Project Information Document (PID)

Concept Stage | Date Prepared/Updated: 29-Jan-2021 | Report No: PIDC30599

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Parent Project ID (if any)	Project Name
India	P174830		India Comprehensive National Earthquake Risk Mitigation Project (P174830)
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
SOUTH ASIA	Aug 03, 2021	Oct 19, 2021	Urban, Resilience and Land
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Investment Project Financing	Department of Economic Affairs	National Disaster Management Authority	

Proposed Development Objective(s)

To strengthen critical public infrastructure in high to very high-risk seismic zones in India and establish platforms to improve overall earthquake risk management.

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	500.00
Total Financing	500.00
of which IBRD/IDA	250.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Bank for Reconstruction and Development (IBRD)	250.00

Non-World Bank Group Financing

Counterpart Funding	250.00
Borrower/Recipient	250.00

Environmental and Social Risk Classification	Concept Review Decision
Substantial	Track II-The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

1. **India's Gross Domestic Product (GDP) growth has slowed in the past three years, and the COVID-19 outbreak is expected to have a significant impact.** Growth has moderated from an average of 7.4 percent during FY15/16-FY18/19 to an estimated 4.2 percent in FY19/20. The growth deceleration was due mostly to unresolved domestic issues (impaired balance sheets in the banking and corporate sectors), which were compounded by stress in the non-banking segment of the financial sector, and a marked decline in consumption on the back of weak rural income growth. Against this backdrop, the outbreak of COVID-19 and the public health responses adopted to counter it have significantly altered the growth trajectory of the economy, which is now expected to contract sharply in FY20/21. On the fiscal side, the general government deficit is expected to widen significantly in FY20/21, owing to weak activity and revenues as well as higher spending needs. However, the current account balance is expected to improve in FY20/21, reflecting mostly a sizeable contraction in imports and a large decline in oil prices. Given this, India's foreign exchange reserves are expected to remain comfortable.

2. **Although India has made remarkable progress in reducing absolute poverty, the COVID-19 outbreak has reversed the course of poverty reduction.** Between 2011-12 and 2017, India's poverty rate is estimated to have declined from 22.5 percent to values ranging from 8.1 to 11.3 percent. Recent projections of GDP per capita growth rate indicate that as result of the pandemic, poverty rates in 2020 have likely reverted to estimated levels in 2016. The extent of vulnerability is reflected in labor market indicators from high frequency surveys. Data from the Centre for Monitoring Indian Economy (CMIE) shows urban households are facing greater vulnerabilities: between September-December 2019 and May-August 2020, the proportion of people working in urban and rural areas has fallen by 4.2 and 3.8 percentage points respectively. Approximately, 11 and 7 percent of urban and rural individuals, identifying themselves to be employed in the recent period, have performed zero hours of work in the past week. Short-term employment outlook is contingent on whether these temporarily unemployed workers can fully re-enter the labor force. Overall, the pandemic is estimated to have raised urban poverty, creating a set of new poor that are likely to be engaged in non-farm sector and receive at least secondary or tertiary education, as compared to existing poorer households who are predominantly rural with lower levels of education.

3. **According to World Bank calculations, which update the IMF's latest debt sustainability analysis to reflect post-COVID-19 developments, India's debt to GDP ratio is projected to increase significantly in the short term.** The baseline scenario reflects the COVID-19 shock, including large negative growth and a sharp increase in the

primary deficit during FY20/21. Under this baseline, the general government debt-to-GDP ratio is projected to peak at about 94 percent in FY22/23 before gradually declining in following years. Under a further combined growth and fiscal shock[1] the ratio would rise to over 100 percent of GDP around FY23/24. This notwithstanding, India's public debt is believed to remain sustainable because it is mostly denominated in domestic currency, of long/medium-term maturity, and predominantly held by residents. India's external debt (both public and private), at around 20 percent of GDP and predominantly of long duration, is also assessed to be sustainable.

