate smart. In this context, a thoughtful design of agricultural support programs can avoid promoting deforestation while supporting rural livelihoods, and addressing risks, such as climate variability.

42. **Substance of the prior action.** Working through one of the most important agriculture support programs in terms of beneficiaries in the country, covering small producers with landholdings of up to 20 hectares, this policy will assist in the enforcement of regulations that curtail deforestation. The policy



would not make small-holders eligible to be supported, including extension activities, if they cause further deforestation as part of their activities. This is an important policy shift to avoid the regressive impacts of predecessor agriculture support programs that did not take deforestation into account when assigning support. This initiative has significant potential for knowledge transfer to other countries. To enforce compliance with Article 24 of the Forest Law (Ley General de Desarrollo Forestal Sustentable), the National Commission for the Knowledge and Use of Biodiversity (CONABIO) developed the National System of Concurrent Incentive Consultation (SINACIC) monitoring system. The SINACIC enables a real time monitoring of deforestation activities and will be matched with a spatial overlay of the registered properties of applicants to the program. As a result, for example, and in line with the approved policies of the program, agricultural incentive payments cannot be accessed by producers who cultivate land that was deforested without permission. This policy will contribute to address the linkages between agriculture and land use change, a historic driver of land based GHG emissions in Mexico. The program also provides incentives through technical assistance to help small producers establish agro-ecological practices.

43. **Expected results.** This measure will result in 2.8 million farmers receiving economic incentives for sustainable agriculture that also conserve forests by December 2021. Over the medium term, and beyond the scope of this operation, it is expected that this policy will contribute, together with other broad measures, to climate change mitigation and adaptation by decreasing deforestation (hence reducing GHG emissions) and increasing the uptake of climate-smart agriculture practices.

***Prior Action #2: The Borrower, through SEMARNAT, has adopted guidelines to implement and operate the initial phase of the national GHG emissions trading system, as evidenced by the guidelines published in the Official Gazette on October 1, 2019.***

44. **Rationale.** Mexico has substantial commitments to reduce GHG emissions by 2030 through its NDC. A large array of policy instruments and interventions across sectors are critical to achieve those commitments. In this context, the ETS can be a critical tool to help combat climate change. It creates a cap-and-trade framework that can meaningfully reduce GHG emissions over the medium to long term. This market-based instrument, which covers the oil and gas as well as high emitting industry sectors is intended to encourage innovation, efficiency and resilience across the industries regulated by the ETS, making them more competitive. These systems are complex to establish and implement, but good design, preparatory work, and careful implementation can help in the materialization of these important tools in emerging economies.

45. **Substance of the prior action.** The ETS is a new instrument in Mexico's long-term climate policy mix and is expected to contribute to the country's mitigation targets, together with other measures that need to be undertaken. The design of the system is both reliable (with robust monitoring, reporting, and verification systems) and flexible (allowing companies to develop their own strategies to meet compliance in cost-effective ways). The Mexican ETS Pilot Program, critical to test this large medium-term endeavor, started operating on January 1, 2020. SEMARNAT issued the core system's design elements and operational rules for the ETS Pilot Program, which are supported by this operation, just prior to the launch. The pilot phase will run for two years (2020–2021) plus a year of transition (2022) that will lead to a fully operational ETS (in 2023). The Mexican ETS design and initial phase also aims at enhancing the quality of facility-level emissions data and builds capacity in emissions trading for covered entities. By promoting no- or low-cost



mitigation actions at the entity level, the ETS is an effective tool to stimulate companies' technological innovation and efficient energy use, while strengthening their competitiveness. During the pilot phase of Mexico's ETS program, emissions allowances will be distributed at no cost by SEMARNAT to emitters in the energy and industrial sectors that meet appropriate criteria. Starting in the full operational phase, the ETS will generate carbon revenue to support the country's climate policies. This initiative is among the most advanced and comprehensive mechanisms in Latin America and across emerging economies. ***Its global knowledge transfer potential is significant.*** Mexico is the first country in the Latin America Region to establish a national ETS and globally, among emerging economies, only Kazakhstan and China have piloted a similar system though different in scope. Also, globally, Mexico is the only emerging economy to complement an established carbon tax with an ETS<sup>8</sup>, leading to a more robust carbon pricing system.

46. **Expected results.** The implementation of the pilot phase will bring 40 percent of Mexico's annual GHG emissions, as reported in the National GHG Emissions Inventory<sup>9</sup>, into an ETS by December 2021. The ETS will help cap the growth of GHG emissions of the key emitters: energy (oil, gas, and electricity) and industry sectors that have generated at least 100,000 tCO<sub>2</sub> p.a., provide incentives to implement cost-effective abatement options, and will provide an opportunity to experiment and learn from the system's operation.

***Prior Action #3: The Borrower, through SEMARNAT, has issued regulations to help address human health impacts of air contamination by: (i) standardizing air quality monitoring, measurement and communication to the public about environmental health risks in cities and the actions they can take to reduce their exposure to such risks, and (ii) enabling the national and subnational governments to compile, analyze, and publish the air quality and environmental health measurement of cities, as evidenced by Norm 172 published in the Official Gazette on November 20, 2019.***

47. **Rationale.** AAP is a significant environmental and development challenge for Mexico and results in an estimated 40,000 premature deaths and 1.4 billion days of illness per year.<sup>10</sup> Over the past 28 years, Mexico has designed a strong regulatory framework for air quality management which has led to significant reductions in the concentration of air pollutants. In 1992, after comparing concentrations of air pollutants from several cities of the world, the United Nations concluded that Mexico City was the most polluted city on the planet. In the last 28 years, Mexico City has reduced the concentrations of particulate matter pollution by more than 70 percent. Still, the national cost of premature deaths, increased morbidity and losses of labor force productivity from ambient PM<sub>2.5</sub> pollution are significant.<sup>11</sup> AAP more acutely affects poor and vulnerable households, as low-income neighborhoods tend to be closer to pollution sources such as factories, warehouses, and agriculture centers. Due to this and related conditions (e.g., inadequate housing, limited access to health) affecting the poor disproportionately, they also have more propensity to be infected by respiratory viruses such as COVID-19, an issue that is particularly acute in the larger urban centers. The problem is hard to tackle in large countries as they may lack ***central institutional authority*** to

<sup>8</sup> State and Trends of Carbon Pricing 2020. (China's ETS pilot is implemented in 8 provinces, the national ETS has been delayed).

<sup>9</sup> As included in the Biennial Update Report (BUR) (2015).

<sup>10</sup> World Bank estimates, Mexico: Cost of Environmental Degradation and Environmental Health (forthcoming).

<sup>11</sup> Fine particulate matter (PM<sub>2.5</sub>) is the air pollutant that causes the most-significant health impacts. PM<sub>2.5</sub> is particulate matter (PM) with a diameter of less than 2.5 micrometers, which is about 1/30 the diameter of a human hair. PM<sub>2.5</sub> is the air pollutant that affects human health the most because it is more toxic and is breathed more deeply into the lungs than coarser particles, such as PM<sub>10</sub>, a particulate matter with a diameter of less than 10 micrometers (Pope and Dockery 2006).



gather, analyze and disseminate uniform data/information on AAP across the country, and provide directions to local entities on how to reduce the impact of AAP on the population.

48. **Substance of the prior action.** Policy actions adopted by the Government of Mexico (GoM) to address atmospheric pollution have included command and control regulations, economic instruments and administrative procedures. The policy supported helps to close the above-mentioned gaps in the environmental management system of Mexico and provides an additional tool to complement Mexico's environmental management system. Under the new policy the Federal Government can collect AAP data across sub-national governments with a harmonized methodology. The index considers six criteria air pollutants: O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. For each of these pollutants, the new policy describes clearly the concentration levels associated with five air quality levels and health risks, as well as the associated color code, for example, red for very bad air quality and very high health risks. The simplicity of the color coding also enables the central authorities to easily communicate this information to local populations. Through a publicly accessible service, the information will be fully available to the population, with near real time updates. This, in turn, empowers citizens and policy makers, to not only take appropriate health precautions, but also to advocate for and enact better environmental policies. Furthermore, state and local authorities are mandated to accompany the air quality information with recommendations on activities that should be avoided under different scenarios. Thus, the policy provides information that can help vulnerable groups to understand the risks associated with different pollution levels, as well as guidance on the actions they can take to reduce their exposure to harmful pollutants. Based on the Mexican Official Norm (NOM), vulnerable groups can take actions to protect their health while more comprehensive measures are implemented to achieve improvements in air quality.

49. **Expected results.** It is expected that – by December 2021 - all cities with a population of more than two million will: (i) have an air quality network in operation, and (ii) publicly disseminate air quality information throughout the year. In addition, these cities will activate air quality contingency plans to reduce AAP when air pollution concentration surpasses recommended limits. Over the medium term, and beyond the scope of evaluation of this DPF, it is expected that this policy would significantly contribute to reduce black carbon emissions by 2030<sup>12</sup>.

***Prior Action #4: The Borrower, through SEMARNAT, has established a policy and institutional framework to guide and help prioritize climate adaptation actions in highly vulnerable municipalities, as evidenced by the issuance of a Decree dated July 2, 2020 approving the PROMARNAT 2020-2024 published in the Official Gazette on July 7, 2020.***

50. **Rationale.** Mexico is one of the most exposed countries to natural disasters globally and is highly vulnerable to climate change. On the adaptation side, the enhancement of disaster preparedness combined with other climate change adaptation measures is critical to the country as part of a broader building back better approach embedded in the current recovery efforts. In this context, supporting sub-national governments at the municipal level where key investment decisions are made that affect vulnerability for better or worse, and building the **capacity of their institutions**, is central to such an

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<sup>12</sup> Black carbon (BC) consists of extremely small particles that result from the incomplete combustion of fossil fuels and biomass. It is one of the many types of particulate matter (PM) that influence the climate. BC has come to be recognized as one of the principal agents of global warming, second largest after carbon. It has mayor impact on air quality and health.



approach. But as in many emerging and developing economy, resources in all areas and aspects are limited and efforts fragmented.

51. **Substance of the prior action.** This policy ensures the prioritization of the municipalities most vulnerable to climate change, and the development of specific actions to support their adaptation efforts. The policy starts with the identification of highly vulnerable municipalities through the *National Atlas on Climate Change Vulnerability*. This tool has identified 273 municipalities at extreme risk of current and future climate impacts, each of which need support to design and implement mitigation measures and adaptation policies. This risk screening tool, developed by the public Institute of Ecology and Climate Change (INECC), measures: (i) the degree of exposure of each municipality to present and future climate change effects; (ii) their susceptibility to climate change induced damage; and (iii) their ability to cope and recover from damage. Once these risk assessments are carried out, the new policy enables the technical agencies under SEMARNAT to channel and tailor resources and efforts to those prioritized municipalities which can then develop policies and instruments that reduce vulnerability and increase their resilience to adverse climate change impacts. Compared to global peers, Mexico's climate efforts have taken the unique approach of launching adaptation measures through a subnational (regionalized) geospatial prioritization approach. These efforts will positively impact local budgets and private sector practices.

52. **Expected results.** Development planning, adaptation capacity and cross-sectoral collaboration will be improved in 24 percent of the identified highly vulnerable municipalities by 2024<sup>13</sup>. The target is ambitious, as the prior action focuses on the most vulnerable and marginalized municipalities, most in need of **capacity building and institutional support**. Over the medium term, and by adopting the mandatory indicator and informing future policy decisions based on the degree of climate risks, this policy can be a key contributor to improving the resilience of Mexico's most vulnerable municipalities and their populations to anticipated climate-change impacts and the implementation of their development goals.

***Prior Action #5: The Borrower enacted an amendment to the Forest Law (Ley General de Desarrollo Forestal Sustentable) to include forests in and around urban areas under the legal definition of forestlands to broaden forest protection and contribute to air quality, which is critical for cities and citizens' health; as evidenced by the amendment to the Forest Law published in the Official Gazette on April 13, 2020.***

53. **Rationale.** With an urbanization rate above 80 percent, and increasing trends of urban concentration, urban and peri-urban forest reserves (i.e., forests in and around urban areas) are zones under constant pressure by real estate, industry and tourism development. In Mexico, these specific forest reserves are quite significant (see below). Yet the 2018 forest law failed to classify forests inside the limit of municipalities as forestland, effectively leaving sizable forest areas without sufficient protection. These urban forest reserves are critical for improving the resilience of urban populations to climate impacts related to changing precipitation patterns that cause both water shortages and flooding and increasing temperatures. Moreover, forests around cities support healthy ecosystems and the population by removing fine particles (PM<sub>2.5</sub>), ozone, sulfur dioxide, nitrogen dioxide, and carbon monoxide from the atmosphere. High levels of PM<sub>2.5</sub> particles are associated with premature mortality, pulmonary and cardiac

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<sup>13</sup> Increase in adaptation capacities will be measured through four policy instruments: a) a spatial referenced municipal risk screening atlas, b) a municipal contingency plan, c) a civil protection unit, and d) an increase or maintenance of areas under a conservation instrument.





diseases, and other serious health problems. Urban forest reserves are significant in Mexico, and they can make a large contribution to reducing adverse climate change and environmental health impacts. This is a gap in legislation that exists in many emerging and developing economies.

54. **Substance of the prior action.** Under the 2020 modification of the Forest Law supported by this operation, any project or activity seeking to remove forest vegetation in and around urban areas will now require land-use change authorizations, environmental impact assessments and the corresponding approval based on those independent assessments. Moreover, according to the legal framework, land-use change authorizations are granted only as an exemption when projects demonstrate that they will mitigate project effects on biodiversity, soil, and water. Additionally, for any land use change to be authorized, actors need to pay a compensation fee to the Mexican Forest Fund that is used to restore forests in the same region and ecosystem.

55. **Expected results.** It is expected that an additional 1 million hectares of urban forests (this is broadly equivalent to one-third of the United Kingdom's (UK) total forest cover or the total forest cover of Denmark) will be under enhanced protection by December 2021. Over the medium term, this policy reform would also be one of many contributors to Mexico's national efforts to mitigate climate change via carbon sequestration.

## **Pillar 2: Expanding access to resilient urban infrastructure and social housing**

***Prior Action #6: The Borrower, through SEDATU, amended the operational rules of the Social Housing Program (Programa de Vivienda Social) to prioritize: (i) targeting of housing support to poor and vulnerable households; (ii) targeting indigenous peoples and women-headed households; (iii) targeting areas affected by natural disasters and increasing risk from climate impacts; (iv) addressing sanitary deficiencies, overcrowding, and structural vulnerabilities of low-income homes; and (v) expanding the stock of housing with higher resilience and environmental sustainability; as evidenced by the modification of the Operational Rules of the Social Housing Program published in the Official Gazette on June 26, 2020.***

56. **Rationale.** The housing deficit, inadequate quality, and the lack of resilience of existing housing stock are important areas where the authorities have recognized that they can make advances through policy reform. Between 28 percent to 45 percent of Mexican households live in homes lacking durable roofs, walls, floors, or lacking enough living space to meet the recommendations of the World Health Organization for protecting families from disease, including COVID-19. At the same time, 24.5 million people (close to 20 percent of the population) lack access to basic sanitary services for personal hygiene, washing, and toilets. In the context of the pandemic, inadequate and overcrowded housing and lack of proper water and sanitation disproportionately expose poor families to disease risk. Moreover, housing conditions such as mold, dampness, and household air pollution from cooking, heating, and lighting increase respiratory-disease risks and have other negative consequences. During natural disasters (such as earthquakes and those induced by extreme events related to weather variability), large portions of the country's housing stock are directly creating high risks to human life and the risk of asset loss, something particularly difficult to manage for poor and vulnerable households. The poorer southeastern states of the country are particularly vulnerable in this regard.



57. **Substance of the prior action.** This operation supports improved policies and priorities under the housing program. The housing program has varied in size over the years, with an average of 100,000 beneficiaries per year between 2007 and 2018. Despite its moderate size, it has been very important in setting construction design and standards in low cost housing trends across the country, in both public and private housing project undertakings. Under the new social housing policy, targeting mechanisms are being introduced to ensure that the funds will be allocated to poor households with high rates of poverty and vulnerability, including indigenous peoples, older populations, female-headed households, persons with disabilities, households in marginalized regions (particularly in the South), and those most exposed to natural disasters (including those stemming from climate risks). Also, in order to reach the population that lacks access to other large government programs that target formal workers or alternative financing options, including mortgage finance, the modified policy prioritizes support to finance home improvements and expansions without requiring collateral, an impediment accessing housing finance for those who most need the support. The program seeks also to maximize energy and resource efficiency and reduce monthly expenses for poorer households, by promoting the use of renewable energy, local/sustainable materials and bioclimatic design, which leverages existing environmental conditions such as solar radiation, prevailing winds, and temperature to achieve optimal thermal comfort and energy efficiency conditions.

58. **Expected results.** The new policy of the Social Housing Program is expected – by December 2021 - to benefit 165,000 vulnerable households in pre-selected municipalities with high rates of marginalization and severe housing deficits who otherwise would not have received any support. The new policy and program will also help generate temporary jobs and greater resilience in communities hard-hit by the current crisis. Over the medium term, and beyond the scope of evaluation of this operation, the new policy will also generate important emissions reductions.

***Prior Action #7: The Borrower, through SEDATU, amended the Operational Rules of the Urban Upgrading Program (Programa de Mejoramiento Urbano) to support mid-sized cities severely affected by the pandemic and with large shares of vulnerable population, through improved targeting and planning mechanisms for urban investments and civil works that contribute to climate mitigation and adaptation while at the same time creating jobs; as evidenced by the amendment to the Urban Upgrading Program published in the Official Gazette on May 28, 2020.***

59. **Rationale.** Mexico's partly unplanned urban expansion over the past decades exacerbated spatial inequalities and led to neighborhood developments and towns disconnected from social and urban services, devoid of urban infrastructure, and highly exposed to natural disasters. As a result, many Mexican mid-sized cities have been increasingly affected by high rates of poverty, especially on their outskirts. This situation, which undermines welfare and productivity, and exposes people to increased violence and crime, has been more acute in poorer states in the ***south/south-east of the country***. The current crisis and the recovery present an opportunity to build critical urban infrastructure to better standards and with more resilience to natural disasters, including those stemming from climate change.

60. **Substance of the prior action.** The policy changes supported prioritize support from SEDATU to mid-sized cities' and municipalities' urban infrastructure mainly in Mexico's ***south*** characterized by sustained deficits of infrastructure, high levels of poverty and crime and violence, and cities in tourist



hotspots with high levels of inequality.<sup>14</sup> The enhanced targeting and planning prioritizes certain beneficiaries, like indigenous, afro-descendent, and other marginalized populations, and is expected to impact local economic activity. These improvements to targeting are largely accomplished through the adoption of: (i) a marginalization index to include smaller cities with higher concentrations of minorities, including afro-descendants and indigenous peoples; (ii) territorial planning instruments to support local authorities to develop high standard urban plans; and (iii) a framework to plan and execute critical investments to also create jobs and promote local development. The program also takes into account nature-based solutions and green infrastructure to improve resilience of urban areas to long-term climate and disaster impacts. The improved policy not only covers an integrated package of investments to be supported, but also provides financial support for municipalities to ***strengthen their institutional and territorial planning capacities.***

61. **Expected results.** It is expected that the improved program will directly benefit 1.1 million people by December 2021 through the adoption of targeted measures to expand urban planning capacities, improve access to public green spaces, increased urban resilience and urban mitigation and adaptation capacities.

