Program Information Documents (PID)

Appraisal Stage | Date Prepared/Updated: 04-May-2022 | Report No: PIDA260763

BASIC INFORMATION

A. Basic Program Data

Country	Project ID	Program Name	Parent Project ID (if any)
India	P177980	The Resilient Kerala Program Additional Financing	P174778
Region	**Estimated Appraisal Date**	**Estimated Board Date**	**Practice Area (Lead)**
SOUTH ASIA	04-May-2022	16-Jun-2022	Urban, Resilience and Land
Financing Instrument	**Borrower(s)**	**Implementing Agency**	
Program-for-Results Financing	India	Government of Kerala	

Program Development Objective(s)

The objective of the Program is to enhance Kerala's resilience against the impacts of climate change and natural disasters, including disease outbreaks and pandemics.

COST & FINANCING

SUMMARY (USD Millions)

Government program Cost	150.00
Total Operation Cost	150.00
Total Program Cost	150.00
Total Financing	150.00
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	150.00
World Bank Lending	150.00

B. Introduction and Context

Country Context

1. **Growth rebound in FY22 has been quick, pulled up by investment, recovering consumer demand and, more importantly, a low base.** Real GDP growth moderated from an average of 7.4 percent during FY15/16-FY18/19 to an estimated 3.7 percent in FY19/20[1], mostly due to (i) shocks to the financial sector, and (ii) decline in private consumption growth[2]. Against this backdrop, the outbreak of COVID-19 had a significant impact, with real GDP contracting by 6.6 percent in FY20/21[3]. On the fiscal side, the general government deficit widened significantly in FY20/21, owing to higher spending and low revenues[4]. However, with the easing of Covid-19 restrictions, Goods and Services Tax (GST) collections have crossed INR 1.1 trillion mark every month since July 2021. The robust GST revenues are expected to continue as the economic recovery gathers momentum. The real GDP growth[5] for FY21/22 is likely to be in the range of 7.5 to 12.5 percent, on the back of increased capital expenditure by the government and recovering consumer demand. The real GDP in FY21/22 is expected to reach the FY19/20 level. Given the global concerns on significant uncertainty around the pandemic, elevated inflation, geo-political tensions and extended supply disruptions, growth in FY22/23 is expected to be 8 percent[6]. Nonetheless, the expected recovery will put India among the world's fastest-growing economies over the next two years.

2. ***Although India has made remarkable progress in reducing absolute poverty in recent years, the COVID-19 outbreak has delayed the course of poverty reduction[7].*** Between 2011-12 and 2020-21, India's poverty rate is estimated to have declined from 22.5 percent[8] to values estimated to range between 9 to 12.3 percent.[9] However, recent projections of GDP per capita growth, taking into account the impact of the pandemic, suggest that poverty rates in 2020 have likely reverted to estimated levels in 2016.[10] Labor market indicators from high frequency surveys -including from the Centre for Monitoring Indian Economy (CMIE)- suggest that vulnerability has increased, particularly for urban households. Overall, the pandemic and its economic impacts are estimated to have raised urban poverty, creating a set of "new poor" that are relatively more likely to be engaged in the non-farm sector and to have received at least secondary education.

3. **The State of Kerala (the State) has enjoyed robust economic growth in recent years, but its near-term outlook has been significantly affected due to the impact of COIVD-19.** The real gross state domestic product (GSDP) grew by approximately 5.9 percent on average between FY11/12 and FY19/20 (below the 7.0 percent average for Indian states). However, nominal GSDP is estimated to have contracted by 3.8 percent in FY20/21 due to the impact of the mobility restrictions associated with COVID-19. Kerala had been running high fiscal deficits even before the pandemic - primarily driven by gradual increases in committed expenditure - especially on salaries, while own-tax revenues remained relatively low as a share of GSDP - which resulted in a steady increase in the State's public debt-to-GDP ratio to 30.5 percent by FY19/20. In FY20/21, while the State's receipts increased by 7 percent, primarily owing to increased transfers from the Central Government in the form of a revenue deficit grant recommended by the 15th Finance Commission, the State's non-tax revenues declined by over 47 percent. Spending rose by over 14 percent as the Government increased spending on welfare programs and capital outlays. Thus, the fiscal deficit widened to 4.6 percent of GSDP and the public debt-to-GSDP ratio rose to over 36 percent. However, as growth recovers, the fiscal deficit is projected to return to below 3