Sectoral and Institutional Context

4. **India ranks sixth in the world in terms of average annual economic losses due to earthquake risk, which is estimated at more than US$2 billion.**[2] Despite low frequency, earthquakes have accounted for the largest share of disaster-induced life loss in India between 1986 and 2016, affecting over 28.5 million people.[3] Devastating earthquakes in the recent past include the Latur earthquake of Mw 6.2 in 1993 with over 8,000 fatalities[4], Gujarat earthquake of Mw 7.7 in 2001 with 13,805 fatalities and Sikkim earthquake of Mw 6.9 in 2011 with 111 fatalities. Though it has been more than a decade since a major earthquake affected the country, the 100-year probability of a major (Mw 7.0-7.9) earthquake in the Himalayas is estimated at 0.89.[5]

5. **Nearly 1.07 billion people in India live in areas exposed to moderate to severe earthquakes due to decades of rapid, unplanned, and poorly regulated urban development**. Between 2001 and 2011, , the number of urban settlements with a population of over one million increased from 35 to 53[6], while capital cities of States with high to very high seismic risk added[7] over 5.6 million people to their population. Population growth in these cities between 2001 and 2011 ranged from 13 percent to 45 percent. Fragile buildings and infrastructure in these centers are at risk of costly and disruptive damage. Population growth in hill towns along the Himalayas forces communities to build on dangerous slopes without adequate technical guidance. Rural risks have also escalated, with most newer buildings not following building code regulations. Non-engineered buildings and incremental construction practices, prevalently seen in housing structures in peri-urban and rural areas, are of particular concern.

6. **The next decade is critical for India for locking-in risk or resilience into the built environment.** The total capital expenditure in infrastructure sectors in India during 2020-2025 is projected[8] at US$ 1.5 trillion and the ongoing national Housing for All Scheme has the target[9] of providing 20 million affordable houses by 2022 in urban areas alone. A large body of scientific evidence[10] warns of the potential devastating impacts of earthquakes on the economy, infrastructure, lives, and livelihoods if no risk mitigation measures are undertaken.

1 The combined shock models a larger fiscal deficit (by 1pp of GDP over FY21 and FY22) and lower growth (by about 1.4 percentage points over FY21 and FY22) relative to the baseline.
2 UNDRR (2019) Global Assessment Report on Disaster Risk Reduction.
3 CRED/ EM-DAT (International Emergency Database accessed on 21.10.20)
4 World Bank Group (1999) ICR. Maharashtra Earthquake Rehabilitation Project.
5 Khattri, K.N (1999) Probabilities of Occurrence of Great Earthquakes in the Himalaya. Proceedings of the Indian Academy of Sciences – Earth and Planetary Sciences 108: 87-92.
6 NIPFP (2018) Regulating Infrastructure Development in India. Working Paper Series.
7Based on analysis undertaken by Geo Hazards International for 14 States and UTs.
8 National Infrastructure Pipeline (2020) Report of the Task Force Department of Economic Affairs Ministry of Finance Government of India.
9 Reserve Bank of India (n.d.) Affordable Housing in India. https://www.rbi.org.in/Scripts/BS_ViewBulletin.aspx?Id=17314
10 See for example, Bilham (2019) Himalayan earthquakes: a review of historical seismicity and early 21st century slip potential. Geological Society, London, Special Publications, 483, 483-482, 5 February 2019; and Rajendran et al. (2015) Medieval pulse of great earthquakes in the central Himalaya: Viewing past activities on the frontal thrust. Journal of Geophysical Research Solid Earth. Volume120, Issue3, 1623-1641.

7. **A major earthquake could pose significant damage and constraints on essential services, including health systems.** Should a high-intensity earthquake event occur in or around India, it will put a significant stress on the health systems and public finances, hindering prompt and adequate health emergency response and earthquake recovery with risk of a prolonged recession. COVID-19 has brought to the fore and tested the critical role of line ministries and disaster risk management institutions in responding to large-scale crises. Since the Government of India (GoI) declared COVID-19 as a National Disaster on March 17, 2020, the National and State Disaster Management Authorities (SDMAs) have been involved in COVID-19 response in coordination with the Ministry of Health and Family Welfare and State Departments of Health. While a coordinated response has been mounted and continues, it has also highlighted the need to instill functional role clarity and to strengthen health systems' preparedness and response to ensure their safety and functionality under all circumstances, including in the aftermath of disasters.