***Prior Action #8: The Borrower, through SEDATU, established new operational rules for the National Reconstruction Program (Programa Nacional de Reconstrucción) to ensure that improvements made to housing, education and health facilities damaged by the earthquakes of 2017 and 2018 have increased resilience to natural disasters; as evidenced by the Operational Rules for the National Reconstruction Program published in the Official Gazette on April 2, 2020.***

62. **Rationale.** The earthquakes that hit Mexico in 2017 and 2018 left more than 180,000 housing units partially damaged or destroyed, alongside with badly affected health, education, and urban infrastructure. Damages were concentrated in the southeast of Mexico, which already has the country's highest poverty rates. Notwithstanding substantial efforts in rebuilding damaged homes and public service infrastructure, much still needs to be done and, thus, vulnerabilities to new disaster events remain. Challenges with intergovernmental coordination and the need for policies to effectively channel resources and build according to standards that ensure the resilience of housing units and urban infrastructure to future disasters have been identified as key constraints to a more rapid and efficacious response. The current state of housing and affected public service infrastructure poses serious life risks, particularly to very marginalized populations, including women. Women are more affected by earthquakes: 60 percent of the victims of the September 19, 2017 earthquake were women.<sup>15</sup> However, at the same time, reconstruction support often does not reach women proportionally, as women are less likely to benefit from reconstruction programs when requirements, e.g. proof of ownership, are too complex or costly for them to comply with, particularly in rural areas and for indigenous communities.

63. **Substance of the prior action.** The operation supports a new policy designed specifically to enable national capacity to “build back better” the damaged infrastructure, with greater resilience to natural disasters, including those that stem from climate change. The ***new policy addresses the institutional***

<sup>14</sup> Based on the National Marginalization Index established by CONAPO.

<sup>15</sup> Explained by several factors, among others their daily households chores and work duties: CENAPRED, 2018: Acciones en el marco de la respuesta de salud mental frente al sismo del 19 de septiembre de 2017: Lecciones aprendidas y buenas prácticas.



**weaknesses** hindering recovery by defining the coordination and implementation mechanisms to address remaining damages to homes, education facilities, health facilities, cultural sites, and urban infrastructure. Importantly, the program supports policy changes that ensure the resilience of new housing and urban infrastructure. In the Mexican states affected by the 2017 and 2018 earthquakes, while the ownership of a large share of the housing stock is undetermined, 31 percent of properties are owned by women (the national average is 41 percent). This policy will lower the costs and simplify requirements to obtain the reconstruction support that too often prevent women from accessing support, especially the need for proof of legal ownership of their property.

64. **Expected results.** The policy will enable the upgrading or reconstruction of 20,000 households by the end of calendar year 2021 and a similar annual amount in the subsequent years. This will include improving the structural integrity of housing units to strengthen resilience in the face of future natural disasters and climate change–related events. Through the targeted policy measures, aiming at benefitting women affected by the 2017 and 2018 earthquakes, the program is expected to overcome legal barriers for women to access housing programs, ensuring that 52 percent of beneficiaries from the program – by December 2021 - are women, significantly above the 31 percent of women-owned houses in targeted states where some 40 percent of the housing stock lack property titles.

**Table 4: DPF Prior Actions and Analytical Underpinnings**

Prior Actions	Analytical Underpinnings
<b>Pillar 1: Strengthening environmental sustainability and climate resilience in agriculture, forestry, and local government development</b>	
Prior Action #1	World Bank 2019-20, Climate Change policies engagement/support World Bank. 2019. <i>Mexico – Systematic Country Diagnostic</i> . Washington, DC: World Bank Group. World Bank Group. 2016. <i>World Bank Group Forest Action Plan FY16–20</i> . Washington, DC: World Bank. Mexico Policy Notes 2019. Washington, DC: World Bank. Rigaud, K. K., A. de Sherbinin, B. Jones, J. Bergmann, V. Clement, K. Ober, J. Schewe, S. Adamo, B. McCusker, S. Heuser, and A. Midgley. 2018. <i>Groundswell: Preparing for Internal Climate Migration</i> . (Case study of Mexico) Washington, DC: World Bank.
Prior Action #2	World Bank TA provided during ETS design and rollout via the Partnership for Market Readiness (PMR), supporting the review and design element decision for Mexico’s ETS (2017 to present). Hallegatte, S., M. Bangalore, L. Bonzanigo, M. Fay, T. Kane, U. Narloch, J. Rozenberg, D. Treguer, and A. Vogt-Schilb. 2016. <i>Shock Waves: Managing the Impacts of Climate Change on Poverty</i> . Climate Change and Development Series. Washington, DC: World Bank.



	<p>Mehling, M., and E. Dimantchev. 2017. <i>Achieving the Mexican Mitigation Targets: Options for an Effective Carbon Pricing Policy Mix</i>. Developed under the coordination of SEMARNAT and German Corporation for International Cooperation (GIZ)</p> <p>PMR (World Bank Partnership for Market Readiness) and ICAP (International Carbon Action Partnership). 2016. <i>Emissions Trading in Practice: A Handbook on Design and Implementation</i>. Washington, DC: World Bank.</p>
<p>Prior Action #3</p>	<p>World Bank. 2020. "Potential ENB Engagement to Support COVID-19 Response and Recovery." Briefing Note on COVID-19 Policy-Based Lending and Climate Change. Washington, DC: World Bank.</p> <p>World Bank. Forthcoming. <i>Alternative Approaches to Estimate the Cost of Ambient Air Pollution</i>. Washington, DC: World Bank.</p> <p>World Bank 2019-20, Climate Change policies engagement/support</p> <p>Enriquez, S., B. Larsen, and E. Sánchez-Triana. 2018. "Local Environmental Externalities due to Energy Price Subsidies: A Focus on Air Pollution and Health." Energy Sector Reforms Assessment Framework Good Practice Note 8. Washington, DC: World Bank.</p> <p>Sánchez-Triana, E., H. J. Ruitenbeek, S. Enriquez, Santiago, and K. Siegmann. 2019. <i>Opportunities for Environmentally Healthy, Inclusive, and Resilient Growth in Mexico's Yucatán Peninsula</i> (English). Washington, DC: World Bank Group.</p>
<p>Prior Action #4</p>	<p>World Bank 2019-20, Climate Change policies engagement/support</p> <p>Global Commission on Adaptation. 2019. <i>Adapt Now: A Global Call for Leadership on Climate Resilience</i>.</p> <p>Hallegatte, S., M. Bangalore, L. Bonzanigo, M. Fay, T. Kane, U. Narloch, J. Rozenberg, D. Treguer, and A. Vogt-Schilb. 2016. <i>Shock Waves: Managing the Impacts of Climate Change on Poverty</i>. Climate Change and Development Series. Washington, DC: World Bank.</p> <p>Hallegatte, S., J. Rentschler, and J. Rozenberg. 2019. <i>Lifelines: The Resilient Infrastructure Opportunity</i>. Sustainable Infrastructure. Washington, DC: World Bank.</p> <p>Hallegatte, S., A. Vogt-Schilb, M. Bangalore, and J. Rozenberg. 2017. <i>Unbreakable: Building the Resilience of the Poor in the Face of Natural Disasters</i>. Climate Change and Development. Washington, DC: World Bank.</p>
<p>Prior Action #5</p>	<p>World Bank. 2019. Mexico – Systematic Country Diagnostic (English). Washington, DC: World Bank Group</p> <p>World Bank. 2020. Potential ENB engagement to support COVID-19 response and recovery</p>



	Programmatic Forest Country Note
<b>Pillar 2: Expanding access to resilient urban infrastructure and social housing</b>	
Prior Action #6	<p>World Bank. 2019-2020. <i>Resilient and Inclusive Housing in Mexico</i>. ASA/TA</p> <p>World Bank. 2016. <i>Mexico Housing Policy &amp; Housing Finance – Analysis and Recommendations to Improve the Efficiency of the Main Up-Front Subsidy Program</i>.</p> <p>World Bank. 2016. <i>World Bank Group Support for Housing Finance</i>. Independent Evaluation Group.</p> <p>World Bank. 2019. <i>Improving Housing Resilience – Synthesis Report</i>. The World Bank – Global Program for Resilient Housing.</p> <p>World Bank. 2020. <i>Resilient and Inclusive Housing in Mexico</i>. ASA, June 2020.</p> <p>Tames, E. 2019. <i>Diagnosis of Home Improvement Products and Programs in Mexico 2006–2018</i>.</p>
Prior Action #7	<p>World Bank. 2019-2020. <i>Resilient and Inclusive Housing in Mexico</i>. ASA/TA</p> <p>Rosales, A. 2020. <i>Analisis de la Implementacion, Ejecucion y Opinion del Programa de Mejoramiento Urbano de la SEDATU-MEXICO 2019–2020</i>;</p> <p>Kim, Y., and B. Zangerling, eds. 2016. <i>Mexico Urbanization Review: Managing Spatial Growth for Productive and Livable Cities in Mexico</i>. Directions in Development. Washington, DC: World Bank.</p>
Prior Action #8	<p>World Bank. 2019-2020. <i>Resilient and Inclusive Housing in Mexico</i>. ASA/TA</p> <p>World Bank. 2019. <i>Improving Housing Resilience – Synthesis Report</i>. Global Program for Resilient Housing. Washington, DC: World Bank.</p>

### 4.3. LINK TO CPF, OTHER BANK OPERATIONS, AND THE WBG STRATEGY

65. **Despite the crisis, the FY 2020–25 CPF objectives remain as relevant as ever.** The CPF<sup>16</sup>, discussed by the Board of Executive Directors in February 2020, is focused on three broad areas: supporting more rapid and more inclusive growth; strengthening institutions for public finance, service delivery, and economic inclusion; and enabling sustainable infrastructure and climate action. The CPF has seven specific objectives under those broad areas, as follows: (1) foster financial intermediation and inclusion; (2) reduce regulatory and competition barriers to economic growth; (3) enhance the management of public resources; (4) strengthen the institutional capacity to deliver inclusive social services; (5) strengthen the capacity of the social protection system for economic inclusion; (6) provide more inclusive and sustainable infrastructure services; and (7) support the government in reaching its goals on climate change. Despite the shock of the COVID-19 pandemic, and its multiple health, economic and social impacts, reforms and

<sup>16</sup> Report No. 137429-MX.



projects conducive to these CPF objectives not only remain relevant, but even more essential to strengthen the country through the crisis and to support a strong recovery.

66. **The pipeline and portfolio of projects under the CPF have experienced some adjustments.** With the objective of dealing with the current situation and the need for a strong and better recovery, while at the same time, advancing some key objectives of the CPF, the pipelines of FY 2020 (4<sup>th</sup> quarter) and FY 2021 have been prioritizing operations that support needed policy and institutional reforms. These include, the Financial Access DPF (P172863) and the Strengthening Economic Sustainability DPF (P174150). The former was approved by the Board of Executive Directors in the 4<sup>th</sup> quarter of FY20, and it was focused on a number of emergency measures, while also fostering reforms on access to credit. The latter, running in parallel to this proposed operation, focuses on policies that can help to a stronger and sustainable recovery. This proposed operation complements those efforts with a program that responds to medium term pressing challenges on the environment, climate change and resilience of critical urban and housing infrastructure. Some investments projects in the pipeline on social infrastructure and transport sectors were slightly delayed for late FY2021 and FY2022. At the same time, and to enable a margin for action and a buffer in the exposure envelope, the undisbursed balances of some slow-disbursing non-priority projects were cancelled in agreement with the authorities. These projects were mostly in the legacy portfolio at the sub-national level in infrastructure areas, but they had their development objectives well-advanced or fulfilled.

67. **The proposed operation is fully aligned with the WBG's COVID-19 crisis response outlined in the Approach Paper (AP), but also with the CPF's objectives.** The proposed operation is supportive of the WBG's COVID-19 crisis response outlined in the Approach Paper (AP), particularly with pillar 4— Strengthening policies, institutions, and investments for re-building better. But at the same time, the operation contributes directly to Objectives 6 and 7 of the CPF (provide more inclusive and sustainable infrastructure services and support the government in reaching its goals on climate change). Instead of halting this critical agenda of resilience and climate change due to the pandemic, the authorities decided to continue with reforms and implementation in these critical areas. Moreover, the operation supports the goals of the WBG Climate Action Plan and is based on the findings of the analytical and direct technical assistance work highlighted in Table 4 and lessons from the Bank's programs in urban, housing, environment and climate change described in section 4.1.

68. **The proposed DPF is also aligned with the WBG Mobilizing Finance for Development (MFD) approach.** The urban, housing and reconstruction actions will directly support job creation and leverage private sector investments. Establishing the ETS and regulating air quality will enhance private sector actors' flexibility to adapt to markets, mobilize new funding sources, and reduce their vulnerability to future crisis.

#### 4.4. CONSULTATIONS AND COLLABORATION WITH DEVELOPMENT PARTNERS

69. **The Government's regulations and programs include an open process of consultations.** The approval of laws and regulations, in general, follows months of consultation with public and private sector stakeholders, including financial institutions, associations, academic institutions, and different social groups, including indigenous people and vulnerable populations in line with the requirements of the



Planning Law. The modification of the Forest Law in 2020 followed some of the recommendations that stakeholders made during a participatory revision of the law that was led by the National Forestry Commission, SEMARNAT and the National Forestry Council (*Consejo Nacional Forestal*, CONAF) during 2019. SEMARNAT installed a Consultative Committee for the ETS in July 2020. The Committee includes the private sector, government agencies, civil society and universities. Sectoral programs go through a wide consultation process; for instance, the elaboration of PROMARNAT included eight regional forums in August 2019 to collect citizens' opinions and nine consultations with experts. Additionally, SEDATU conducted in 2019 and 2020 extensive consultations that were also the basis for its Sectoral Program, the National Housing Plan and the policy reforms supported by this program as well as the consultation process was carried out for the National Strategy for Territorial Planning (*Estrategia Nacional de Ordenamiento Territorial*).

70. **Prior actions under Pillar 1 on climate, forest and environmental management are closely coordinated with development partners, including agencies from the governments of United Kingdom (BEIS, DEFRA), France (Afd), United States (DOS) and Germany (BMZ, BMU, GIZ and KfW), among others.** Prior actions 1 and 5, which target forest conservation, are based on a broad multi-year programmatic forest sector work and coordination with the governments of UK (BEIS and DEFRA), France (Afd) and the US (DOS and USDA Forest Service). Prior action 2 on the ETS is supported by the Government of Germany as part of its ongoing technical assistance collaboration with SEMARNAT on climate policy as well as through TA under the World Bank led Program for Market Readiness (PMR). **Actions under Pillar 2** promote the participation of Social Accountability Groups (*Contraloría Social*), comprising groups of beneficiaries that are entrusted with monitoring the adequate execution of the urban upgrading and housing programs in their local areas. The Partnership for Market Readiness (PMR), a multi-donor World Bank led initiative composed of 13 donors, among them the European Commission, Germany, Spain, Switzerland, Sweden, Japan, UK, U.S., and Australia, facilitates technical assistance and knowledge exchange on carbon pricing policy development, is supporting the establishment of Mexico's ETS and complements the **German-Mexican** Climate Program. The World Bank led forest program is also supported by the **UK and U.S. governments**, in addition to a broader donor coordination in the country.

## 5. OTHER DESIGN AND APPRAISAL ISSUES

### 5.1. POVERTY AND SOCIAL IMPACT

71. **The policy actions supported by the DPF are expected to contribute to poverty reduction and have positive social impacts in the short, medium and long run.** Policy measures under Pillar 1 aiming to support environmental sustainability and climate resilience are not expected to have short term impacts but could have positive impacts on the poor and vulnerable over the medium to long term. Policy measures aimed at supporting a more climate and disaster resilient housing and local infrastructure are expected to have positive impacts on multidimensional measures of poverty in the medium-term. For example, during natural disasters housing damage (and damage to its contents) represent massive losses of assets for poor households that can be avoided with the policies supported. Moreover, although initial impacts are modest, they are expected to have larger positive effects in the medium to long-term by boosting employment in the construction sector. The expected individual impacts of prior actions under each pillar are detailed in Annex 5a.





72. **Actions to strengthen forest conservation as part of the agricultural support program (PA1) are expected to have neutral impacts on the poorest and most vulnerable.** Households that own forested land will not be able to clear it without authorization when they claim support for those plots from the *Producción para el Bienestar* program. Households that own forested land and want to clear it can continue to do so. However, they will not be able to receive benefits under the program for that plot of land. The provision supports better landscape management where poor households use their forest lands to obtain forest products and environmental services. Landless households are, by definition, excluded from the program so they are not affected by a change in its rules.

73. **Actions to implement and operate the initial phase of the national GHG emissions trading system (PA2) are not expected to have short-term poverty and social impacts but could have positive impacts over the medium to long term.** By design, the pilot to implement a national ETS will have no economic effects in the short run, however the impact in the medium term is more uncertain. Depending on how it is designed, the ETS can provide benefits directly associated with the reduction of GHG which will also result in the mitigation of air pollution emissions. However, the ETS could also have negative distributional effects by raising prices of electricity or gasoline or reducing wages and investment incomes related to the performance of carbon-intensive companies, some of which could be compensated by the generation of fiscal revenue that could be used to protect vulnerable households.

74. **Similarly, publicly available information on air pollution (PA3) are not likely to have impacts on the poor in the short run, as the poor may not have the means to modify their behavior, but they could have medium to long term positive impacts to the extent that they enhance accountability.** People with low socioeconomic status are disproportionately affected by air pollution levels as a result of higher pollution concentrations in the areas where they live and work. Moreover, the evidence shows that when the poor are in fact exposed to considerably higher levels of pollution, they also suffer greater harm. Poor people tend to have less access to health care and other resources to protect them or help them cope with air pollution and its health effects. As a result, their immune systems tend to be less prepared to resist infections caused by viruses such as COVID-19. Air pollution also causes more significant effects on vulnerable groups, including the elderly and those with respiratory and cardiovascular conditions. The publication of air quality information is key to help make individual decisions. While poor individuals might not have the means to modify their behavior in response to air quality information in the short run, they could benefit in the medium to long run through enhanced accountability by local and regional governments and strengthened environmental constituencies that lead to actions that improve air quality, which have been instrumental to achieve improved environmental outcomes in the Bank's client countries, from Colombia to Indonesia.

75. **Actions to support climate smart development actions in vulnerable municipalities (PA4) are not expected to have distributional impacts in the short term but can decrease the vulnerability of the poor in the medium to long run.** Mexicans with lower socio-economic status are disproportionately affected by the impacts of climate change. Promoting adaptation through policies that coordinate, guide, and prioritize climate adaptation actions can decrease the vulnerability of poor households in the medium to long term. According to the indicator included in PROMARNAT, 273 Mexican municipalities are considered as highly vulnerable to climate change. These municipalities are distributed across 21 states while one of them is inside Mexico City. Most of these municipalities are characterized by high levels of



poverty; the mean poverty incidence is almost 65 percent. Inequality is also relatively high across the 273 municipalities with a mean Gini coefficient of 0.39. Policies on climate change adaptation that are focused on the most vulnerable, when supported by financial and human resources, can reduce household vulnerability to climate change. This is particularly important for households that are already in precarious conditions.