[1] National Accounts Data, National Statistical Office, Ministry of Statistics and Program Implementation (MOSPI).
[2] National Accounts Data, National Statistical Office, MOSPI.
[3] National Accounts Data, National Statistical Office, MOSPI.
[4] Union budget 2021, 2022, Ministry of Finance.
[5] World Bank Global Economic Prospects, January 2022.
[6] World Bank real GDP forecasts for FY22/23 published in April 2022.
[7] World Bank projections. The Government of India has deployed significant resources for social assistance, including towards urban poor households and migrants.
[8] Consumption Expenditure Survey 2011-12, National Sample Survey Office (NSSO), Government of India.
[9] World Bank estimates. Macro Poverty Outlook, October 2021.
[10] World Bank estimates. Source: Macro Poverty Outlook, 2020.

percent by FY23/24 and debt is expected to stabilize at 37 percent of GSDP in FY21/22, declining thereon.

Sectoral and Institutional Context

4. **The State of Kerala is highly vulnerable to natural disasters and changing climatic dynamics given its location along the coast and steep gradient along the slopes of the Western Ghats.** The State Disaster Management Plan identifies 39 hazard types that can turn disastrous without proper preparedness and risk reduction planning. Dominant hazards include cyclones, storm surge, coastal erosion, sea level rise, tsunami, flood, drought, landslides, and earthquakes. In the recent past, the State has experienced Cyclone Ockhi in 2017, floods and landslides in 2018, 2019, 2020 and 2021, and the COVID-19 pandemic. Kerala is among the 10 most vulnerable states in India to flooding and has experienced two extreme events of 'one in 500 years' in the last five years (in 2018 and 2021). The 2018 floods - the worst in the century - led to widespread loss of life, property, and habitats in Kerala, causing 498 casualties, affecting over 5.4 million people, displacing 1.4 million people, and resulting in financial losses of US$3.74 billion. The flood events in 2021 have resulted in 98 deaths and damages of $100 million. The worst affected regions are in the Pamba River Basin, including Manimala and Meenachil River Basins, as well as lowlands in coastal regions, particularly Thiruvananthapuram, Kollam, Alapuzzha, Kottayam, Ernakulam, Kannur, and Kasaragod districts. The combination of flood and landslides has impacted a broad range of infrastructure, including roads, houses, bridges, and irrigation structures. The devastating impacts of these disasters highlighted the under-preparedness of the State. Recurring disasters have left devastating impacts on the livelihoods of vulnerable groups and women, especially women farmers and fisherwomen.

5. **Several river systems have undergone morphological changes, leading to more frequent and severe flooding and breach of embankments systems, therefore, now more than ever, a river-basin-based approach to addressing water resource management (WRM) is important to mitigate disaster and climate risks in Kerala.** Currently, limited modeling tools are being applied to manage the State's water resources, and there is no uniform or consistent platform for the Water Resource Department (WRD) to perform water balances, assess land-use change scenarios, or plan and address climate change impacts. Further, there are no models linked to reservoir operations to support planning and management of storage, water supply, flood management, or plan for environmental flows. The river basin should be used as the geographical unit for resilience planning with transversal foundations established, sectoral practices in resilience at the State level strengthened, and models of integrated and multidimensional resilience rolled out across the Pamba Basin by overlaying sector interventions on transversal systems.

6. **The shoreline of Kerala coast is subject to severe erosion due to weather and human factors, among them cyclones, floods and seawater rise, and sand mining.** Kerala is prone to three types of erosion – coastal erosion, debris flow erosion, and tunnel erosion and soil piping - that must be addressed in a systematic manner: erosion consequent to debris flows, coastal erosion, and sub-surface tunnel erosion and soil piping. The 'National Assessment of Shoreline Change' study carried out by the National Centre for Coastal Research concluded that 45 percent of the 580 km Kerala's coast is eroding, particularly in the districts of Kasaragod, Kannur, Malappuram, Ernakulam, Kollam, and Thiruvananthapuram. The coastal districts in Kerala are among the most densely populated districts in the State, with a population density of 2,262 persons/km^2 among coastal districts compared to the State average of 859 persons/km^2 with minimal separation of rural-urban continuum. Shoreline erosion and sea level changes are impacting lives, habitats, and livelihoods among coastal communities, calling for comprehensive and sustainable coastal erosion management solutions across the Kerala coastline complemented by short term remedial actions in critical hotspot areas.