8. **Adaptive capacities of communities, especially vulnerable groups in seismic risk zones, have been compromised due to the cascading impact of COVID-19**. According to the Poverty and Shared Prosperity Report[11] 2020, COVID-19 is expected to push 49 million people in South Asia into extreme poverty during 2020 alone, in addition to creating millions of "new poor." Some of the vulnerable groups most impacted by the pandemic also have the highest exposure to seismic risk. For example, urban households are not only more[12] sensitive to employment and income shocks than rural households, but also carry a large burden of seismic risks. Similarly, women bear[13] a disproportionate brunt of the impact of earthquakes, often accounting for a larger share of lives lost. Seasonal migrants with low-paying, hazardous, and informal market jobs in key sectors in urban areas, such as construction, have also emerged as a demographic needing concerted efforts for resilience-building. India's diverse and expansive suite of social protection schemes offer significant opportunities to strengthen the resilience of at-risk and vulnerable groups, as is also evident from their deployment as a COVID-19 recovery measure in the form of the Pradhan Mantri Garib Kalyan Yojana (PMGKY).

9. **Previous efforts to address seismic risk in India have been sporadic and reactive, spurred by earthquake events, and resultantly, not commensurate with the scale of risk.** While several State-level disaster management reforms were put in place after the Latur earthquake in 1993, it was the Gujarat earthquake[14] of 2001 that brought home the need to seriously undertake seismic risk management beyond the disaster-affected State and beyond response-recovery. Initiatives such as revision of the code IS 1893, zoning exercises, National Programme on Earthquake Engineering Education (2003-2007), Urban Earthquake Vulnerability Reduction (2002-2007) were undertaken in the wake of this earthquake. While pioneering and significant in themselves, these initiatives could not accord the temporal continuity, financial stability or geographical expanse needed to comprehensively address the complexities of ensuring seismic resilience for the country. As a result, (1) governance of seismic risk is not supported by a strong policy and institutional framework, (2) professional capacities in the public, private and academic sectors for ensuring seismic safety is lagging behind the pace of risk-creation, (3) at-risk communities do not have adequate access to information, knowledge and financing for taking risk reduction measures, (4) critical public infrastructure and buildings continue to operate and be built anew despite being

11 World Bank (2020) Reversals of Fortune: Poverty and Shared Prosperity Report.
12 IFPRI (2020) How COVID-19 may affect household expenditures in India: Unemployment shock, household consumption and transient poverty.
13 Eric Neumayer & Thomas Plümper (2007) The Gendered Nature of Natural Disasters: The Impact of Catastrophic Events on the Gender Gap in Life Expectancy, 1981–2002, Annals of the Association of American Geographers, 97:3, 551-566.
14 Occurring ominously on the national republic day, claiming ~14000 lives, and collapsing several urban multistoried buildings.

unsafe, and (5) highly risk-prone regions, particularly in the north-eastern part of the country, are yet to be covered adequately by seismic risk management initiatives.

Relationship to CPF

10. **The proposed Program is aligned with the World Bank's twin goals of eliminating extreme poverty and boosting shared prosperity through increasing earthquake resilience of people and assets and reducing economic and livelihood losses in high seismic risk zones in India, many of which account[15] for the lowest performance on Sustainable Development Goals on poverty, hunger and gender equality.** This is aligned with the World Bank's institutional recognition[16] of the disproportionate impacts of natural disasters, including earthquakes, on the poor, and the global position that reducing disaster risks for poor people contributes to poverty alleviation. Through its support for improving national preparedness plans, proposed civil works, and furthering the adaptive social protection agenda, it is also aligned with the World Bank's global commitments[17] to strengthen pandemic preparedness, job creation, and protecting poor and vulnerable in the aftermath of COVID-19 while upholding it's corporate commitments on gender equality, social inclusion and climate resilience.