76. **Actions to amend the Forestry Law to include forests in and around urban areas (PA5) are not expected to have short-term poverty and social impacts but could have positive impacts over the medium to long term.** The amendment to the Forest Law will ensure environmental services, contribute to achieving better health and higher levels of wellbeing. Urban trees reduce the concentration of ozone and pollutants and improve life satisfaction. Moreover, peri-urban forests improve water quality, reduce the emergence of new diseases and protect against natural disasters, all of which are expected to have potential positive impacts on the poor and vulnerable over the medium to long run.

77. **The policy change under the social housing program (PA6) is expected to have overall positive impacts on multidimensional measures of poverty in the short and medium term as previously excluded population gain access to government supports for housing and basic services.** About 73.6 million people, whose earnings were below 5 minimum wages and were previously excluded from the formal housing market, will gain access to additional financing with the new Social Housing Program. In particular, the amendment will ease the housing constraints for informal workers as benefits will no longer be linked to formal employment through INFONAVIT. As part of its response to COVID19 pandemic, the GoM is providing additional financing to the Social Housing Program that will be channeled through the allocation of housing support, prioritizing poor households and households with high indices of vulnerability, including indigenous and elderly population, female headed households and persons with disabilities, and those exposed to natural hazards. Analysis of the house-improvements and extension subsidies in the Emergency Housing program are found to be progressive as most of the spending will be directed to the bottom decile. Since housing is one of the key deprivations considered under the national multidimensional poverty, the fall in deprivation associated with these reforms will effectively mean an improvement in living conditions and overall wellbeing for beneficiary households. Such improvements are particularly important in the context of the COVID-19 crisis, as they can contribute to reduce overcrowding and limited access to sanitation and hygiene and providing more realistic conditions for social distancing. While this program is well targeted, its coverage is low, implying relatively small impacts on multidimensional poverty in the short run. In addition to its direct impact to beneficiary households, these programs can also boost employment over the longer run for the poor and vulnerable. In fact, the program is estimated to generate more than 200,000 direct jobs. Approximately 4.3 million people worked on construction in 2019 (ENOE, 2019). These workers can be considered a vulnerable population as 41.4 percent of construction workers live below the income poverty line, about 67.3 percent have no access to social security, and they tend to be less educated than the average employed population.

78. **Similarly, policy changes that improve the urban upgrading program (PA7) and the national reconstruction program (PA8) are expected to have positive impacts on multidimensional welfare measures.** The program is targeted to municipalities with high concentrations of poverty, violence, crime, and marginalization. International evidence suggests that simplified procedures to access public programs, could potentially have strong positive impacts among these marginal communities. Moreover, investment



on social infrastructure in Mexico has shown long-term positive effects on most non-monetary welfare measures and modest effect on household income per capita (Rodriguez-Castelan et al, 2020). Investments through a large earmarked social infrastructure fund increased the coverage in electricity, sewerage, and drinking water by 0.3, 0.8, and 0.9 percentage points, respectively. Moreover, the fund had an equalizing effect within urban municipalities. Similarly, analysis of the national reconstruction program shows that it is progressive, largely benefiting households at the bottom of the distribution affected by earthquakes. This program is targeted to the poorest most marginalized municipalities, so that in addition to the direct effect of improving the current conditions of those living in affected dwellings, the program could have positive effects in terms of reducing vulnerability through increased resilience to future natural hazards.

79. **Prior Actions 1, 4, 5 and 8 have been designed to reduce vulnerability to climate change, natural disasters, and other hazards.** PA 1 is expected to enhance resilience in rural areas, and PA 5 in urban areas. PA 4 supports the establishment of a policy and institutional framework to guide and prioritize climate adaptation actions in highly vulnerable municipalities. PA 8 is key to build better, more resilient housing, education and health facilities. These actions are anticipated to reduce risk of loss of life and personal injury during disaster events, reduce risk of disruption to essential services, reduce risk of negative impacts on economic activity, and reduce financial costs of emergency response and recovery-particularly for poor and disadvantaged groups (for example, women and other groups living in the most vulnerable municipalities) whose traditional resilience is often negatively affected by development and the increased intensity and frequency of natural hazards caused by climate change. In addition, the amendment to the Forest Law (PA 5) and strengthening forest conservation in “*Producción para el Bienestar*” is expected to contribute to achieving higher levels of subjective wellbeing, as well as increasing protection against natural disasters.

## 5.2. ENVIRONMENTAL, FORESTS, AND OTHER NATURAL RESOURCE ASPECTS

80. **The policy measures supported by the DPF would have significant positive effects on climate change, environmental health, and the health impact of the COVID-19 pandemic.** The WBG has undertaken an environmental analysis of the DPF. The main finding of this analysis is that most of the policy measures supported by the DPF would have significant positive effects on Mexico’s climate change and environmental health priorities. While policy measures of pillar 2 will enhance the environmental and climate change resilience of existing programs that promote housing and urban infrastructure improvements, reconstruction, and development, the WBG also has reviewed the robustness of Mexico’s systems to address potential negative environmental effects which may result from these programs. The analysis found that Mexico’s institutional and regulatory framework to avoid, reduce, mitigate and manage adverse environmental effects is sufficiently robust.

81. **The policy measures will directly assist Mexico in complying with its NDC by low carbon and energy efficient urban and housing development, establishing a cap and trade market mechanism to reduce GHG emissions, controlling emissions of short-lived climate pollutants, and enhancing forest conservation.** These policy measures will also strengthen the country’s adaptation capacity, particularly in the most vulnerable municipalities, and enhance resilience of urban and rural landscapes. Mexico’s foremost environmental health priority is AAP, which in 2018 cost Mexico the equivalent of 3.7 percent of



GDP. The DPF would reduce AAP by inducing behavioral changes of the exposed population in response to an air pollution alert system (PA 3), setting economic incentives to reduce air pollution (PA 2), keeping forests in urban areas (PA 5 and PA 7), and reducing the depletion of carbon stocks (PA 1 and PA 5). Water losses, sanitation, and hygiene would also be improved by the DPF's policy measures of improving and reconstructing public places in marginal neighborhoods (PA 7 and PA 8) and by resilient housing reconstruction and improvements for poor and vulnerable families (PA 6 and PA 8). In addition, the policy measures to reduce exposure to air pollution are expected to contribute to mitigate the impact on health of COVID-19 because these measures will reduce exposure to some air pollutants—particulate matter and nitrogen dioxide—that increase COVID-19 fatalities.

82. **Overall, Mexico has robust systems to achieve the environmental benefits of the policy measures supported by the DPF.** Based on several sector studies by the GoM, the World Bank, other international organizations such as the Organization for Economic Co-operation and Development (OECD) and academic and research institutions, the analysis undertaken has thus far found that Mexico's systems have evolved in line with good international practice in mitigating and adapting to climate change, reducing air pollution and deforestation. Moreover, since the 1980's Mexico has developed a comprehensive legal, regulatory, and institutional framework at the federal, state, and municipal levels for managing environmental risks from urban development and housing. The DPF's policy measures PA 6, PA 7, and PA 8 strengthen compliance with this system by: (i) requiring implementers to be properly qualified and registered; and (ii) facilitating technical assistance on sustainability support for beneficiaries. In addition, environmental risks of most activities under the urban programs are well known and can be managed through standard prevention and control processes widely used in Mexico. Therefore, Mexico has the capacity, proven experience and robust systems to implement the DPF policy measures successfully and manage effectively environmental risks associated with works and projects in urban development, housing and reconstruction.

### 5.3. PFM, DISBURSEMENT, AND AUDITING ASPECTS

#### Fiduciary Aspects

83. **The overall integrated fiduciary risk to this operation arising from México's public financial management (PFM), including the public procurement system and FOREX control environment, is low.** The Mexican Government has introduced a number of reforms in public finances in line with international good practices. More recent reforms were related to public-sector accountability, integrity, and transparency with the creation of the National Anti-Corruption System, the National Transparency System, and the National Auditing System (Sistema Nacional de Fiscalización). Additionally, Mexico established accrual accounting,<sup>17</sup> harmonized accounting, and budgeting norms across all levels of government and created the National Council of Accounting Harmonization (Consejo Nacional de Armonización Contable). The WBG is supporting the government in reforms related to transparency and accountability efforts to improve the design, effectiveness, and implementation of open-government initiatives, public integrity, and anticorruption policies and tools.

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<sup>17</sup> Public Sector Accounting in Mexico is not fully accrual nor convergent with IPSAS.



84. **The analytical underpinnings confirm that the foundations of PFM systems in Mexico are in place.**<sup>18</sup> They are supported by the existing country's legal framework, human resources, and technical skills. Reforms include the introduction of internationally recognized good practices, such as the publication of government budget<sup>19</sup> and of the financial statements, the latest, four months after the end of the fiscal year. In some areas, however, PFM practices could be improved, such as the inclusion of missing assets/liabilities, the creation of a comprehensive framework for the financial governance and oversight of nonfinancial public corporations, and over PFM system integration.

85. **As for external oversight, the Federal Supreme Audit Institution conducts, on a regular basis, a number of performance, financial, and compliance audits of federal programs.** The annual public accounts are prepared and sent to Congress within four months after the end of each fiscal year. The external audit of annual public accounts is undertaken by the Auditor General's office and submitted to the legislature fourteen months after the end of each fiscal year. Audit reports are comprehensive and there is a system in place to follow up on audit findings and recommendations. The results of audits by the Auditor General's office are reviewed and assessed by designated committees appointed by Congress (Comisión de Vigilancia de la Auditoría Superior de la Cámara de Diputados and Comisión de Presupuesto y Cuenta Pública de la Cámara de Diputados) and made public in the Annual Audit Report on the Federal Public Accounts.

#### **Disbursement and Audit**

86. **Disbursement arrangements.** Once the DPF becomes effective and the Borrower complies with any withdrawal tranche release conditions, following the Borrower's request, the WBG will deposit the funds into an account denominated in US dollars owned by the Central Bank (Banco de México) for subsequent credit into the account of the National Treasury (Tesorería de la Federación). The WBG will notify the Borrower three days before making the deposit. The MOF will provide the WBG with a written confirmation of the transaction and accreditation in the budget within thirty days after the funds are disbursed by the WBG that include: (a) the exact sum received into the account; (b) the details of the account to which the local currency equivalent of the Loan proceeds will be credited; (c) the record that an equivalent amount has been accounted for in the Borrower's budget management systems; and (d) the statement of receipts and disbursement of the bank account at Banco de México.

87. **The FOREX control environment into which the DPF proceeds would flow has been reviewed as part of the assessment.** The Financial Management (FM) assessment was based on the experience of Mexico managing DPFs financed by the WBG, the Bank's analysis of project flow of funds, and the review of the audited annual report of Banco de México from 2018 and 2019 with clean opinions under standards aligned with International Financial Reporting Standards (IFRS). The assessment reviewed, from a fiduciary point of view, the control environment, procedures, and regulations governing this WBG-supported operation to identify risks and related mitigation measures are needed. No additional measures have been deemed necessary for this operation.

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<sup>18</sup> Fiscal Transparency Evaluation, IMF, October 2018.

<sup>19</sup> Included as part of government budget transparency initiative at [www.transparenciapresupuestaria.gob.mx](http://www.transparenciapresupuestaria.gob.mx). Mexico is part of the Global Initiative of Fiscal Transparency (GIFT) and Open Fiscal Data Package.



#### 5.4. MONITORING, EVALUATION, AND ACCOUNTABILITY

88. **The Ministry of Finance (*Secretaría de Hacienda y Crédito Público (SHCP)*) with the assistance of SEMARNAT and SEDATU will be responsible for collecting the data necessary and for monitoring the indicators.** The SHCP, in close coordination with SEMARNAT and SEDATU, will take the lead in monitoring progress and implementation of this operation, with ongoing support from the WBG. The results indicators selected to monitor and evaluate implementation progress and the achievement of program outcomes will be monitored by the institution that takes the coordination lead for the respective prior actions. While most of the indicators are new and will be collected for the monitoring of this operation, some of the indicators selected are already collected and monitored by the associated institution. The results matrix for the proposed operation can be found below in Annex 1.

89. **Grievance Redress.** Communities and individuals who believe that they are adversely affected by specific country policies supported as prior actions or tranche release conditions under a WBG Development Policy Operation may submit complaints to the responsible country authorities, appropriate local/national grievance redress mechanisms, or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address pertinent concerns. Affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB noncompliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For information on how to submit complaints to the World Bank Inspection Panel, please visit [www.inspectionpanel.org](http://www.inspectionpanel.org)."

#### 6. SUMMARY OF RISKS AND MITIGATION

90. **The overall level of risk for the proposed operation is assessed as substantial.** The key risk ratings are included in the table below. The COVID-19 pandemic has brought multiple shocks to emerging economies. Triggered by the COVID-19 pandemic, the global economic landscape has deteriorated drastically, and it is still evolving. There is a high degree of uncertainty as to the duration of the pandemic in different countries, including in Mexico, and to its economic, social, and health ramifications. Thus, an additional public health risk was added to the risk summary, rated as Substantial.

91. **In this context, Mexico faces macroeconomic risks.** There is uncertainty about when the transmission channels of the crisis, e.g., trade, finance, commodity prices, and the domestic supply side measures, would fully normalize and stabilize globally. Capital markets may increase their volatility, hampering access to emerging economies at reasonable rates, including Mexico. The vulnerabilities represented by PEMEX may be heightened and further measures to enable financial soundness and sustainability in the state company would be needed to avoid further credit rating downgrades on the company and its impact on the sovereign credit rating. The authorities will also have to maneuver the short-term larger fiscal imbalances in the context of the crisis, with a sustainable fiscal framework over the medium term. The policy approach for the private sector, such as electricity, could also impact the investment climate. The impact of the economic crisis on employment and labor incomes, formal and



especially informal, could further undermine the economy through even tamed consumption and the high costs of formal job re-matching may hamper the recovery through lower productivity. Moreover, education and health impacts may also hamper longer-term growth prospects.

92. **There are also important mitigation factors.** The flexible exchange rate will continue to be the first line of defense against external shocks. Moreover, the independent Central Bank of Mexico still has monetary policy and balance-sheet space to respond in the context of the volatile global capital markets. While it will require close monitoring, the financial sector entered the crisis well-capitalized and the authorities have enabled financial stability and liquidity measures timely. Mexico has a strong track record of responsible fiscal policy, which has been maintained under the current administration. On the upside, the USMCA agreement (that started on July 1, 2020) will reduce one source of uncertainty and help support future investment and export demand, which could further strengthen Mexico's recovery if the U.S. rebound in 2021 remains strong.

93. **Other risks stemming from the health side of the crisis are also Substantial.** There is a high degree of uncertainty as to the duration of the pandemic in different countries, including in Mexico, and to its economic, social, and health ramifications. The lack of a vaccine, domestic constraints, and early opening of the social and economic activity could translate into a longer period of social distancing policies needed, with stubbornly high infection rates, further social and economic effects, and increases in out-of-pocket health expenditures for COVID-19-affected households. One risk mitigating factor is that Mexico was able to rapidly scale up its hospital capacity, intensive care (with ventilators beds), and other required treatment equipment. This has kept hospital occupation at manageable rates.



**Table 5: Summary Risk Ratings**

Risk Categories	Rating
1. Political and Governance	● Moderate
2. Macroeconomic	● Substantial
3. Sector Strategies and Policies	● Moderate
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Moderate
6. Fiduciary	● Low
7. Environment and Social	● Moderate
8. Stakeholders	● Moderate
9. Other	● Substantial
<b>Overall</b>	● Substantial





**ANNEX 1: POLICY AND RESULTS MATRIX**

Prior Actions and Triggers	Results		
Prior Actions under DPF	Indicator Name	Baseline	Target
<b>Pillar 1 Strengthening environmental sustainability and climate resilience in agriculture, forestry, and local government development</b>			
<p><b>Prior Action #1:</b> The Borrower included a forest conservation provision in the country’s most important agriculture support program (Producción para el Bienestar) for small landholders, as evidenced by the rules for the operation of the program as published in the Official Gazette on February 7, 2020.</p>	<p>Results Indicator #1: Number of farmers with deforestation-free agriculture support</p>	<p>0 (01/2020)</p>	<p>2.8 million (12/2021)</p>
<p><b>Prior Action #2:</b> The Borrower, through SEMARNAT, has adopted guidelines to implement and operate the initial phase of the national GHG emissions trading system, as evidenced by the guidelines published in the Official Gazette on October 1, 2019.</p>	<p>Results Indicator #2: Share of national greenhouse gas (GHG) emissions regulated under an aggregated annual GHG emissions cap</p>	<p>0% (01/2020)</p>	<p>40% (12/2021)</p>
<p><b>Prior Action #3:</b> The Borrower, through SEMARNAT, has issued regulations to help address human health impacts of air contamination by: (i) standardizing air quality monitoring, measurement and communication to the public about environmental health risks in cities and the actions they can take to reduce their exposure to such risks, and (ii) enabling the national and subnational governments to compile, analyze, and publish the air quality and environmental health measurement of cities, as evidenced by Norm 172 published in the Official Gazette on November 20, 2019.</p>	<p>Results Indicator #3: Share of cities with a population of more than 2 million that: (i) have an air quality network in operation, and (ii) publicly disseminate air quality information throughout the year.</p>	<p>0% (01/2020)</p>	<p>100% (12/2021)</p>



Prior Actions and Triggers	Results		
<p><b>Prior Action #4:</b> The Borrower, through SEMARNAT, has established a policy and institutional framework to guide and help prioritize climate adaptation actions in highly vulnerable municipalities, as evidenced by the issuance of a Decree dated July 2, 2020 approving the PROMARNAT 2020-2024 published in the Official Gazette on July 7, 2020.</p>	<p>Results Indicator #4: Share of highly climate vulnerable municipalities that adopt measures that improve their adaptive capacity to climate change</p>	<p>0 (01/2020)</p>	<p>5% (12/2021)</p>
<p><b>Prior Action #5:</b> The Borrower enacted an amendment to the Forest Law (Ley General de Desarrollo Forestal Sustentable) to include forests in and around urban areas under the legal definition of forestlands to broaden forest protection and contribute to air quality, which is critical for cities and citizens' health; as evidenced by the amendment to the Forest Law published in the Official Gazette on April 13, 2020.</p>	<p>Results Indicator #5: Increase in conservation area of urban forest</p>	<p>0 (01/2020)</p>	<p>1,000,000 ha (12/2021)</p>
<p><b>Pillar 2: Expanding access to resilient urban infrastructure and social housing</b></p>			
<p><b>Prior Action #6:</b> The Borrower, through SEDATU, amended the operational rules of the Social Housing Program (Programa de Vivienda Social) to prioritize: (i) targeting of housing support to poor and vulnerable households; (ii) targeting indigenous peoples and women-headed households; (iii) targeting areas affected by natural disasters and increasing risk from climate impacts; (iv) addressing sanitary deficiencies, overcrowding, and structural vulnerabilities of low-income homes; and (v) expanding the stock of housing with higher resilience and environmental sustainability, as evidenced by the modification of the Operational Rules of the Social Housing Program published in the Official Gazette on June 26, 2020.</p>	<p>Results Indicator #6: Number of beneficiary households of the re-prioritized Social Housing Program</p>	<p>0 (01/2020)</p>	<p>165,000 (12/2021)</p>
<p><b>Prior Action #7:</b> The Borrower, through SEDATU, amended the Operational Rules of the Urban Upgrading Program (Programa de Mejoramiento Urbano) to support mid-sized cities severely affected</p>	<p>Results Indicator #7: Number of beneficiaries under enhanced Urban Upgrading Program</p>	<p>0 (01/2020)</p>	<p>1,078,000 (12/2021)</p>



Prior Actions and Triggers	Results		
<p>by the pandemic and with large shares of vulnerable population, through improved targeting and planning mechanisms for urban investments and civil works that contribute to climate mitigation and adaptation while at the same time create jobs; as evidenced by the amendment to the Urban Upgrading Program published in the Official Gazette on May 28, 2020.</p>			
<p><b>Prior Action #8:</b> The Borrower, through SEDATU, established new operational rules for the National Reconstruction Program (<i>Programa Nacional de Reconstrucción</i>) to ensure that improvements made to housing, education and health facilities damaged by the earthquakes of 2017 and 2018, have increased resilience to natural disasters; as evidenced by the Operational Rules for the National Reconstruction Program published in the Official Gazette on April 2, 2020.</p>	<p>Results Indicator #8: Number of households living in units damaged by the 2017 and 2018 earthquakes that receive technical and financial assistance through the National Reconstruction Program in 2020.</p>	<p>0 (01/2020)</p>	<p>20,000 (12/2021)</p>
	<p>Results Indicator #9: Share of female beneficiaries affected by the 2017 and 2018 earthquakes supported under the National Reconstruction Program.</p>	<p>0% (01/2020)</p>	<p>52% (12/2021)</p>



## ANNEX 2: FUND RELATIONS ANNEX

### IMF Executive Board Concludes 2020 Article IV Consultation with Mexico

November 4, 2020

**Washington, DC:** On November 2, 2020, the Executive Board of the International Monetary Fund (IMF) concluded the Article IV consultation [1] with Mexico.