7. **There is an urgent need to adopt a comprehensive approach to coastal resilience, incorporating purpose-fit local and global practices, due to expected sea-level rise, increasing storm surges, and anthropogenic pressures on the coastal areas of Kerala.** Costal erosion is closely linked to upstream riverine sedimentation, and a holistic "catchment to coast" approach to water resilience linking river management to shoreline management is essential to address the

environmental flow challenge. A focus should be made on upstream work for coastal resilience, including setting up the institutional arrangements and building capacities to prepare for downstream investments that are anticipated in the coming years. The Government of Kerala (GoK) is working with the Asian Development Bank (ADB) on a multi-tranche investment program of US$1 billion, with ADB funding of US$730 million, to address infrastructure needs on coastal protection. The first tranche of the proposed program is expected to be around US$270 million, covering six critical sites as well as small restoration works and technical assistance. The preparation of this program is expected to take time, given the scope of large-scale infrastructure work. The Bank team is working closely with GoK and ADB to ensure that synergies and sequencing are optimal, and that our engagement is strategic for achieving multidimensional resilience in the State.

8. **The Resilient Kerala State Partnership, the First Resilient Kerala DPO, and the ongoing Resilient Kerala Program (Program for Results) has advanced substantively in addressing the core theme of multidimensional resilience** through a set of policy reforms, institutional improvements and capacity building at state, river basin, local government and community levels, and the development of a results-oriented program focusing on enhancing Kerala's resilience to climate change, natural disasters, and disease outbreaks. Advancing multidimensional resilience is a long-term goal that requires both short to medium-term on-the-ground actions that help alleviate impacts of exogenous shocks as well as medium to long-term policy and institutional changes that address the root causes of disasters and other shocks.

9. **While many sectors have deepened their dialogue to build multidimensional resilience with the GoK since the inception of the State Partnership in 2018, Kerala suffered additional shocks from out-of-normal rains, flooding, landslides, COVID-19, and sea erosion in 2019, 2020 and 2021.** While the State has been able to tackle these shocks with greater degree of preparedness and, consequently, lesser human and economic losses, their cumulative impacts have been substantial and have necessitated accelerated efforts by GoK. Therefore, the GoK has initiated long term measures to address the root causes of flooding and landslides in Pamba Basin with short term actions to alleviate the impacts of successive floods during 2018-21, and to better prepare the most vulnerable areas for future. Similarly, to address the exacerbated coastal erosion, the GoK is now rolling out a long-term program of comprehensive coastal management, that includes long term planning and investments in infrastructure and nature-based solutions and strengthening institutional capacities. Simultaneously GoK also plans to address immediate needs for protection of coastal erosion.

PforR Program Scope

10. **The Resilient Kerala Program for Results aims to support and incentivize a transformational shift to build long-term and multidimensional resilience to climate change, natural disaster, and disease outbreaks in the State.** The US$530 million PforR operation, financed by a US$125 million IBRD loan, was approved on June 24, 2021 by the World Bank and became effective on September 9, 2021. With a program development objective (PDO) to 'enhance Kerala's resilience against the impacts of climate change and natural disasters, including disease outbreaks and pandemics,' the Program is implemented by the Rebuild Kerala Initiative (RKI) under the GoK and aims to achieve the objectives through two Result Areas (RAs): (i) strengthening transversal systems for resilience, and (ii) embedding resilience in key socioeconomic sectors. The RKP results areas and activities have been prioritized based on three factors: (i) building on policy actions corresponding to the most critical challenges in resilience, (ii) synergies to implement an integrated model of dimensional resilience, and (iii) ownership and implementation readiness. While its implementation is at an early stage, two out of the nine Disbursement Linked Indicators (DLIs)[11] have achieved year one targets ahead of schedule and the

[11] DLIs include: DLI 1 - Fiscal sustainability of GoK to cope with disease outbreaks and natural disasters is strengthened; DLI 2 - Disaster-related adaptive safety net system of GoK is strengthened; DLI 3 - Disaster risk financing and insurance capacity of GoK and vulnerable households in Kerala are improved; DLI 4 - Urban local bodies developed and sanctioned risk-informed urban master plans and priority action plans; DLI 5 - Climate risk information integrated into local body DRM plans; DLI 6 - Capacity to track and respond to zoonotic disease outbreaks of human importance in a timely manner; DLI 7 - Integrated

remaining DLIs are progressing.