11. **The proposed Program activities are strongly aligned with the India Country Partnership Framework[18] (CPF) FY18-22 both in terms of the outcomes sought as well as the approach adopted.** The Program will directly contribute to the achievement of Objective 1.5: Improve disaster risk management, under the Focus Area 1: Resource Efficient Growth. Further, the India CPF's four '*Hows*' – Federalism, Leveraging Private Finance, Strengthening Public Sector Institutions, and Lighthouse India – have been adopted as a part of the strategic approach of the proposed Program Framework *(detailed in Section C below).* Through its contribution to enhancing risk governance and furthering the adaptive social protection agenda, the Program contributes to one of the CPF's three pillars or *'Whats'*: "India's development of human capital with a relatively stronger focus on improving the quality of services while continuing to support efforts to ensure access to key services", by facilitating continuity of essential services such as health even in the aftermath of disasters.

12. **It also complements the Bank's ongoing engagement in India in response to COVID-19.** The World Bank supports GoI's COVID-19 response in the country through large operations in health, social protection, and economic stabilization; further, two health operations – one to strengthen service delivery and the other to strengthen health system preparedness are proposed. Leveraging the Bank's unique position for cross-sectoral engagement, the CNERMP Program proposes to collaborate on reforms for pandemic management within the existing disaster risk management systems in coordination with the proposed health operation on 'Transforming India's Public Health Systems for Pandemic Preparedness (P175676)' project. Similarly, the proposed initiatives on Adaptive Social Protection in the Program will build upon the foundations laid by the upcoming Development Policy Operation on Social Protection, particularly in terms of reaching out to the "new poor" in the urban construction sector. Finally, Micro, Small and Medium Enterprises Emergency Response Project's agenda on financial innovations will be upheld and carried forward through the proposed sub-components on disaster risk financing and insurance in the Program.

15 GoI-Niti Aayog (2019) SDGs in India: Index and Dashboard.
16 World Bank (2016) Shock Waves: Managing the Impacts of Climate Change on Poverty.
17 World Bank (2020) Saving Lives, Scaling-up Impact and Getting Back on Track: WBG COVID-19 Crisis Response Approach Paper
18 Discussed by the Board on September 20, 2018 (Report No. 126667-IN)

C. Proposed Development Objective(s)

13. This Program is proposed as a Multiphase Programmatic Approach (MPA), and the proposed Program Development Objective is to increase earthquake resilience of people and assets in high to very high-risk seismic zones in India.

14. Under the MPA, the Project Development Objectives for the proposed two phases are defined as follows:

- **PDO for Phase 1:** To strengthen critical public infrastructure in high to very high-risk seismic zones in India and establish platforms to improve overall earthquake risk management.
- **PDO for Phase 2:** To improve professional capacities and systems for earthquake risk management and expand strengthening critical public infrastructure in high to very high-risk seismic zones in India.

Key Results (From PCN)

15. **The impact-level result proposed to be achieved through this Program is the increased earthquake resilience of people and assets in high to very high-risk seismic zones in India.** This is envisioned through four overall outcome areas viz. (i) improved multi-hazard risk governance; (ii) enhanced professional capacities for seismic safety; (iii) enhanced safety of public buildings and infrastructure; and (iv) enhanced adaptive capacities of people, especially vulnerable groups. These results will be achieved through the prioritized intervention areas that reflect the program's intended three-pronged focus on policy and institutional reforms; investments for demonstrative effect; and knowledge and capacities:
    A. Enhancing Emergency Response Capacity
    B. Multi-hazard Risk Mitigation of Infrastructure
    C. Improving National Capacity and Systems for Seismic Risk Management
    D. Adaptive Social Protection and Disaster Risk Financing and Insurance