Mexico has been hit hard by COVID-19. Official statistics indicate that over 85,000 lives have been lost. About 12 million workers lost their jobs, many of whom came from the informal sector, out of which around 4 million have not returned to the workforce. The share of the population in working poverty jumped from 36 to 48 percent, as of June.

Output is expected to decline by 9 percent in 2020, the steepest contraction since the Great Depression. It is expected to recover modestly going forward. Although inflation has edged up on account of exchange rate passthrough and supply disruptions, it is projected to decline gradually as domestic demand remains suppressed by labor market dislocation, wealth effects, and concerns about the path of the pandemic.

The authorities responded to the pandemic by increasing health spending and supporting households and firms. They provided loans, reallocated some expenditure items, front-loaded spending for social pension payments to the elderly and disabled, and accelerated procurement processes and VAT refunds, among other actions. The authorities also implemented tax policy measures and introduced tax administration measures to increase tax collections. Monetary policy started easing last year and accelerated following the pandemic for cuts totaling 400 basis points, reducing the policy rate to 4.25 percent. The central bank also expanded several facilities, with access up to 3.3 percent of GDP, to support market functioning and credit provision. The flexible exchange rate has facilitated absorption of shocks. Comfortable international reserves, access to the U.S. Federal Reserve swap line, and the IMF's Flexible Credit Line have bolstered the ability to withstand external stress.

### Executive Board Assessment [2]

Executive Directors generally agreed with the thrust of the staff appraisal. They commended the authorities for taking timely action to mitigate the impact of the pandemic on peoples' health and the economy, and for maintaining very strong policies and institutional policy frameworks. They noted that the economic recovery is expected to be gradual and that, against the backdrop of considerable risks and uncertainty over the evolution of the pandemic, the large social and economic costs are likely to persist. Directors emphasized the importance of limiting the damage from the pandemic, promoting a robust recovery, and pursuing strong, durable, and inclusive growth. Continued close engagement and dialogue between the authorities and staff on policy options will be important.

Most Directors recommended a further temporary, well-communicated, and targeted near-term fiscal support, with due consideration of the country's circumstances and safeguarding medium-term fiscal sustainability. A few of these Directors cautioned that limited fiscal support could lead



to greater pressure on public finances through a deeper economic contraction. A few other Directors, however, saw the authorities' stance as prudent, given the uncertain path of the pandemic. Directors generally saw the need for announcement of a credible medium-term tax reform—to be implemented once the recovery is underway—to bolster the space for providing near-term support, close fiscal gaps, lower public debt, and finance needed investment and social spending. A number of Directors suggested that the tax reform plans should be announced once a firm recovery is in place.

Directors welcomed the authorities' recent steps to improve tax administration. They recommended broadening the tax base, raising subnational taxes, and reducing VAT gaps while strengthening social safety nets. They also welcomed the authorities' pension reform proposal, while urging them to consider complementary measures to mitigate labor market informality. Directors emphasized further reprioritizing public spending to promote inclusive growth by strengthening social protection and increasing public investment. They urged the authorities to revisit Pemex's business strategy and further reform its governance.

Directors considered that the actions of the central bank have supported the functioning of financial markets and the economy. They noted that the flexible exchange rate has facilitated the absorption of shocks, while comfortable international reserves, access to the U.S. Federal Reserve swap line, and the Fund's Flexible Credit Line have bolstered the ability to withstand external stress. A number of Directors considered that there may be scope for further monetary policy support, while safeguarding financial stability. Many other Directors, however, supported a more cautious approach, given increased inflation and the potential tradeoffs. Directors recommended continued close monitoring of risks in the banking sector and upholding minimum regulatory and supervisory standards while using the inherent flexibility of the framework.

Directors emphasized that steadfast implementation of structural reforms is key to delivering lasting improvements in investment and productivity and to reaping the benefits of the USMCA trade agreement. They urged the authorities to forcefully tackle labor market informality, advance governance and AML/CFT efforts, enhance public investment efficiency, improve access to credit, and leverage private involvement in the energy sector. Directors also encouraged consideration of a nationwide unemployment benefits system.



**ANNEX 3: LETTER OF DEVELOPMENT POLICY**



Subsecretaría de Hacienda y  
Crédito Público  
Unidad de Crédito Público

**Oficio No. 305.-625/2020**

Ciudad de México, a 18 de noviembre de 2020

**DAVID R. MALPASS**  
**Presidente del Grupo Banco Mundial**  
**Washington, D. C.**  
**Estados Unidos de América**

El Gobierno de México, a través de la Secretaría de Medio Ambiente y Recursos Naturales (SEMARNAT) y la Secretaría de Desarrollo Agrario, Territorial y Urbano (SEDATU), ha impulsado reformas, así como programas encaminados para fortalecer la sustentabilidad medioambiental y el desarrollo urbano.

El compromiso del Gobierno de la República es fortalecer la institucionalidad en materia de medio ambiente y recursos naturales, de conformidad con el Plan Nacional de Desarrollo 2019-2024, el cual en su Eje II. "Política Social", específicamente en el apartado de desarrollo sostenible, indica que "el Ejecutivo Federal considerará en toda circunstancia los impactos que tendrán sus políticas y programas en el tejido social, en la ecología y en los horizontes políticos y económicos del país".

La necesidad de proteger los recursos naturales y la biodiversidad del país, y promover iniciativas que consideren medidas de adaptación y mitigación al cambio climático se reafirma en el Programa Sectorial de Medio Ambiente (PROMARNAT), publicado en el Diario Oficial de la Federación (DOF) el 7 de julio de 2020, en donde la SEMARNAT estableció cinco objetivos prioritarios:

1





**HACIENDA**  
SECRETARÍA DE HACIENDA Y CRÉDITO PÚBLICO



**2020**  
LEONA VICARIO

**Subsecretaría de Hacienda y  
Crédito Público  
Unidad de Crédito Público**

- (i) Promover la conservación, protección, restauración y aprovechamiento sustentable de los ecosistemas y su biodiversidad con enfoque territorial y de derechos humanos, considerando las regiones bioculturales, a fin de mantener ecosistemas funcionales que son la base del bienestar de la población;
- (ii) Fortalecer la acción climática a fin de transitar hacia una economía baja en carbono y una infraestructura estratégica resiliente, con el apoyo de los conocimientos científicos, tradicionales y tecnológicos disponibles;
- (iii) Promover al agua como pilar de bienestar, para un medio ambiente sano y donde una sociedad participativa se involucre en su gestión;
- (iv) Promover un entorno libre de contaminación del agua, el aire y el suelo que contribuya al ejercicio pleno del derecho a un medio ambiente sano; y
- (v) Fortalecer la gobernanza ambiental a través de la participación ciudadana libre, efectiva, significativa y corresponsable en las decisiones de política pública, asegurando el acceso a la justicia ambiental con enfoque territorial y de derechos humanos y promoviendo la educación y cultura ambiental.

Es importante resaltar que el Gobierno de México ha realizado diversas acciones de política pública encaminadas a cumplir con esta finalidad:

- a) Se incluyó una disposición de Conservación Forestal en el Programa Producción para el Bienestar, dirigido a pequeños propietarios, como lo demuestran las Reglas de Operación del Programa, publicadas en el DOF el 7 de febrero de 2020;





- b) Se establecieron las Bases Preliminares del Programa de Prueba del Sistema de Comercio de Emisiones las cuales fueron publicadas en la DOF el 1 de octubre de 2019;
- c) Se emitió la NOM-172-SEMARNAT-2019, sobre Lineamientos para la Obtención y Comunicación del Índice de Calidad del Aire y Riesgos a la Salud, publicada en el DOF el 20 de noviembre de 2019, con el fin de estandarizar la obtención del índice para la medición de la calidad del aire y su comunicación al público en la ciudades mexicanas, para que las personas puedan tomar, con independencia de las acciones por contingencia, medidas para prevenir riesgos a la salud;
- d) Se ha establecido un mecanismo para orientar y apoyar a priorizar acciones de adaptación al cambio climático en los municipios altamente vulnerables; como se evidencia a través de la emisión del PROMARNAT en junio de 2020; y
- e) Se promulgó una reforma a la Ley General de Desarrollo Forestal Sustentable para incluir los bosques en zonas urbanas y sus reservas de urbanización bajo la definición de terrenos forestales, ampliando así su protección y contribuyendo a la mejora de la calidad del aire. Dicha reforma fue publicada en el DOF el 13 de abril de 2020.

Por su parte, la SEDATU, a partir de lo establecido en la Ley Orgánica de la Administración Pública Federal (LOAP), artículo 41, tiene entre sus atribuciones "elaborar y conducir las políticas de vivienda, ordenamiento territorial, desarrollo agrario y urbano". Asimismo, en la Ley General de Asentamientos Humanos, Ordenamiento Territorial y Desarrollo Urbano (LGAHOTDU), se establece como responsabilidad de la federación, a través de la SEDATU, la formulación y la







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conducción de la política nacional de asentamientos humanos, la elaboración, apoyo y ejecución de programas que tengan por objeto satisfacer las necesidades de suelo urbano y el establecimiento de Provisiones y Reservas territoriales para el adecuado desarrollo de los Centros de Población, así como la promoción y ejecución de la construcción de obras de infraestructura y equipamiento para el Desarrollo Regional, urbana y rural, en coordinación con los gobiernos estatales, municipales y las Demarcaciones Territoriales, por mencionar algunos (LGAHOTDU, artículo 8, incisos I, VII, IX).

Asimismo, la Ley de Vivienda establece que la vivienda es un área prioritaria para el desarrollo nacional (artículo 1), y que la Política Nacional de Vivienda deberá promover oportunidades de acceso a la vivienda para la población, preferentemente para aquella que se encuentre en situación de pobreza, marginación o vulnerabilidad (Artículo 6). Es así que, en el artículo 16, se establece que corresponde a la SEDATU formular, ejecutar, conducir, coordinar, evaluar y dar seguimiento a la Política Nacional de Vivienda, asumiendo la rectoría de la misma,

Por su parte, el Programa Sectorial de Desarrollo Agrario, Territorial y Urbano (PSEDATU 2020-2024), incorpora los principios de planeación sectorial con una visión humana y sostenible del territorio, con el objetivo de construir territorios de paz y bienestar que permitan reducir las brechas de equidad socio-espacial. El programa contiene los siguientes objetivos prioritarios:

- Objetivo prioritario 1. Establecer un sistema territorial integrado, ordenado, incluyente, sostenible, y seguro centrado en los derechos humanos y colectivos de las personas, pueblos y comunidades, con énfasis en aquellas





que, por su identidad, género condición de edad, discapacidad y situación de vulnerabilidad, han sido excluidas del desarrollo territorial.

- Objetivo prioritario 2: Reconocer el papel de los sujetos agrarios, población rural, pueblos indígenas y afroamericano en el desarrollo territorial incluyente y sostenible para garantizar el pleno ejercicio de sus derechos, así como para impulsar acciones que coadyuven con el sector energético mediante el diálogo y los procedimientos de mediación para el adecuado uso y aprovechamiento del suelo.
- Objetivo prioritario 3. Impulsar un hábitat asequible, resiliente y sostenible para avanzar en la construcción de espacios de vida, para que todas las personas puedan vivir seguras y en condiciones de igualdad.
- Objetivo prioritario 4. Garantizar el derecho a una vivienda adecuada para todas las personas, a partir de un enfoque de derechos humanos con pertinencia cultural y regional.

Con estos objetivos estratégicos como base, se establecen estrategias y acciones puntuales encaminadas a cumplir las atribuciones en materia de vivienda, mejoramiento urbano y reconstrucción desde una perspectiva de gestión integral del territorio.

En virtud de lo anterior, y de las prioridades establecidas por el Gobierno de México, la SEDATU, a través de la Comisión Nacional de Vivienda (CONAVI), ejecuta el Programa de Vivienda Social (PVS), en el que se prioriza el apoyo a hogares de bajos ingresos con la finalidad de ampliar la oferta de viviendas adecuadas que sean más resilientes y sostenibles.





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Por otro lado, el Programa de Mejoramiento Urbano (PMU), también ejecutado por la SEDATU, ha sufrido una modificación en sus reglas de operación para apoyar a las ciudades de tamaño medio, a través de la construcción y rehabilitación de obras de equipamiento e infraestructura que contribuyan a la generación de empleo, pero que también consideren acciones de mitigación y adaptación al cambio climático.

Asimismo, la SEDATU ha sido la encargada de coordinar la implementación del Programa Nacional de Reconstrucción (PNR) para garantizar que las obras de reconstrucción de viviendas, equipamientos de educación, salud y cultura afectados por los sismos de 2017 y 2018 sean más sostenibles y resilientes, pues los daños se concentraron en el sureste de México que presenta las tasas de pobreza más altas del país además de ser zonas altamente vulnerables a la ocurrencia de eventos sísmicos.

En virtud de lo anterior, agradecemos el reconocimiento del Banco Mundial a las acciones de políticas públicas para fortalecer la sostenibilidad y resiliencia ambiental, así como ampliar el acceso a la infraestructura urbana y a la vivienda social.

Sin otro particular, le reitero la seguridad de mi más alta consideración.

**ATENTAMENTE,**

**JOSÉ DE LUNA MARTÍNEZ  
TITULAR DE LA UNIDAD DE CRÉDITO PÚBLICO**





Unofficial translation of the Letter of Development Policy  
LETTERHEAD – Ministry of Finance and Public Credit Office

Memorandum No. 305.-625/2020  
Mexico City, November 18, 2020 Mexico City

David Malpass  
President of the World Bank Group  
Washington, D.C.  
United States of America

Dear Mr. Malpass,

The Government of Mexico, through the Secretariat of Environment and Natural Resources (SEMARNAT) and the Secretariat of Agrarian, Land, and Urban Development has promoted reforms and programs to strengthen environmental sustainability and urban development. The commitment of the Government of the Republic is to strengthen environmental and natural resources institutions in compliance with the National Development Plan 2019-2024, which has a component named “Social Policy” that includes a section of sustainable development that indicates that “the Federal Executive will consider, under all circumstances, the impacts of its policies and programs on the social fabric, the ecology and the political and economic horizons of the country”.

The Sectorial Program on Natural Resources (published in the Official Gazette on the 7<sup>th</sup> July 2020) reaffirms the need to protect the natural resources and the biodiversity of the country and to promote initiatives that consider the adaptation and mitigation of climate change. In this program, SEMARNAT established five priority objectives:

- i. Promote the conservation, protection, restoration and sustainable management of ecosystems and its biodiversity through a landscape and human rights approach, considering the biocultural regions to achieve the goal of maintaining functional ecosystems that are the base of people’s wellbeing.
- ii. Strengthen climate action to move towards a low carbon economy with resilient populations, ecosystems, productive systems and infrastructure; and with the support of scientific, traditional and technological knowledge.
- iii. Promote water as a pillar for wellbeing and manage it with transparent, reliable, efficient and effective institutions that ensure a healthy environment and where a participative society gets involved in its stewardship.
- iv. Promote an environment that is free of water, air and soil pollution; contributing to the right to a healthy environment.
- v. Strengthen environmental governance through free, effective, significative and co-responsible citizen participation in public policy decision-making. Thus, ensuring the access to environmental justice with a landscape approach and human rights, and promoting education and environmental culture.



It is important to highlight that the Government of Mexico has developed public policy actions to attain these objectives, including:

- The inclusion of a forest conservation provision in the program “Producción para el Bienestar” for small landholders, as evidenced by the rules for the operation of the program as published in the Official Gazette on February 7, 2020.
- The establishment of the preliminary guidelines of the pilot national GHG emissions trading system, that were published in the Official Gazette on October 1, 2019.
- The publication of NOM-172-SEMARNAT-2019 with the guidelines to obtain and communicate the air quality and health risk index, in the Official Gazette on November 20, 2019. This has the goal of standardizing the obtention of the index to measure air quality and communicating it to the public so they can take actions to prevent health risks.
- Establishment of a mechanism to orient and support the prioritization of actions of climate change adaptation in highly vulnerable municipalities, as evidenced by the PROMARNAT in June 2020.
- The approval of a reform to the General Sustainable Forest Development Law to include forests in urban areas and their urbanization reserves under the legal definition of forestlands, broadening its protection and contributing to air quality improvement. The reform was published in the Official Gazette on April 13, 2020.

For its part, SEDATU, as stated in article 41 of the Organic Law of the Federal Public Administration (LOAP for its initials in Spanish), has among its attributes the “elaboration and conducting the policies of housing, land use planning and urban and agrarian development”. Furthermore, the General Law of Human Settlements, Territorial Ordering and Urban Development (LGAHOTDU) establishes that the federation, through SEDATU, has the responsibility of formulating and conducting the human settlements national policy, as well as the elaboration, support and execution of programs that address the requirements of urban land use and the establishment of provisions and territorial reserves for the adequate development of population centers. It also has the responsibility of promoting and executing the construction of infrastructure for regional, urban and rural development in coordination with state and municipal governments as well as territorial units (LGAHOTDU, article 8, item 1, VII, IX).

Furthermore, the Housing Law establishes that housing is a priority for national development (article 1) and that the national housing policy must promote housing opportunities for the population, with a focus on poor, marginalized and vulnerable populations (article 6). Article 16 establishes that SEDATU must formulate, execute, conduct, coordinate, evaluate and monitor the housing national policy, while providing overall stewardship for the sector.

The Sectorial Program of Agrarian, Territorial and Urban Development (PSEDATU 2020-2024) incorporates the principles of sectorial planning with a human and sustainability vision of territories with the objectives of building peace and wellbeing to reduce socio-spatial inequities. The program contains the following priority objectives:

- Priority objective 1: Establish a territorial system that is integrated, ordered, inclusive, sustainable and safe, as well as centered in human and collective rights of people, peoples and communities, with an emphasis in those groups that have been excluded of territorial development due to their identity, gender, age, disability or vulnerability.



- Priority objective 2: Recognize the role of agrarian subjects, rural population and indigenous and afro-mexican peoples in the inclusive and sustainable territorial development to guarantee the full enjoyment of their rights, and to promote actions that contribute to the energy sector through dialogue and mediation processes to ensure adequate land use and management.
- Priority objective 3: Promote affordable, resilient and sustainable homes to build environments in which people can live safely and under equitable conditions.
- Priority objective 4: Guarantee the right to adequate housing for all people based on an approach that respects human rights as well as regional and cultural differences.

With these strategic objectives, strategies and actions were established that comply with these responsibilities regarding housing, urban improvement and reconstruction from a perspective of integrated territorial management.

According to the aforementioned elements as well as the established priorities of the Government of Mexico, SEDATU, through the National Housing Commission (CONAVI) executes the Social Housing Program that prioritizes the support to low income homes to broaden the adequate supply of sustainable and resilient housing.

In addition, the Urban Improvement Program, which is also executed by SEDATU, has changed its operational rules to support middle size cities through the building and rehabilitating of infrastructure to generate employment and by considering mitigation and adaptation actions as relevant to climate change.

Furthermore, SEDATU has been charged with managing the implementation of the National Reconstruction Program (PNR) to guarantee that the reconstruction of houses, schools and health facilities that were affected in the earthquakes of 2017 and 2018, with the aim of making them more sustainable and resilient, not least as the damages that occurred are mainly concentrated in the southeast of Mexico, the region of the country with the highest poverty rates, while also being highly vulnerable to earthquakes.

For all the reasons explained above, we thank the World Bank for the recognition of the public policy actions that are being implemented to strengthen environmental sustainability and resilience as well as the related efforts to increase the equitable access to urban infrastructure and social housing.

Sincerely

Jose de Luna Martinez  
Head of the Unit of Public Credit



**ANNEX 4: ENVIRONMENT AND POVERTY/SOCIAL ANALYSIS TABLE**

Prior Actions	Significant positive or negative environment effects	Significant poverty, social, or distributional effects, positive or negative
<b>Operation Pillar 1: Strengthening environmental sustainability and climate resilience in agriculture, forestry, and local government development</b>		
<b>Prior Action #1:</b> The Borrower included a forest conservation provision in the country’s most important agriculture support program (Producción para el Bienestar) for small landholders, as evidenced by the rules for the operation of the program as published in the Official Gazette on February 7, 2020.	Yes Positive	Neutral distributional impacts in the short run, potential positive impacts on the poor and vulnerable over the medium to long term
<b>Prior Action #2:</b> The Borrower, through SEMARNAT, has adopted guidelines to implement and operate the initial phase of the national GHG emissions trading system, as evidenced by the guidelines published in the Official Gazette on October 1, 2019.	Yes Positive	Neutral distributional impacts in the short run. Uncertain medium- and long-term impacts depending on the final design of trading system.
<b>Prior Action #3:</b> The Borrower, through SEMARNAT, has issued regulations to help address human health impacts of air contamination by: (i) standardizing air quality monitoring, measurement and communication to the public about environmental health risks in cities and the actions they can take to reduce their exposure to such risks, and (ii) enabling the national and subnational governments to compile, analyze, and publish the air quality and environmental health measurement of cities, as evidenced by Norm 172 published in the Official Gazette on November 20, 2019.	Yes Positive	Neutral distributional impacts in the short run. Potential positive impacts on the poor and vulnerable over the medium to long term.
<b>Prior Action #4:</b> The Borrower, through SEMARNAT, has established a policy and institutional framework to guide and help prioritize climate adaptation actions in highly vulnerable municipalities, as evidenced by the	Yes Positive	Neutral distributional impacts in the short run. Potential positive impacts on the poor and vulnerable over the medium to long term.



<p>issuance of a Decree dated July 2, 2020 approving the PROMARNAT 2020-2024 published in the Official Gazette on July 7, 2020.</p>		
<p><b>Prior Action #5:</b> The Borrower enacted an amendment to the Forest Law (Ley General de Desarrollo Forestal Sustentable) to include forests in and around urban areas under the legal definition of forestlands to broaden forest protection and contribute to air quality, which is critical for cities and citizens' health; as evidenced by the amendment to the Forest Law published in the Official Gazette on April 13, 2020.</p>	<p>Yes Positive</p>	<p>Potential positive impacts on the poor and vulnerable over the medium to long term.</p>
<p><b>Operation Pillar 2: Expanding access to resilient urban infrastructure and social housing</b></p>		
<p><b>Prior Action #6:</b> The Borrower, through SEDATU, amended the operational rules of the Social Housing Program (Programa de Vivienda Social) to prioritize: (i) targeting of housing support to poor and vulnerable households; (ii) targeting indigenous peoples and women-headed households; (iii) targeting areas affected by natural disasters and increasing risk from climate impacts; (iv) addressing sanitary deficiencies, overcrowding, and structural vulnerabilities of low-income homes; and (v) expanding the stock of housing with higher resilience and environmental sustainability, as evidenced by the modification of the Operational Rules of the Social Housing Program published in the Official Gazette on June 26, 2020.</p>	<p>Yes Positive on climate change and water management</p>	<p>Potential positive impacts on the poor and vulnerable over the medium to long term.</p>
<p><b>Prior Action #7:</b> The Borrower, through SEDATU, amended the Operational Rules of the Urban Upgrading Program (Programa de Mejoramiento Urbano) to support mid-sized cities severely affected by the pandemic and with large shares of vulnerable population, through improved targeting and planning mechanisms for urban investments and civil works that contribute to climate mitigation and</p>	<p>Yes Positive on climate change and environmental quality of life</p>	<p>Potential positive impacts on the poor and vulnerable over the medium to long term.</p>





<p>adaptation while at the same time create jobs; as evidenced by the amendment to the Urban Upgrading Program published in the Official Gazette on May 28, 2020.</p>		
<p><b>Prior Action #8:</b> The Borrower, through SEDATU, established new operational rules for the National Reconstruction Program (Programa Nacional de Reconstrucción) to ensure that improvements made to housing, education and health facilities damaged by the earthquakes of 2017 and 2018, have increased resilience to natural disasters; as evidenced by the Operational Rules for the National Reconstruction Program published in the Official Gazette on April 2, 2020.</p>	<p>Yes Positive on climate change, water management and disaster risk management</p>	<p>Potential positive impacts on the poor and vulnerable over the medium to long term.</p>



## ANNEX 5: PSIA AND ENVIRONMENTAL ANALYSIS

### ANNEX 5a: SUMMARY OF PSIA

1. This PSIA is developed according to World Bank guidelines and is designed to provide an analysis of the potential poverty and social impacts of the policy actions outlined in the DPL series. The PSIA outlines the expected impacts from a gender-informed, social and distributional perspective. The assessment is meant to provide analysis of the policy actions with outcomes in the key objectives of this operation. Pursuant to the Bank's policy on Development Policy Finance, a Poverty and Social Impact Assessment (PSIA) is under preparation aimed to: (i) identify whether the policies supported by the DPF are likely to have significant poverty and social consequences, especially on poor people and vulnerable groups; (ii) analyze relevant analytical knowledge of these effects and of the country's systems (including legal and institutional framework) for reducing significant adverse effects and enhancing positive effects associated with the policies being supported; and (iii) identify the actions that the GoM is undertaking or is planning to undertake to address the identified gaps or shortcomings. Preliminary results of the PSIA indicates that this operation is not likely to have significant adverse social effects.

2. The policy actions supported by the DPF are expected to contribute to poverty reduction and have positive social impacts in the medium and long run. Policy measures under Pillar 1 aiming to support environmental resilience and sustainability are not expected to have short term impacts but could have positive impacts on the poor and vulnerable over the medium to long term. Policy measures aimed at supporting a more climate and disaster resilient housing and local infrastructure are expected to have positive impacts on multidimensional measures of poverty in the medium-term. Moreover, although initial impacts are modest, they are expected to have larger positive effects in the medium to long-term by boosting employment in the construction sector.

### Pillar I – Strengthening environmental resilience and sustainability on agriculture, forest, and local governments' development

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#### Prior Action #1: Forest conservation in agricultural support program

*The Borrower included a forest conservation provision in the country's most important agriculture support program (Producción para el Bienestar) for small landholders, as evidenced by the rules for the operation of the program as published in the Official Gazette on February 7, 2020.*

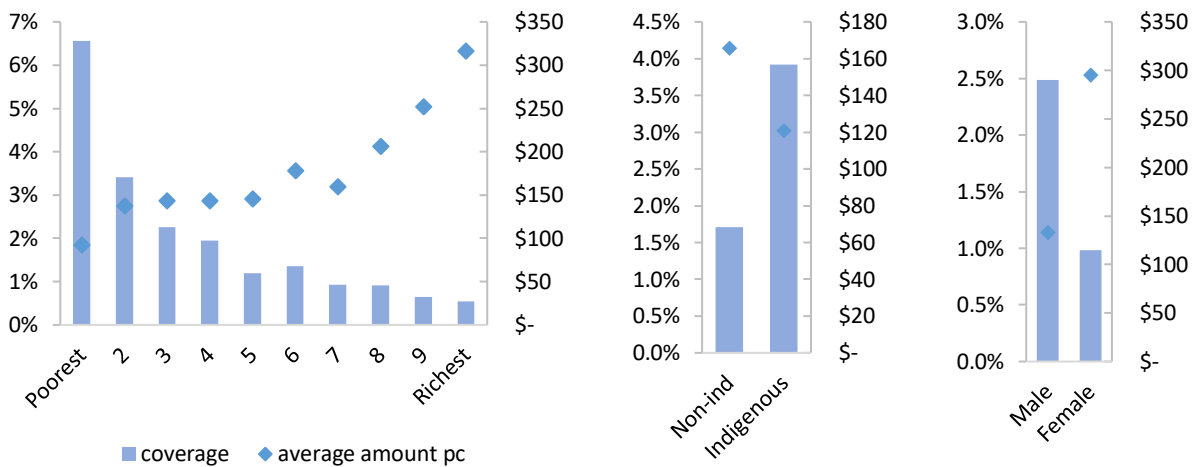
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3. **Agricultural subsidies in Mexico have contributed to increase income of rural households, however, since they depend on land ownership, they tend to be regressive.** Evidence from the first years of *Procampo* (1994 to 1997) show that it resulted in income gains and induced investment in productive activities (Winters and Davis, 2009). Nevertheless, the same analysis shows that *Procampo* was regressive, 90 percent of recipients received only 40 percent of the total payments, and investment in productive activities was relevant only for non-indigenous households (ibid.). Information from 2006-2008 shows that *Procampo* continued to be a regressive program, although less regressive than other agricultural programs like *Alianza por el Campo* and *Ingreso Objetivo*; the highest income decile received 42 percent, 55 percent



and 85 percent of the total transfers from these three programs, respectively (Scott, 2010). Although evidence for 2016 shows that *Proagro* was slightly less regressive than its predecessor, it remained true that indigenous households received less transfers than non-indigenous households (Lambert and Park, 2019). Data from the 2018 ENIGH shows that the proportion of households that received *Proagro* decreased with the income quantile, meanwhile, households headed by a male were considerably more likely to receive *Proagro*, the same was true for households with an indigenous head (Figure A.1). On the other hand, conditional on receiving *Proagro*, the household per capita amount of the transfer increased with the income quantile and non-indigenous households received considerably more than their counterpart; per capita transfers for female-headed households were also higher in contrast to male-headed households.

Figure A.1 Proportion of households that received Proagro and average per capita amount for receiving household by market income decile, gender and indigenous status



Source: World Bank staff based on ENIGH (2018).

**4. Moreover, there is some evidence showing that until recently, agricultural support contributed to deforestation in Mexico.** Deforestation is a dynamic complex process driven by multiple factors and multiple agents. Therefore, it is extremely complicated to successfully isolate the effect that a single policy has on deforestation. Notwithstanding this, an analysis using ejido data at the national level found that a one percent increase in the number of ejidatarios that received *Alianza para el Campo* increased the probability of deforestation in the ejido in 0.64 percent (Varela and Cruz, 2005). Meanwhile, using household survey data collected from Southern Yucatán, Schmook and Vance (2009) show that a 100 peso increase in the transfer that a household receives from *Procampo* was associated with 0.2 less forest hectares. Based on the information available, it can be argued that, by explicitly excluding land that illegally changed its use, the updated rules under which the current version of the program (*Producción para el Bienestar*) operates might successfully enhance forest conservation.

**5. The new provision included in the current version of the program (*Producción para el Bienestar*) will have no direct negative effects on the poorest and more vulnerable rural households.** Households that own forested land will not be able to clear it without authorization when they claim support for those plots from the *Producción para el Bienestar* program. Households that own forested land and want to clear it now, will not be penalized due to this provision, they simply will not be able to receive benefits



from the program. The provision supports better landscape management where poor households can use their forest lands to obtain timber and non-timber forest products and environmental services. It has been shown that, in addition to being a source of food, medicines and raw materials, forests can play many key roles in rural households' livelihoods (Angelsen and Wunder 2003). Extraction of non-timber forest products (e.g., wild animals, wild plants and mushrooms) can be a very important source of income for many poor households (Angelsen and Wunder 2003), alleviating poverty and reducing inequality (López-Feldman et al. 2007). Furthermore, there is evidence that forests can provide a natural insurance for households that are affected by negative shocks (Pattanayak and Sills 2001). Landless households are, by definition, excluded from the program so they cannot be affected by a change in its rules.

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#### **Prior Action #2: Emissions Trading System Pilot**

*The Borrower, through SEMARNAT, has adopted guidelines to implement and operate the initial phase of the national GHG emissions trading system, as evidenced by the guidelines published in the Official Gazette on October 1, 2019.*

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6. **The Pilot Program of the Emissions Trading System (ETS) is the first step towards the creation of a market-based instrument that can promote low-carbon development as well as the fulfillment of Mexico's climate goals.** The ETS covers the industrial and energy sectors. The Preliminary Guidelines of the Pilot Program of the ETS were published on October 1st, 2019. The pilot program will have a duration of 36 months, divided in two phases: a pilot period that started on January 1, 2020 and will end on December 31, 2022, and a transition period of one year.

7. **By design, the Pilot will have no economic effects in the short run, however the impact in the medium term is more uncertain.** Under the Pilot Program, allowances will be allocated free of charge and there will be no economic sanctions for non-compliance. Once established and over the medium term, depending on how it is designed, the ETS can provide benefits that go beyond those directly associated with the reduction of greenhouse gases (GHG). However, the ETS could also have negative distributional effects if not designed properly. An ETS can affect households welfare through four channels: expenditures (e.g., prices of electricity or gasoline), income (e.g., wages and investment incomes related to the performance of carbon-intensive companies), government use and allocation of carbon revenues (e.g., household rebates, reduction of taxes or investment in clean energy) and, environmental benefits (e.g., reduction of GHG emissions and local air pollution) (Kaufman and Krause, 2016). In what follows, we discuss each in turn.

8. **First, an ETS can result in price increases as well as in decreases in labor and capital income.** Once it is fully implemented, the ETS will affect the price of carbon-intensive energy products (e.g., electricity and gasoline) as well as the price of goods and services that are energy-intensive to produce and transport (e.g., food). Landa et al. (2016) show that a carbon tax, at a level that is consistent with achieving Mexico's climate goals, will increase overall prices and have a negative impact on consumption. Overall, it is expected that the negative effects of these price increases will fall more heavily on middle-income groups (Gonzalez, 2012). Nevertheless, welfare losses due to gas, public-transport and food price increases can be strongly regressive in Mexico (Renner et al., 2018). As the price of carbon increases, companies with carbon-intensive production will see their profits affected. Some of the cost increases will be passed along to workers and capital owners in the form of lower wages and reduced returns to capital



(Kaufman and Krause, 2016). The effects on capital income are not a cause of distributional concerns as wealthier households are the ones that tend to own capital.

9. **However, through the auctioning of allowances, ETS can generate fiscal revenue which can be used to protect vulnerable households.** This revenue can be recycled back into the economy in order to reduce existing taxes. Arguably, it is even possible to design an ETS in such a way that it confers a “double-dividend” in the sense that, in addition to achieving the environmental goal, the total compliance cost for the private sector is reduced (Goulder, 2013; Landa et al., 2016). Depending on how the revenues from ETS are used, it is feasible to protect vulnerable households and workers while addressing regional disparities (Kaufman and Krause, 2016). Special provisions to protect low-income households have already been incorporated into existing carbon pricing policies (Kaufman and Krause, 2016). British Columbia, for example, has a revenue-neutral carbon tax policy which has proven to be highly progressive (Beck et al., 2015).

10. **In terms of environmental benefits, reducing greenhouse gases can help reduce emissions of local air pollutants that are damaging to health with potential benefits for the poor.** Results for Mexico show that the reduction of GHG can have significant co-benefits. Crawford-Brown, et al. (2012) find that almost 3,000 premature deaths and more than 400,000 non-fatal diseases can be avoided each year if by 2050 Mexico reduces its CO<sub>2</sub> emissions in 77 percent. Although these studies do not delve into distributional issues, there is evidence showing that people with lower socio-economic status tend to be more exposed to air pollution (Lome-Hurtado, 2019).

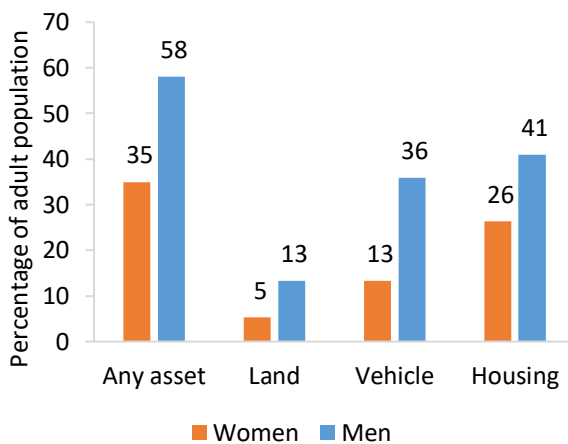
11. **Similarly, a domestic carbon offset program has the potential to contribute to poverty alleviation as poor workers can participate in employment generated by project activities related to carbon offsets.** GHG emission reductions achieved through additional project activities in sectors not covered by the ETS, such as forestry or agriculture, can generate carbon offsets. These offsets can be bought by the regulated facilities and used for compliance under the ETS (in accordance with rules and modalities to be determined). In Mexico, middle-income communities and producers, instead of poor households, may be favored in setting up forest carbon offset projects as they are the ones more likely to have property rights over land, as well as access to forest resources (Brown and Corbera, 2003). Nonetheless, evidence from the Scolel Té carbon forestry project in Chiapas shows that this need not be the case, participation in that project is perceived as a potential means to overcome social inequalities (Hendrickson and Corbera, 2015).