16. While sequencing of program activities is proposed, the achievement of results across the four outcome areas is

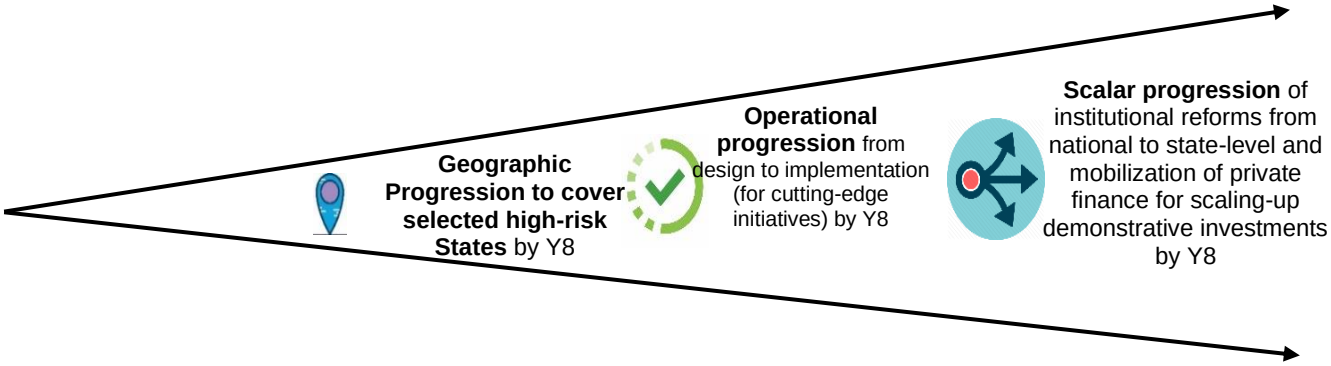

Figure 2 Progression of Results in MPA Phases

envisioned to occur across both programmatic phases of the MPA supported by geographic, operational, and scalar progressions as depicted below.

D. Concept Description

17. **The proposed Program will directly contribute to six out of the seven targets of the Sendai Framework for Disaster Risk Reduction**[19], including reduction of disaster-induced mortality, people affected, economic losses and damage to critical infrastructure as well as an increase in access to early warning systems and development of national and sub-national strategies for disaster risk management.

18. **The Program is also strongly aligned with the Prime Minister's 10 Point Agenda on Disaster Risk Management**[20], contributing particularly to the objectives of risk coverage for all, imbibing DRM principles into development sectors, developing networks of universities and capacities as well as bringing a strong learning agenda into the sector.

19. **The Multiphase Programmatic Approach (MPA) starting with an IPF instrument for the first phase was assessed as the most suitable for the proposed CNERMP among available World Bank instruments and approaches.** While others have some advantages to advance seismic resilience agenda, MPA starting with an IPF offers the most favorable conditions to build earthquake resilience of people and assets through multi-disciplinary, multi-sectoral, multi-state and long-term engagements. The MPA will enable the Program to operate with an eye to sustainability and scalability to achieve its ambitious Program Objective.

20. **The MPA helps ensure strategic long-term commitment through a systematic and gradual approach, which enhances the resilience of the people and assets in high seismic risk zones spanning multiple States in India.** Compared to a standalone investment Project, the MPA offers a flexible and adaptive platform that facilitates achievement of the Program goals through long-term engagements with consistent objectives. This approach is preferred for CNERMP for the following reasons: (i) the proposed Program engages a select number of high-risk, high-priority states and Union Territories (UTs) with varying capacity and readiness can be better managed with a phased approach that allows geographic phasing across States and UTs; (ii) previous World Bank experience suggests that a single-Project approach struggles to address complex natural disaster risks which require multijurisdictional, multisectoral and incremental approaches; and (iii) the MPA will help reduce processing times and administrative costs between Phases, allowing the Government and the World Bank to focus on continuous implementation.