12. **Due to their lack of access to capital and property rights, as well as the structural barriers that prevent their equal participation in decision-making, women are less likely to benefit from carbon market mechanisms** (Skinner, 2011). In Latin America and the Caribbean less than 20 percent of agricultural land is female-owned (FAO, 2011). Mexico is not an exception to this, as only 5 percent of women owned land in 2018, compared to 13 percent for men (**Figure A.2**). Similarly, women are much less likely to own other assets, including financial assets, either in the form of a bank account, a pension fund, or an insurance policy (Figure A.3). In rural areas, 37 percent of men own land, while only 25.6 percent of women do (CNBV 2018). In fact, only 23 percent of ejido land was under female-ownership in 2016; although this is an increase from 15 percent in 1995 (McArthur and Klein, 2018). Most rural women who held land in 2018 had inherited it (63.6 percent), while fewer than one-third have purchased it (28 percent) (CNBV 2018). Absence of property ownership and control matters for women’s agency because



assets boost voices and bargaining power in household decision making, improve access to capital, and increase overall economic independence (World Bank 2012). As a result, women are less likely to benefit, since market-based mechanisms, like payments for environmental services and REDD+, tend to have secure land tenure as a prerequisite for participation (Angelsen, et al., 2012). Results for Kenya show that women were significantly less active than men in decision making related to market-based mechanisms that aim to protect the environment (Kariuki, and Birner, 2016). For the case of Mexico, it has been shown that decisions related to participation in programs of payments for environmental services were mostly made by male, payments are also more likely to be received by male household members (Izquierdo-Tort et al., 2019). Women’s full and effective participation in carbon offset mechanisms will require specific attention to gender aspects during the project design and implementation (Lee et al., 2015).

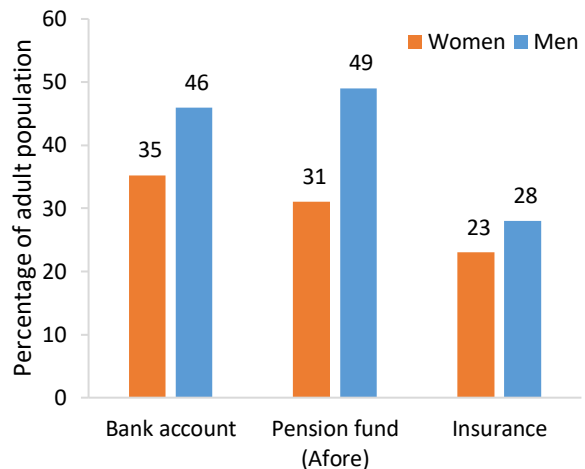
Figure A.2 Ownership of High-Value Assets in Mexico, by Gender, 2018



Source: CNBV 2018, based on National Survey of Financial Inclusion (ENIF) 2018, National Institute of Statistics and Geography (INEGI).

Note: Adult population ages 18–70 years.

Figure A.3 Ownership of Financial Assets in Mexico, by Gender, 2018



Source: CNBV 2018, based on National Survey of Financial Inclusion (ENIF) 2018, National Institute of Statistics and Geography (INEGI).

Note: Adult population ages 18–70 years.

**Prior Action #3: Norm 172**

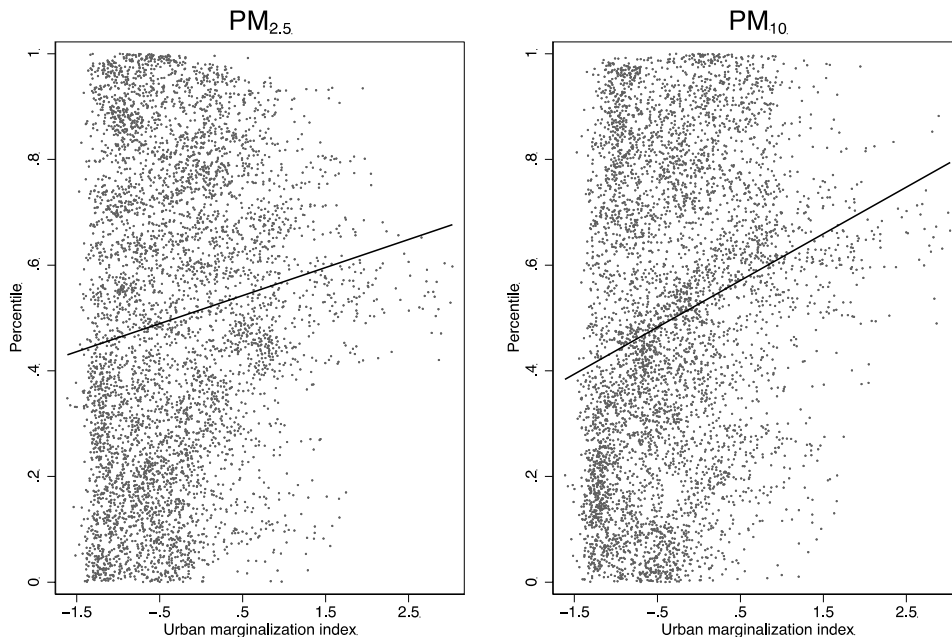
*The Borrower, through SEMARNAT, has issued regulations to help address human health impacts of air contamination by: (i) standardizing air quality monitoring, measurement and communication to the public about environmental health risk in cities and the actions they can take to reduce their exposure to such risks, and (ii) enabling the national and subnational governments to compile, analyze and publish the air quality and environmental health measurement of cities, as evidenced by the issuance of Norm 172 published in the Official Gazette on November 20, 2019.*

**13. Air pollution has negative effects on health, this can be particularly problematic for low income groups as they tend to be more exposed to higher concentrations of air pollutants.** The negative health implications of outdoor air pollution have been extensively documented. In Mexico City, a 1% increase in



PM<sub>10</sub> (CO) results in a 0.40 percent (0.33 percent) increase in infant mortality (Arceo et al., 2016). Furthermore, evidence shows that people with lower socio-economic status are disproportionately affected by outdoor air pollution as a result of higher pollution concentrations in the areas where the poor live and work (Garg, 2011; Shen et al., 2020). For the case of Mexico City, Lome-Hurtado et al. (2019) show that higher levels of PM<sub>10</sub> are associated with areas characterized by deprived conditions (Figure A.4). Similar results emerge when looking at the relationship between marginalization (as measured by CONAPO (2010)) and both PM<sub>10</sub> and PM<sub>2.5</sub>. The evidence shows that when the poor are in fact exposed to considerably higher levels of pollution, they also suffer greater harm (Neidell, 2004). Poor people tend to have less access to health care and other resources to protect them or help them cope with air pollution and its health effects. As a result, their immune systems tend to be less prepared to resist infections caused by viruses such as COVID-19. For instance, preliminary evidence shows that in the Mexico City Metropolitan Area, long-term exposure to PM<sub>2.5</sub> increases the probability of dying from COVID-19 (López-Feldman et al, 2020).

**Figure A.4 Correlation between air pollution and marginalization in Mexico City Metropolitan Area**



Note: Information is at the AGEB (área geoestadística básica) level. Marginalization index is for 2010, pollution data is annual average for the period 2013–2015. Own estimation using data from Mahady et al. (2020).

Source: López-Feldman et al. (2020) using data from Mahady et al. (2020).

14. **Air quality information can help individuals make healthier decisions.** Outdoor air pollution, notwithstanding its negative effects on health, is often invisible to the naked eye (Delmas and Kohli, 2019). Furthermore, knowing the concentration levels of pollutants in real-time and how they translate into health risks requires specific equipment and knowledge. Information provision campaigns fill this void and can play an important role in health and environmental regulation, however, their efficacy depends on how much they modify public beliefs about the risks posed by air pollution, and on how that translates



into prevention and reduction behaviors of the individuals (Oltra and Sala, 2018). Furthermore, individual characteristics and beliefs may influence individuals' reactions to air quality information. Studies have found that averting behavior in response to information is considerably higher for those that already have health problems related to air quality as well as for elderly individuals (Bickerstaff and Walker, 1999, Ward and Beatty, 2016). For the case of the Metropolitan Air Quality Index (IMECA), the index that applied to Mexico City before the enactment of Norm 172, results from a representative household-level survey show that awareness of air quality reports are higher among older inhabitants as well as among those with more education (Borbet et al, 2018). Nevertheless, only 26 percent of the individuals in the sample modified their behavior in response to air quality index reports (Idem.).

15. **However, poor individuals might not have the means to modify their behavior in response to air quality information.** The wealthy sections of the population can move out of heavily polluted areas, either temporarily or permanently, to reduce their exposure (Shen et al., 2020). Many of them are also able to change jobs or buy high-quality equipment for protection (e.g., air masks and air purifiers). On the other hand, poorer families tend to live in areas with high levels of air pollution because they cannot afford to live in cleaner areas (Neidell, 2004). Oftentimes low-income individuals living in urban areas spend considerable time in the traffic or close to it, have to walk long distances to take transport or work on the streets (Calderón-Garcidueñas and Torres-Jardón, 2012). Even if they receive air quality information, they tend to have limited means to take preventive measures (e.g., changing jobs or moving to a different part of the city) in order to reduce their exposure (Shen et al., 2020). Given these, Norm 172 is expected to have a neutral distributional impact in the short term, with unlikely direct benefits to the poor that live in urban areas in Mexico.

16. **Publication of air quality information can have medium to long term positive impacts on the poor and vulnerable to the extent that it contributes to enhance accountability and strengthen environmental constituencies.** Publication of air quality information can contribute to enhance accountability and strengthen environmental constituencies, which have been instrumental to achieve improved environmental outcomes in the Bank's client countries, from Colombia to Indonesia. While the poor may not benefit from publication of air quality information in the short run, they could benefit from greater accountability that leads to actions that improve air quality in the medium to long term. Moreover, in order to disseminate air quality information, as required by the norm, authorities will need to invest to ensure they have the institutional capacity to monitor air quality using a reliable network that operates according to other norms, including with adequate Quality Control and Quality Assurance protocols.

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#### **Prior Action #4: Climate adaptation actions in vulnerable municipalities**

**The Borrower, through SEMARNAT, has established a policy and institutional framework to guide and help prioritize climate adaptation actions in highly vulnerable municipalities; as evidenced by the issuance of a Decree dated July 2, 2020 approving the PROMARNAT 2020-2024 published in the Official Gazette on July 7, 2020.**

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17. **The negative effects of climate change are likely to be heterogeneous; the poor will be the more affected.** Mexico's location and geographic characteristics make it prone to hydrometeorological events (DOF, 2014) and its socioeconomic characteristics make it highly vulnerable to the negative effects of





extreme weather events and climate change (Hunter et al., 2013; SEMARNAT, 2009). Climate change has the potential to reduce agricultural production (Conde et al., 1996; Guerrero, 2013; Murray-Tortarolo et al., 2018) and land values (Mendelsohn et al., 2010) in Mexico. It could also reduce local employment, increase migration from rural areas (Jessoe et al., 2017) and negatively affect human health (Guerrero, 2013). Changes in temperature and precipitation patterns would increase poverty and inequality (Lopez-Feldman, 2013; López-Feldman and Mora-Rivera, 2018). Furthermore, climate change will disproportionately affect disadvantaged groups, such as those with low education levels and low access to technology, information, and financial resources. The negative impacts of climate change are likely to be heterogeneously distributed across regions (Lopez-Feldman, 2013). This can be explained by differences in adaptive capacity as well as in the level of exposure that characterizes each region.

**18. Improving adaptive capacity is crucial to ameliorate the negative effects of climate change.** Adaptive capacity is the ability to implement strategies or modify behaviors in order to increase resilience or reduce vulnerability to current or expected climate-related hazards (Brooks and Adger, 2005; Jones and Thornton, 2003). Adaptation is a complex process which requires not only that individuals have the means to adapt but also that they have the information about how to do it. Adaptation is ultimately a localized phenomenon, mediated by geographic, social, economic and political contexts (Brooks and Agder, 2005). This, and the fact that adaptive capacity is not directly measurable, imply that valid indicators of adaptive capacity are very difficult to identify (ibid.).

**19. The poor are the most vulnerable to climate change, so promoting adaptation can decrease their vulnerability in the medium to long term.** According to the indicator included in PROMARNAT, 273 Mexican municipalities are considered as highly vulnerable to climate change. These municipalities are distributed across 21 states while one of them is inside Mexico City. Most of these municipalities are characterized by high levels of poverty; the mean poverty incidence is almost 65 percent (Figure A.5). Inequality is also relatively high across the 273 municipalities with a mean Gini coefficient of 0.39 (Figure A.6). Moreover, 19 percent of the municipalities are classified as indigenous municipalities according to the National Institute of Indigenous Populations<sup>20</sup>. By adapting to climate change, households are less likely to be negatively affected by it. This is particularly important for households that are already in precarious conditions.

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<sup>20</sup> Indigenous municipalities are those where more than 40 percent of the population is indigenous according to the National Commission for the Development of Indigenous Populations (CDI in Spanish) using data from Encuesta Intercensal 2015.



Figure A.5 Poverty across municipalities highly vulnerable to climate change

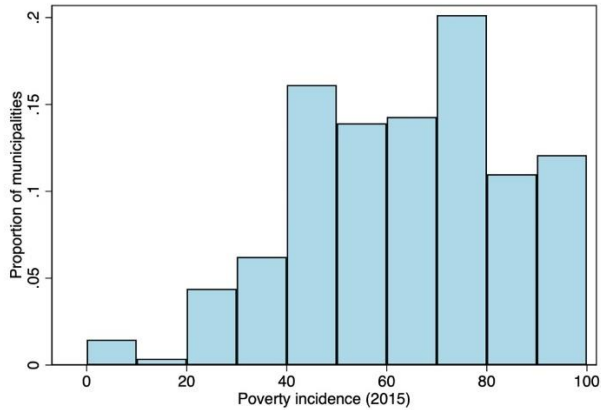
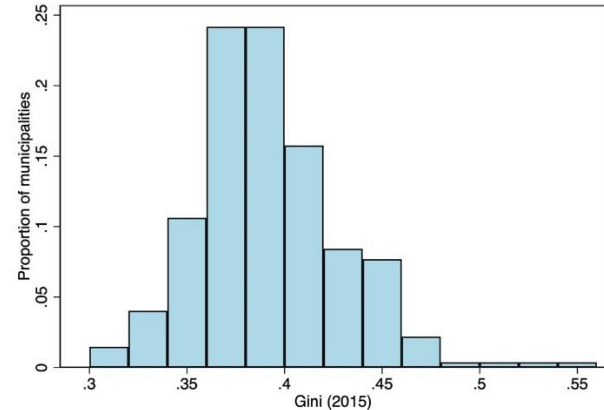


Figure A.6 Inequality across municipalities highly vulnerable to climate change



Source: CONEVAL and SEMARNAT.

20. **While administrative and policy instruments can help increase adaptive capacity, but they need to be supported by financial and human resources in order to be effective.** The indicator of adaptive capacity included in PROMARNAT captures the existence of municipal level administrative and policy instruments (e.g., atlas of risk), as well as the increase or preservation of the coverage of natural protected natural areas at the municipal level. The indicator provides a good measure of the existence of some prerequisites that can help promote or facilitate adaptive capacity. Nevertheless, if the policy instruments are not backed up with actions and a budget to implement those actions, they will have a very limited effect. The same is true for natural protected areas, evidence for Mexico shows that without the appropriate financial, human, and technical resources needed for effective management, protected areas are unsuccessful in slowing deforestation (Blackman et al., 2015). Therefore, without a budget to monitor and prevent deforestation inside protected areas, the number of hectares that are inside them might not be a very good measure of how much they can actually contribute to ecosystem-based adaptation.

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#### Prior Action #5: Revision of the Forestry Law

*The Borrower enacted an amendment to the Forest Law (Ley General de Desarrollo Forestal Sustentable) to include forests in and around urban areas under the legal definition of forest lands to broaden forest protection and contribute to air quality which is critical for cities and citizens' health; as evidenced by the amendment to the Forest Law published in the Official Gazette on April 13, 2020.*

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21. **The amendment to the Forest Law are expected to contribute to achieving better health and higher levels of subjective wellbeing.** Outdoor air pollution has been linked to many health problems (e.g., respiratory, cardiovascular, hematological, etc.) and can cause premature death (Curtis et al., 2006). By partially removing ozone, PM10, PM2.5, SO2, CO, and nitrogen oxides from the air, trees can reduce the harm that these pollutants cause in human health (Baumgardner et al., 2012; Jones and Goodkind, 2019). Urban trees located inside Mexico City reduce the concentrations of ozone and PM10 (Escobedo and Chacalo, 2008). Peri-urban forests also reduce the levels of pollutants inside Mexico City (Baumgardner et al., 2012). Likewise, urban forests have positive effects on subjective well-being, as



measured by self-reported life satisfaction (Bertram and Rehdanz, 2015). Results for China show a positive correlation between green coverage (public green space, protected green land, scenic forest land, etc.) and life satisfaction (Yuan et al., 2018). The implicit monetary value of green coverage is not trivial, a 1 percent increase in green coverage in Beijing is valued at 5.83 billion USD (Ibid.). In Mexico, forest cover at the municipality level and access to parks are correlated with higher levels of life satisfaction (Colin and López-Feldman, 2020).

22. **Moreover, peri-urban forests can improve water quality, reduce the emergence of new diseases and protect against natural disasters, all of which could have potential positive impacts on the poor and vulnerable over the medium to long run.** Higher upstream tree cover can improve downstream water quality hence reducing the probability of diarrheal disease (Herrera, et al., 2017). Land-use changes can alter human–wildlife interactions, this creates the potential for zoonotic infections to move from animal to human populations; roughly 75 percent of emerging infectious diseases are zoonoses (Myers et al., 2013). Furthermore, conversion of natural habitats to managed or disturbed habitats tends to increase disease prevalence (Dunn, 2010). In addition, when coastal areas are hit by hurricanes or cyclones, the presence of mangrove forests can significantly reduce inundations areas, number of deaths, and economic losses (Das and Vincent, 2009; Zhang et al., 2012).

23. **Forests can have a high opportunity cost when they are located in urban or peri-urban areas with touristic potential.** In 2018 the tourist sector employed more than 4 million people and accounted for almost 9 percent of Mexico’s GDP (SECTUR, 2020). Tourism is the main economic activity in many Mexican coastal cities like Cancún or Los Cabos, it can also be very important in cities with historical or natural sites. The denomination of “Pueblo Mágico” also has positive economic effects. In Tequila, for example, employment related to touristic services grew on average 10 percent per-year from 2002 (when it received the designation) to 2010 (SECTUR, 2013). In San Andrés Cholula and San Pedro Cholula, the denomination as Pueblo Mágico has also led to increases in employment as well as to real estate appreciation (García-Castro et al., 2016).

24. **Nevertheless, the poor might not reap the benefits of land use change with the purpose of creating touristic developments.** When coastal lands are the key ingredient for tourism, it is often the case that concentrated ownership leads to concentrated benefits (Murray, 2007). Big touristic developments (e.g., Cancún or Los Cabos) generate profits for corporations and entrepreneurs but they usually fail to achieve linkages that can successfully improve the conditions of local poor populations (Torres and Momsen, 2005). These urban resorts have in many cases attracted a considerable influx of migrants coming from rural areas (Murray, 2007), but inadequate urban planning has resulted in severe deficiencies in the provision of public services (e.g., water and sewerage). This has affected the health not only of the incoming population but also of those that were already living in the impoverished areas of the cities (Torres and Momsen, 2005). In some cases, as has happened along both the Riviera Maya and the Costa Maya, fishermen who once settled or made seasonal camps in coastal areas are displaced when the land they had occupied becomes more valuable (Murray, 2007). In the case of the denomination as *Pueblo Mágico*, there is evidence showing that inequality inside the municipality could increase as people living in the urban areas of the municipality tend to be the only ones that benefit from the denomination (Rosas-Jaco et al., 2017).



**25. The prior action does allow for the possibility of land-use change exemptions.** Land use requests can be presented to SEMARNAT for approval under the condition that the projects will mitigate their negative effects on biodiversity, soil or water. Therefore, projects with a high economic return, and potentially with high impact in terms of employment generation, can still be undertaken.

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## Pillar II – Supporting more climate and disaster resilient housing and local infrastructure

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### Prior Action #6: Social Housing Program

*The Borrower, through SEDATU, amended the operational rules of the Social Housing Program (Programa de Vivienda Social) to prioritize: (i) targeting of housing support to poor and vulnerable households; (ii) targeting indigenous peoples and women-headed households; (iii) targeting areas affected by natural disasters and increasing risk from climate impacts; (iv) addressing sanitary deficiencies, overcrowding, and structural vulnerabilities of low-income homes; and (v) expanding the stock of housing with higher resilience and environmental sustainability, as evidenced by the modification of the Operational Rules of the Social Housing Program published in the Official Gazette on June 26, 2020.*

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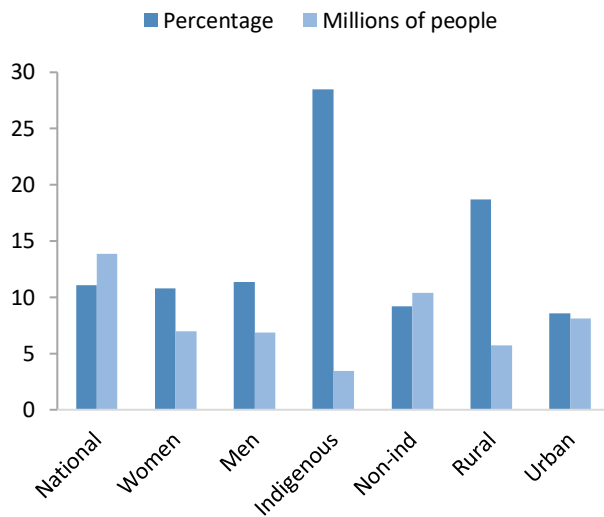
**26. Most of the population in the bottom 40 percent of the distribution live in deprived dwellings and spend a larger proportion of their income on housing and basic services.** The National multidimensional measure of poverty defines a dwelling as being deprived if it does not meet one of the following criteria: (i) cement floor; (ii) roofs made of good quality materials (concrete, wood, metal sheet or similar); (iii) walls made of good quality materials (bricks block stone, wood, adobe or similar); and (iv) overcrowding is less than 2.5 persons per room. Based on this definition, the share of the population living in deprived dwellings has declined from 17.7 to 11.1 percent between 2008 and 2018 (Figure A.7). Indigenous and rural populations have a higher incidence of dwelling deprivation, with 28.5 percent of indigenous population and 18.7 percent of the rural population living in dwellings considered to be deprived, in line with the relatively higher incidence of multidimensional poverty among those groups. However, given that a larger number of people live in urban areas, most of the population lacking access to quality dwellings live in urban areas and are non-indigenous. In terms of housing deficits<sup>21</sup>, according to CONEVAL, 14 million dwellings are affected but 57.9 percent of them belong to the bottom 40 percent of the income distribution (Coneval, 2018). In addition, the National multidimensional measure of poverty also includes access to basic services as another key dimension. A household is deprived in access to basic services if it does not have access to piped water, drainage, electricity, and cooking fuel. Based on this definition, the share of the population deprived of basic services has declined from 22.9 to 19.8 percent between 2008 and 2018 (Figure A.7). However, this still means that one in five Mexicans do not have basic services. Despite the poor quality, expenditures on housing and basic services represent 61 percent of the household's income in the first decile, while the next two deciles spend 34 percent and the rest of the income distribution spends less than 30 percent (ENIGH, 2018).

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<sup>21</sup> Housing deficit is the need of a new dwelling because of overcrowding or the need of house-extensions or improvements given the lack of access to basic services or deficit in materials and spaces.

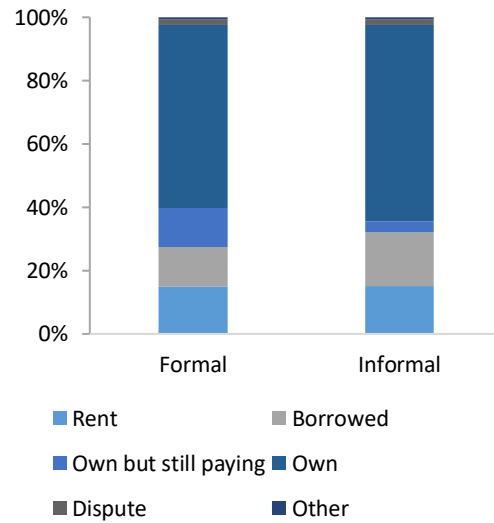


**Figure A.7 Share and total population who are dwelling deprived by characteristics of the household head, 2018**



Source: CONEVAL based on ENIGH-MCS 2018

**Figure A.8 House ownership by formality status of employment of the head, 2018**



Source: ENIGH 2018

**27. As the new Social Housing Program targets poor and vulnerable groups, this prior action is expected to give financial support to those who were previously excluded.** Based on analysis of the Mexican housing market, new housing through formal supply was only affordable for the population earning more than 5 minimum wages, as this is the threshold for obtaining public and private housing loans without subsidies.<sup>22</sup> Thus, about 73.6 million people were previously excluded from the formal housing market without government assistance as they did not meet the minimum income criteria. As financing options were limited, people resorted to their own resources to cover their housing needs. According to the ENIGH, in 2018, 6 out of 10 households –where heads of household work in the formal sector– financed their housing using their own resources, and this ratio was higher for informal household heads (8 out of 10). Having to cover all housing needs with own resources meant that access to other basic services, such as food, health or education, could be compromised. The new Social Housing Program targets subsidies to the poorest (with wages below 5 minimum wages). This support does no longer requires being tied to a loan, and as such it will be able to reach a more vulnerable population who was previously unable to access government support because they were not credit worthy.

**28. Importantly, the amendment to the Social Housing Program is expected to ease housing constraints for informal workers.** Evidence shows that only 3.5 percent of households where the head worked in the informal sector had some sort of housing finance that was still outstanding, while 12.3 percent of households where the head of household in the formal sector did so (Figure A.8 ). This could be partially explained because, before the new Social Housing Program, government assistance was not designed to reach this segment of the population. Informal workers (unaffiliated to INFONAVIT) who

<sup>22</sup> Habitat International Coalition, see [http://archivo.hic-al.org/noticias.cfm?noticia=2282&id\\_categoria=8](http://archivo.hic-al.org/noticias.cfm?noticia=2282&id_categoria=8)



represent 55 percent of the workforce only received 16 percent of the housing loans with subsidies. Moreover, while formal workers were more likely to receive subsidies for the purchase of housing (70 percent of the subsidies), informal workers mostly received subsidies for self-production (53 percent of subsidies) and improvements loans (39 percent of subsidies); only 1 percent of subsidies for informal workers were used for purchasing new houses (World Bank, 2016). Since the new National Housing Program is targeted to the poor and informal population, it is expected that the previously excluded working population, which constitutes the majority of labor force, gains access options to improve their housing conditions<sup>23</sup>.

29. **Moreover, the prioritization criteria in house-improvements and extension subsidies are expected to benefit the poor and reduce existing deprivations on housing and sanitary services.** The Emergency Housing program provides direct subsidies to low income households for house-improvements and space availability in marginalized urban areas. This program grants benefits of \$90,000 pesos for house-extensions and \$35,000 pesos for house-improvements.<sup>24</sup> A fiscal microsimulation model for Mexico was adapted to integrate and estimate the impacts of this emergency program.<sup>25</sup> As the program prioritizes low income households, results show that with a target of disbursing 100,000 subsidies for house-extension and 65,000 for home-improvements, both modalities are slightly progressive. In the case of the home-improvement program, the results show that it is progressive with a Kakwani of 0.58, as the bottom decile is expected to concentrate 14 percent of the total spending of the program while the richest decile would receive only 4 percent (Figure A.9). The same holds for the house-extension program with a Kakwani of 0.45. Since housing is one of the key deprivations considered under the national multidimensional poverty, the fall in deprivation associated with these reforms will effectively mean an improvement in living conditions and overall wellbeing for beneficiary households. Such improvements are particularly important in the context of the COVID-19 crisis, as they can contribute to reduce overcrowding and limited access to sanitation and hygiene and providing more realistic conditions for social distancing.

30. **While this program is well targeted, its coverage is low, implying relatively small impacts on multidimensional levels of poverty in the short run.** Although coverage is concentrated at the bottom 40 of the income distribution (Figure A.10), its coverage is low, reaching on average less than 0.3 percent of households in each case. Moreover, the program clearly targets indigenous peoples and includes provisions on their prioritized selection in mostly indigenous states and regions. Assuming that previously deprived dwellings can overcome housing and basic services backwardness with these subsidies, then housing deprivation would be reduced by 0.01 pp (benefiting about 13 thousand people) and 0.05 (benefiting close to 60.5 thousand people).<sup>26</sup> To the extent that the coverage of this type of program is expanded in the medium to long term, it will continue to deliver positive impacts to the population.

<sup>23</sup> In order to be eligible for the program, potential beneficiaries -who are not affiliated to INVONAVIT or FOVISSSTE- must not have household income above 4.8 times the monthly UMA value.

<sup>24</sup> This program is only eligible in 69 selected municipalities. For more detail of the program see: [https://www.conavi.gob.mx/images/documentos/normateca/2020/Lineamientos\\_Programa\\_Emergente.pdf](https://www.conavi.gob.mx/images/documentos/normateca/2020/Lineamientos_Programa_Emergente.pdf)

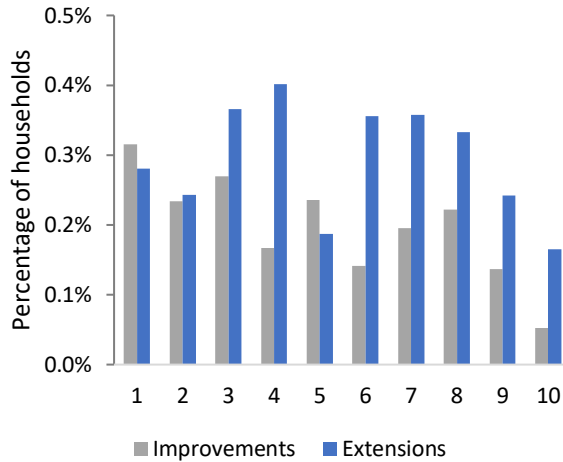
<sup>25</sup> This is a partial equilibrium microsimulation model for taxes and transfers in Mexico. The model uses detailed information on the eligibility criteria for the Emergency Housing Program (including age, municipality of residence, income and gender of household head) to identify the eligible population in the 2018 household survey data. The program benefits are then allocated to the identified population according to the program targets and the prioritization criteria -defined as those with an individual income less than 2.6 times the value of UMAMV and female household heads.

<sup>26</sup> The simulated beneficiaries are assumed to no longer suffer from housing deprivation to estimate a new national rate.



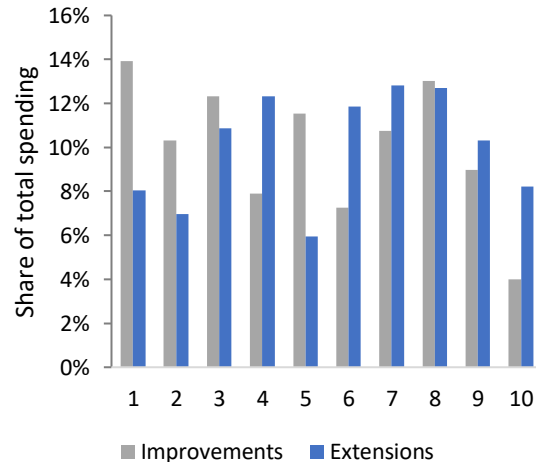
**Figure A.9 Coverage of the Emergency Housing Program by modality and market income decile**

(Percentage of households)



**Figure A.10 Absolute Incidence of the Emergency Housing Program, by modality and market income decile**

(Share of total spending)



Source: Microsimulation tool for Mexico based on ENIGH (2018) and administrative data

31. **Beyond their direct impact on beneficiary households, home-improvement policies have the potential to boost employment, especially for vulnerable and unskilled labor.** Infrastructure investment has a positive effect on labor through three channels: a) direct employment by the project, b) indirect employment in the manufacture of materials and equipment needed by the project, and c) induced employment generated by consumer expenditures resulting from wages of those directly and indirectly employed by the project (Schwartz et al., 2009). Through each of these channels, it is expected that home-improvement policies would have a positive medium to long term impact on poverty. In Mexico, the housing sector contributed to 14 percent of GDP in 2019 (Beteta, 2019). This contribution is higher than the share observed in high-income countries (5 percent), but lower than that of low-income countries (>8 percent), according to UNCTAD stats. In terms of employment, construction workers accounted for 7.8 percent of the total labor force; this meant that approximately 4.3 million people worked on construction in 2019 (ENOE, 2019). Moreover, construction workers in Mexico can be considered a vulnerable population as 41.4 percent of them live below the income poverty line, about 67.3 percent have no access to social security, and they tend to be less educated than the average employed population: more than half of them only have secondary education.<sup>27</sup> Infrastructure investment can create jobs quickly, but in order to achieve long term payoffs, infrastructure programs should be combined with training to facilitate inclusion into the general labor market once the infrastructure projects are over (Ianchovichina et al., 2013).

32. **Finally, it is worth noting that in order to have a positive impact, subsidy programs for home-improvements should be accompanied by technical assistance.** Providing subsidies for house-improvements for low income households generates some concerns, related to lack of technical assistance or supervision on the process, the sustainability of projects on time, and the necessity of

<sup>27</sup> Profile of construction worker based on ENIGH data 2018.



auditing mechanisms (Brickman, Yancey, and Nielsen, 2020). In fact, international experience has shown that one key aspect for the success of these home-improvement programs is the provision of technical assistance for households to help them get the most out of the facilities offered.<sup>28</sup> This risk is mitigated by CONAVI's experience and successful implementation linking home improvement programs with technical assistance as part of their Social Housing Programs in the past.

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#### **Prior Action #7: Targeted urban upgrading interventions**

*The Borrower, through SEDATU, amended the Operational Rules of the Urban Upgrading Program (Programa de Mejoramiento Urbano) to support mid-sized cities severely affected by the pandemic and with large shares of vulnerable population, through improved targeting and planning mechanisms for urban investments and civil works that contribute to climate mitigation and adaptation while at the same time creating jobs; as evidenced by amendment to the Urban Upgrading Program published in the Official Gazette on May 28, 2020.*

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33. **The urban upgrading program is also expected to have positive impacts on nonmonetary welfare measures through its impacts on access to basic services.** The program provides: (i) infrastructure improvement investments related to public space and mobility, such as upgrading of pavements, parks and community centers; and (ii) strengthened urban planning capacities for neglected regions, targeted to impoverished neighborhoods located in priority areas within cities of over 50,000 inhabitants. Targeted cities include large indigenous populations and municipalities with high incidence of violence, crime, and marginalization. As in the previous prior action, the 68 selected municipalities for urban improvement, are located mainly in the south-southeast region of the country, which historically has been the area with the highest concentration of poverty (for example, the cities of Palenque and San Cristobal de Las Casas, in the state of Chiapas, where the population in poverty amounts to 77 percent). Likewise, the selection of municipalities has considered the presence of high crime rates, observing, on average, 669 crimes for every 10,000 inhabitants (Rosales, 2020).

34. **Moreover, in Mexico, earmarked investment in social infrastructure has previously shown positive effects on nonmonetary welfare measures and household income with an equalizing effect in urban areas.** The empirical literature on the effects of an increase of federal transfers on public investment and socioeconomic outcomes has shown a positive impact on poverty reduction and unmet needs in Peru, Colombia and Brazil (Loayza et al 2013; Enamorado et al, 2014; Corbi, 2018). In Mexico, investment on social infrastructure, through a large earmarked social infrastructure fund (*Fondo de Aportaciones para la Infraestructura Social*, FAIS) has shown positive effect on most nonmonetary welfare measures and modest effect on household income per capita (Rodriguez-Castelan et al, 2020).<sup>29</sup> Moreover, the FAIS had an equalizing effect in urban areas, as it had a positive and significant effect in

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<sup>28</sup> One successful example in Mexico is the program Patrimonio Hoy, which is based on offering technical assistance, knowledge on finance, building materials and construction services to low-income families at zero percent interest, in order to undertake home improvement projects. See <https://publications.iadb.org/publications/spanish/document/Patrimonio-Hoy-Expansi%C3%B3n-de-una-exitosa-soluci%C3%B3n-de-vivienda.pdf>

<sup>29</sup> According to the law, municipalities must use the fund exclusively to finance investments that directly benefit populations that are living in conditions of extreme poverty and social marginalization. Investments are limited to the following areas: water supply, sewerage and latrines, municipal urbanization, rural electrification, poor neighborhoods, basic health infrastructure, basic educational infrastructure, housing improvements, rural roads, and rural productive infrastructure





the lowest part of the distribution (deciles 1 to 7), where the effect was the greatest. Moreover, in urban areas, the fund was associated with a reduction in poverty and extreme poverty in urban areas of 3.2 and 2.6 percentage points, respectively, while the results in rural municipalities were not significantly different from zero.

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**Prior Action #8: National Reconstruction Program**

*The Borrower, through SEDATU, established new operational rules for the National Reconstruction Program (Programa Nacional de Reconstrucción) to ensure that improvements made to Housing, Education and Health facilities damaged by the earthquakes of 2017 -2018, have increased resilience; as evidenced by the Operational Rules for the National Reconstruction Program published in the Official Gazette on April 2, 2020.*

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35. **The National Reconstruction Program is also expected to have positive impacts on poor and vulnerable households affected by earthquakes and reduce multidimensional measures of poverty.** The program provides subsidies for people whose houses were partially or completely damaged by the 2017 and 2018 earthquakes, as well as for the reconstruction of structures related to cultural heritage and education and health infrastructure. Damages of the 2017 and 2018 earthquakes were concentrated in the southeastern region of the country, which have the highest poverty rates in the country and also a high concentration of indigenous population. In fact, out of the 1,308 municipalities affected by the earthquakes, about 30 percent are indigenous municipalities (Map A1). Most of the program's budget is to be allocated for housing (76 percent), followed by education and health facilities (12 percent each), consistent with the fact that more than 200,000 dwellings (almost 130,000 in Oaxaca and Chiapas) affected by the earthquakes remain to be taken care off (SEDATU, 2020). The Operational Rules stipulate that those municipalities with highest incidence of poverty, marginalization, crime and violence are to be prioritized by the Reconstruction Program. Given the poverty levels that characterize the locations most affected by the earthquakes as well as the prioritization rules of the program, it is likely that, in addition to the direct effect of improving the current conditions of those living in affected dwellings, the program will have positive effects in terms of reducing vulnerability.