21. **The envisioned MPA Program seeks to enhance institutional capacities and mechanisms for earthquake risk management at national and state-levels with a multi-hazard perspective, and to strengthen critical public infrastructure for earthquake resistance in high to very high-risk seismic zones in India.** Given the need for (1) promoting long-term seismic risk management planning at the national scale and establishing sustainable institutions for seismic resilience; (2) engaging and empowering diverse stakeholders with varying capacities across high seismic risk States to drive policy reforms and R&D for seismic resilience; (3) nurturing a pool of technical professionals to advance the country's construction industry and quality compliance, and (4) adapting a multi-hazard approach to the exponential increase in risks due to unplanned urbanization and large-impact health emergencies, the project proposes a multi-phased programmatic approach. A suite of instruments and program components are proposed under three engagement areas: Institutional and Policy Reforms, Investments for Demonstration Effect, and Knowledge and Capacities. Further, it is envisioned that these are underpinned by a strong learning agenda, a platform approach, and crowding-in resources.

19 Adopted at the Third UN World Conference on Disaster Risk Reduction in Sendai, Japan, on March 18, 2015, the Framework (2015-2030) outlines seven clear targets and four priorities for action to prevent new and reduce existing disaster risks.
20 Adopted at the Asian Ministerial Conference on Disaster Risk Reduction hosted by GoI at New Delhi in 2016.

22. **The MPA Program is designed to scale geographically across its two phases, achieving coverage of a number of selected high-priority States in high to very high-risk seismic zones** and supported by sound policies, institutions, and capacities developed over the course of the Program to ensure sustainability. The number and target of States to be supported by the Program will be carefully analyzed and defined based on a programmatic prioritization approach, as well as strict readiness criteria. The types of public buildings and infrastructure to be intervened at the first phase will be focused for demonstrating early success and proof of concept. Activities in the four main Components will spread across national and State levels.

23. The proposed components will include initiatives towards enhancing emergency response capacity, retrofitting of critical public infrastructure and buildings, establishment of technology demonstration units, strengthening the techno-legal regime, capacity and knowledge buildings works for developing a human resource base for seismic safety, and innovative analytics and pilots for strengthening adaptive capacities of people and assets.

24. Environment and social risks for this Program are expected to be Substantial. The program's adverse environmental and social risks/impacts will mainly relate to investments/civil works proposed under Component B (Multi-hazard Risk Mitigation of Infrastructure). This will cover a range of public buildings such as schools, hospitals etc. and critical lifeline infrastructure such as those for water or transport. The Program also proposes creation of Technical Demonstration Units (TDUs) in States to serve as a hub of knowledge and capacity development on seismic safety and resilience, for which some new building construction is envisaged. While the environmental and social impacts are likely to be temporary (limited to construction stage), predictable and/or reversible, substantial effort, time and coordination will be required during project preparation and in the first year of project implementation to preclude the possibility of any adverse and unwarranted effects on environment and people. The risks will be reassessed during project preparation based on more availability of information and detailed analyses.

25. As the highest-level body mandated for disaster risk management in the country, the National Disaster Management Authority (NDMA) is envisioned as the nodal agency for implementation of this multi-state operation – implementing the national-level project activities and advising the participating states at all stages of program preparation and implementation. State-level Project Implementation Units (SPIUs) are also envisioned and proposed as part of the institutional arrangements in addition to several line agencies/departments that are likely to be involved in the design and implementation of specific activities proposed under this operation.

26. Environment and social management of works/activities under the program will be carried out in accordance with the World Bank's Environmental and Social Framework (ESF). The NDMA with the support of consultants will prepare the required E&S instruments in accordance with the requirements set forth in the ESF, which in turn will inform planning/selection, design, construction, and operation of works/activities under the proposed operation. The NDMA is well versed with the World Bank's environmental and social safeguard policies, having implemented two multi-state Bank supported projects - National Cyclone Risk Mitigation I and II. However, given the multiplicity of participating States and stakeholders in this Program and the fact that this Program will be the first to apply new ESF, additional capacity augmentation will be required.

Legal Operational Policies	Triggered?
Projects on International Waterways OP 7.50	TBD
Projects in Disputed Areas OP 7.60	TBD

Summary of Screening of Environmental and Social Risks and Impacts

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APPROVAL

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