Map 1. Affected municipalities by earthquakes by type of municipalities



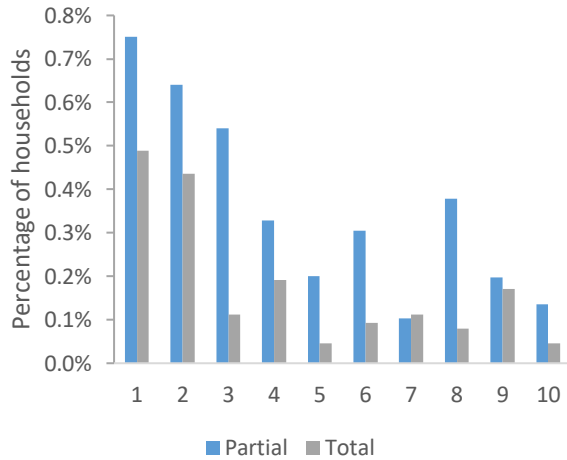
Source: targeted municipalities of the National Reconstruction Program and classification of municipalities from the National Commission for the Development of Indigenous Populations.  
Note: Indigenous municipalities are those where more than 40 percent of the population is indigenous using data from Encuesta Intercensal 2015.

36. **The recent earthquakes had harder consequences for the poor, and given the eligibility criterion, the reconstruction program is expected to have a larger impact on the poor.** Natural disasters have more severe consequences for people in poorer countries (Ritchie, 2014). In addition, even within countries, there is evidence that poorer people are more vulnerable to natural disasters. For example, research shows for Guatemala that the extreme poor suffer a higher incidence of floods, tempests, and droughts than the poor and the non-poor (Tesliuc and Lindert, 2002). Their research shows that the incidence of any natural shock was 35.4 percent among the lowest income quintile, compared to 26.7 percent in the highest quintile. For the case of Mexico, the World Bank microsimulation model uses the diagnostic of the reconstruction program to the 2018 ENIGH household survey data to identify beneficiary households given the eligibility criteria of the program. The results show that the 2017 and 2018 earthquakes had harder consequences at the lower part of the income distribution. In particular, about 0.75 percent of households in the bottom decile experienced partial damages and 0.5 percent experienced a total loss, while the incidence in the top decile was much lower, 0.13 and 0.05 percent, respectively (Figure A.11). As a result, and because the program is expected to cover all damaged houses following prioritization criteria, the reconstruction program is expected to benefit mostly the bottom of the distribution. Assuming that the program reaches all potential beneficiaries in one year, the bottom 40 percent of the distribution would receive about 54 percent of the total spending for partial damages and 59 percent of spending for total losses (Figure A.12).



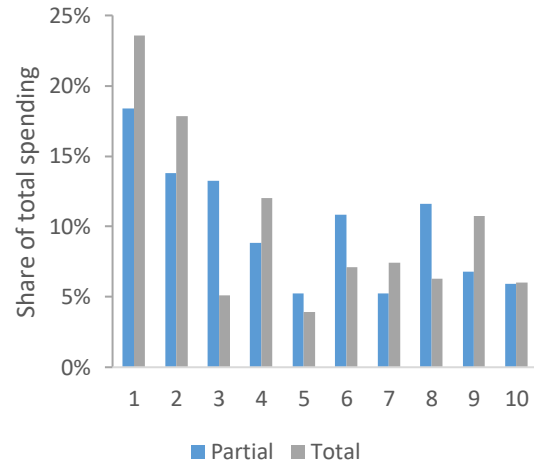
**Figure A.11 Coverage of the Reconstruction Program by modality and market income decile**

(Percentage of households)



**Figure A.12 Absolute Incidence of the Reconstruction Program, by modality and market income decile**

(Share of total spending)



Source: Microsimulation tool for Mexico based on ENIGH (2018) and administrative data

**37. Moreover, building back better can increase resilience, so communities are expected to be less vulnerable to future natural hazards.** Although flexibility in program implementation and development can be critical to the reconstruction efforts (Comerio, 2014), coordinated planning is necessary to engage stakeholders and promote long-term thinking (Kim and Olshansky, 2014). Recovery processes do not happen in a vacuum, on the contrary, they reflect what was there before, communities which were already better organized are frequently able to recover more quickly (Kim and Olshansky, 2014). However, regardless of high levels of community organization or participation, institutional and technical capacities are needed in order to guarantee that the new or improved houses are indeed earthquake resistant. In this regard, the National Reconstruction Program has a strong technical assistance component. In addition, if earthquake-resistant designs or processes are not communicated and enforced by the authorities, it is very likely that people will rebuild their houses with the same weaknesses as before, remaining vulnerable to future earthquakes (Ray, 2017). In this regard, the National Reconstruction Program will prioritize the technical assistance towards the poorest households and communities.



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## ANNEX 5b: SUMMARY OF THE ENVIRONMENTAL ANALYSIS

**1. An environmental analysis of the DPF has been carried out.** Following the WBG guidelines on Development Policy Finance and best international practice, an environmental analysis has been carried out focusing on the policy actions outlined in the DPF. The analysis also informs the GoM and WBG dialogue during DPF implementation aiming at maximizing positive environmental effects. The main findings of the analysis are summarized below.

**2. The ability constraints to recover from the COVID-19 crisis are exacerbated by the observed and anticipated impacts of climate change.** Mexico is particularly vulnerable to climate change because of its geographical and socioeconomic features. Geographically, Mexico is situated between two oceans and complex topography that increase the country's exposure to extreme hydrometeorological events such as cyclones, frosts, heat waves, and floods<sup>30</sup>, which are also expected to increase in frequency and intensity due to climate change. Sociodemographic features like poverty and urbanization intensify Mexico's vulnerability. As of 2019, 80 percent of Mexicans live in urban areas,<sup>31</sup> and 48.8 percent (61.1 million) live below the poverty line<sup>32</sup>. An additional 29.3 percent of the population (36.7 million) is vulnerable due to social deprivations, that significantly impairs physical and social development<sup>33</sup>. Disadvantaged groups suffer disproportionately from the adverse consequences of climate change, since they are more exposed, more susceptible to damage caused by climate change, and their ability to cope and recover is significantly lower than the average<sup>34</sup>. In Mexico, the magnitude of this problem translates into 68 percent of the population with 71 percent of their GDP being negatively exposed to direct impacts from climate change<sup>35</sup>. The COVID-19 crisis has disrupted livelihoods, economies, and well-being around the world. This crisis has showed the importance of preventing and increasing preparedness to deal with pandemics and other natural disasters. Furthermore, scientific reports have documented that climate change may increase the risk of further pandemics,<sup>36</sup> while air pollution may undermine populations' health and make them more vulnerable to these pandemics. While the response to COVID-19 crisis has generated high economic impacts, climate change may result in an additional 2.9 million people living in poverty in Mexico by 2030<sup>37</sup>. For that reason, a major climate change benefit of this DPF is supporting policy measures that contribute to both decoupling GHG emissions from economic growth and building more-resilient economies and less vulnerable societies.

**3. Policy measures supported by this DPF will have significant positive effects on Mexico's climate-change policy.** The DPF supports the establishment of a market for GHG emissions that is a fundamental policy and institutional measure (PA 2) for Mexico to comply cost-effectively with its nationally

<sup>30</sup> (USAID, 2017). United States Agency for International Development.

<sup>31</sup> (Kamiya, 2019).

<sup>32</sup> Reporting data from 2018 (CONEVAL, 2019).

<sup>33</sup> Reporting data from 2018 (CONEVAL, 2019).

<sup>34</sup> (Islam & Wikel, 2017, pág. 6).

<sup>35</sup> (SEMARNAT, 2020, p. 38)

<sup>36</sup> OECD 2020. *From Containment to Recovery: Environmental Responses to the COVID-19 Pandemic*. [https://read.oecd-ilibrary.org/view/?ref=126\\_126460-1tg1r2aowf&title=From-containment-to-recovery\\_Environmental-responses-to-the-COVID-19-pandemic](https://read.oecd-ilibrary.org/view/?ref=126_126460-1tg1r2aowf&title=From-containment-to-recovery_Environmental-responses-to-the-COVID-19-pandemic). Martin, Gerardo, Carlos Yanez-Arenas, Carla Chen, Raina K. Plowright, Rebecca J. Webb and Lee F. Skerratt. 2018. "Climate Change Could Increase the Geographic Extent of Hendra Virus Spillover Risk." *Ecohealth* 15(3): 509-525. doi: [10.1007/s10393-018-1322-9](https://doi.org/10.1007/s10393-018-1322-9). Curseu, D., Popa, M., Sirbu, D., & Stoian, I. (2009). Potential Impact of Climate Change on Pandemic Influenza Risk. *Global Warming: Engineering Solutions*, 643–657. [https://doi.org/10.1007/978-1-4419-1017-2\\_45](https://doi.org/10.1007/978-1-4419-1017-2_45).

<sup>37</sup> de la Fuente, Alejandro and Villarroel, Marcelo Olivera, The Poverty Impact of Climate Change in Mexico (May 1, 2013). World Bank Policy Research Working Paper No. 6461, Available at SSRN: <https://ssrn.com/abstract=2269534>



determined contribution to mitigate climate change under the Paris Agreement. The positive effect of this measure on mitigating climate change is reinforced by the DPF's policy measures of (i) including all forests under the definition of forestlands (PA 5); and (ii) preventing the deployment of agriculture support programs to lands where land-use change occurred without legal authorization (PA 1). Further, climate change mitigation will be promoted by supporting targeted interventions for home improvement and home expansion (PA 6) and reconstruction of houses and education and health infrastructure damaged by earthquakes (PA 8). This is because Mexico is a leader in the incorporation of energy-efficient design and technologies in social housing production at scale, leading to 60 percent improvements in energy efficiency compared to the baseline of housing constructed under a business as usual scenario.<sup>38</sup> Thus, in a complementary manner these measures would promote energy-efficient technologies and reduce deforestation and forest degradation that are the second-most-important source of GHG emissions in Mexico after the burning of fossil fuels.

**4. The policy measures proposed will strengthen the country's climate change adaptation framework and enhance long-term resilience to climate change.** Mexico's climate commitments heavily build on enhancing carbon stocks, which aim at balancing increasing GHG emissions from industry and transport. PA 1 and PA 5 support the protection of carbon stocks by strengthening forest conservation. In addition, by setting a mandatory adaptation indicator for municipalities requesting specific capacity strengthening activities such as producing a Civil Protection Program and a Municipal Contingency Plan, PA 4 will promote strengthening of adaptation capacities in the most vulnerable municipalities, in line with the country's commitment to institutional strengthening to improve adaptation to climate change.<sup>39</sup>

**5. Mexico's main environmental health priority—ambient air pollution—would be positively and significantly affected by the DPF.** Environmental degradation affects welfare and human health. Studies of the cost of environmental degradation are used to measure impacts of pollution on human health and natural resources productivity to prioritize environmental issues in countries.<sup>40</sup> Cost of environmental degradation studies have found that the foremost environmental priority of Mexico is ambient air pollution (AAP) particularly through exposition to PM<sub>2.5</sub>.<sup>41</sup> In 2020 supported by the WBG, Mexico's environmental health priorities were updated.<sup>42</sup> The main finding of this study is that AAP has posed the largest cost of environmental degradation in Mexico. In 2018, the cost of ambient air pollution was equivalent to 3.7 percent of GDP resulting from nearly 40,000 deaths and 354 million days of illness.<sup>43</sup> This DPF would have a significant effect on reducing AAP. The combined effect of the policy measures to: (i) unify air quality measurement and environmental health risks in all Mexican cities (PA 3); (ii) establish a GHG emissions trading (PA 2); and (iii) bring all forests under the legal definition of forestlands (PA 5) will

<sup>38</sup> The emission reductions expected to be achieved in Mexico's urban sector between 2018 and 2030 resulting from the successful implementation of sustainable design and construction standards as promoted under PA 1 and PA 3 amount to 18.40–36.85 percent. Source: CONAVI. 2017. *Vivienda Sustentable en México - NAMA apoyada para la Vivienda Nueva en México; Acciones de Mitigación y Paquetes Financieros - Actualización 2017*.

<sup>39</sup> The Sector Program on Environment and Natural Resources 2020-2024 (PROMARNAT) has six strategic objectives. Its strategic objective 2 is to "strengthen climate action for transitioning towards a low carbon economy and promote resilient populations, ecosystems, production systems and strategic infrastructure." <https://www.gob.mx/profepa/acciones-y-programas/programa-sectorial-de-medio-ambiente-y-recursos-naturales-promarnat-2020-2024>, last visit October 19, 2020.

<sup>40</sup> The World Bank and client countries have been using cost of environmental degradation studies to identify environmental priorities over the last two decades. Country environmental analysis, a Bank analytical tool, has extensively used cost of environmental degradation studies to identify countries' environmental priorities.

<sup>41</sup> Strukova Elena (2015). *An Economic Assessment of Natural Resource Degradation in Mexico*. Prepared for the World Bank; and, Bjorn Larsen & Skjelvik John (2015), *Environmental health in Mexico. An economic assessment of health effects and their costs*. Prepared for the World Bank.

<sup>42</sup> Bjorn Larsen (2020), *Mexico Environmental Health. Health effects and their costs in 2018*. Prepared for the World Bank.

<sup>43</sup> *Ibidem*.



reduce both ambient air pollution and exposition to ambient air pollution in cities by inducing behavioral changes through enhancing awareness of the affected population and by setting economic incentives to reduce air pollution (PM<sub>10</sub> and PM<sub>2.5</sub>.)

**6. The DPF would also have significant positive effects on other environmental priorities.** Although less important than ambient air pollution, water degradation, deforestation, and forest degradation are other GoM natural resource and environmental health issues that will be addressed by the DPF's policy measures. In 2015, the combined cost of environmental degradation associated with these three priorities was estimated as representing 1.09 percent of Mexico's GDP.<sup>44</sup> The policy measures of bringing all forests under the legal definition of forestlands (PA 5), cutting agricultural support programs to areas that changed land-use without legal authorization (PA 1), and inducing reforestation in impoverished and marginal neighborhoods supported by the Social Housing and Urban Improvement Program (PA 6 and PA 7) will reduce deforestation and forest degradation. In addition, the policy measures that promote urban and housing improvements include enhanced water recycling, minimization of water losses, and improvements in disposal systems (PA 6 and PA 7) which would reduce water degradation and enhance water, sanitation, and hygiene in more than 50 municipalities to benefit around 70 thousand families.

**7. In addition to fostering economic recovery, some policy measures supported by the DPF are also contributing to mitigate the impact on health of the COVID-19 pandemic.** Research studies undertaken in all US counties and in areas most affected by COVID-19 in Italy and Spain found that the COVID-19 fatality rate increased significantly from long-term exposure to nitrogen oxide and PM<sub>2.5</sub>, which are two air pollutants. Nitrogen oxide causes inflammation of the lungs that may weaken the response of the immune system to the corona virus.<sup>45</sup> PM<sub>2.5</sub> exposure is known to be associated with many of the cardiovascular and respiratory comorbidities that dramatically increase the risk of death in COVID-19 patients, probably due to pre-existing PM-related inflammation and cellular damage.<sup>46</sup> Consequently, by reducing ambient air pollution in cities (PA 2 and PA 5) and by reducing population exposure to PM<sub>2.5</sub> and nitrogen oxides (PA 3), these policy measures would likely reduce COVID-19 fatality, premature mortality, respiratory illnesses, chronic bronchitis and asthma, and hospital admissions.

**8. Specific capacity building and institutional strengthening interventions during policy implementation and beyond could further the beneficial environmental, climate change, and forestry effects of the policy program supported by this DPF.** The environmental analysis shows that Mexico has the systems and institutional capacity to achieve the positive effects on human health and climate change of the policy measures supported by the DPF. To optimize reduction of exposure to AAP (PA 3), establishing total quality systems in air quality management would enhance air quality control and measurement, and central coordination of data and information on air quality at the federal level. This optimization would increase the percentage of valid air quality monitoring data in medium and small cities (less than 2 million inhabitants) on particulate matter that poses the greatest AAP risk for human health and NO<sub>2</sub> that increases COVID-19 fatality. Regarding the GHG emissions market, fostering the participation of civil society in the follow-up of the pilot ETS (PA 2) may contribute to reduce market volatility and

<sup>44</sup> World Bank staff calculation based on:

Larsen, B., and J. Skjelvik. 2015. *Environmental Health in Mexico: An Economic Assessment of Health Effects and their Costs*. A World Bank study. Washington, DC: World Bank.

Strukova, E. 2015. *An Economic Assessment of Natural Resource Degradation in Mexico*. A World Bank study. Washington, DC: World Bank.

<sup>45</sup> Ogen, Y. 2020. "Assessing nitrogen dioxide (NO<sub>2</sub>) levels as a contributing factor to coronavirus (COVID-19) fatality." *Sci Total Environ* (July 15, 2020).

<sup>46</sup> Wu, X., R. C. Nethery, M. B. Sabath, D. Braun, and F. Dominici. 2020. "Exposure to Air Pollution and COVID-19 Mortality in the United States: A Nationwide Cross-Sectional Study." Boston, MA: Harvard T.H. Chan School of Public Health.



promote low-carbon investments by enhancing the accountability of the pilot ETS. For policy measures to enhance forest conservation and reduce forest degradation (which are linked to PAs 1, 5, and 7), synergies with the multiple existing programs, initiatives, and mechanisms to promote integrated agriculture and forest development could additionally be tapped by enhancing reporting and dissemination of actions taken and results achieved by these programs and initiatives. The WBG will raise these issues in its dialogue with the government aiming at further enhancing the environmental and climate change benefits of the DPF.

**9. Because of a sufficiently robust environmental prevention and control system in the urban sector, Mexico can address environmental risks from the implementation of the urban development, housing and reconstruction programs covered by the DPF's policy measures.** Over decades, Mexico has established an effective legal, regulatory and institutional environmental framework.<sup>47</sup> In the urban sector, this framework comprises the Housing Building Code, environmental impact assessment, regulations, additional environmental norms and an array of responsible federal, state and municipal entities which together form a comprehensive environmental prevention and control system for housing development, urban upgrading and reconstruction as well as for development and reconstruction of education, health and basic urban infrastructure.<sup>48</sup> While this system relies heavily on self-enforcement, the policy measures supported by the DPF promote environmental compliance through requiring: (i) planned activities and works to be carried out through properly qualified and registered implementers; (ii) mandatory environmental criteria for accessing an additional 'sustainability' support by beneficiaries; (iii) mandatory technical assistance; and (vi) two instances of follow up and verification of construction activities for each support provided.<sup>49</sup> In addition, environmental risks of most activities and works under the urban programs are well known and can, therefore, be managed through standard prevention and control processes already widely used in Mexico. Finally, each program includes a complaint and grievance mechanism which, by facilitating public participation in environmental control, fosters compliance with the environmental prevention and control system.

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<sup>47</sup> OECD (2013), OECD Environmental Performance Reviews: Mexico 2013, OECD Publishing. <http://dx.doi.org/10.1787/9789264180109-en>

<sup>48</sup> See among other, SEDATU and CONAVI (2017) Código de Edificación de Vivienda. Tercera Edición. 2017. Part 6. Chapter 31. Sustainability. p: 377-390; SEDATU and CONAVI, 2019, Criterios Técnicos para una Vivienda Adecuada.

<sup>49</sup> "ACUERDO por el que se modifican las Reglas de Operación del Programa de Vivienda Social para el ejercicio fiscal 2020." June 26, 2020; "ACUERDO por el que se reforman y adicionan diversas disposiciones del diverso por el que se modifican las Reglas de Operación del Programa de Mejoramiento Urbano, para el ejercicio fiscal 2020 publicado el 13 de marzo de 2020"; and, "ACUERDO en el que se establecen las Reglas de Operación del Programa Nacional de Reconstrucción para el ejercicio fiscal 2020." April 2, 2020.