11. **The proposed Additional Finance (AF) aims to add further depth to the relevance and scope of the State Partnership by adapting quickly and flexibly to the evolving needs of the State of Kerala on resilience.** The AF will (i) respond to the profound and complex needs on coastal erosion by strengthening coastal resilience and management through the development of a shoreline management plan (SMP) and urgent investments in selected hot spots and vulnerable sites; and (ii) add to the ongoing PforR by addressing the impacts and causes of the repeated floods, further advancing reservoir and basin management plans, strengthening institutional frameworks in the Pamba Basin, and supporting critical investments to alleviate the impacts and causes of damages from 2021 floods in the Pamba Basin; thereby enabling a holistic "catchment to coast" approach to water resilience. The AF will also strengthen the integration of open data/disruptive technologies and climate budgeting into the Program to advance multidimensional resilience, both across transversal systems and, in particular, for WRM and coastal resilience.

12. **In line with the ongoing Resilient Kerala Program, the AF will remain structured along two results areas that will support the GoK to: (i) strengthen transversal systems for resilience; and (ii) embed resilience in key economic sectors.** The implementation period of the Program will be five years. It will be financed in the amount of US$150 million by IBRD.

C. Program Development Objective(s)

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The objective of the Program is to enhance Kerala's resilience against the impacts of climate change and natural disasters, including disease outbreaks and pandemics.

13. **The PDO level results indicators by Results Areas include the following:**

Results Area 1: Strengthening Transversal Systems for Resilience

- Fiscal sustainability of GOK to cope with disease outbreaks and natural disasters is strengthened
- Women's access to post-disaster adaptive safety net payment is enhanced
- People are benefiting from local DRM plans and One Health Community Surveillance systems in Pamba Basin districts
- Share of climate adaptation or mitigation investments by LSGIs in Pamba Basin districts has increased

Results Area 2: Embedding Resilience in Key Economic Sectors

- People are benefiting from flood early warning services and flood protection measures in Pamba Basin
- People are benefiting from strengthened shoreline management and coastal protection measures in Coastal Districts

D. Environmental and Social Effects

14. **An Environmental and Social Systems Assessment (ESSA) Addendum study was conducted by the Bank team**

river basin management plan is developed for Pamba Basin and implementation commenced; DLI 8 - Farmer producer organizations (FPOs) have increased access to new and organized markets; and DLI 9 – Core Road Network (CRN) is rehabilitated and/or maintained to meet resilient service standards in the Pamba Basin.

with external agency support from the Kerala Institute of Local Administration (KILA) for community consultations to examine activities being introduced through the AF. The community-level and state-level consultations conducted in February 2022 have revealed the urgent need and a strong support for the Program activities.

15. **Environmental Risk Rating:** This risk is rated as **'Substantial'** as there are investment activities – coastal resilience and WRM – that will require environmental management attention during implementation. Through the ESSA, it was confirmed that all the proposed interventions in line with what is permissible under a PforR and that environmental impacts can be addressed through adequate management. These will not result in any major environmental impacts. None of these interventions will be in eco-sensitive areas. The scale of environmental impacts is limited and restricted to the vicinity of the minor works. In the construction phase, the type of impacts include (i) air and noise pollution due to civil works and movement of vehicles; (ii) increase in turbidity in the coastal waters; (iii) construction/labor camp impacts such as incidental fuel, oil and lubricant spillages; (iv) waste and debris storage, management and disposal; and (v) worker and community health & safety impacts particularly in densely populated areas. All these impacts are temporary and reversible. Proper environmental, health, and safety (EHS) management measures will be required during construction. In the operational phase, the interventions could aggravate shoreline erosion if not properly designed. To ensure design appropriateness, GoK has streamlined the use of expert institutions such as the NCCR and IIT Madras to provide the required technical advisory support.

16. **Environmental legal framework is well-established.** The environmental legal framework such as the Coastal Regulation Zone (CRZ) notification and Environmental Impact Assessment (EIA) notification has been established both at the national and state levels. The associated institutions and systems such as the Ministry of Environment, Forest and Climate Change's (MoEFCC) CRZ and Environmental Clearance Cell, Kerala Coastal Zone Management Authority (KCZMA) and the Kerala State Environmental Impact Assessment (SEIAA) are functioning. The implementing departments such as the WRD and Harbour Engineering Department (HED) have the required capacity to adhere to the legal procedures and integrate environmental requirements in their civil works. RKI Secretariat's supervision oversight will be required to ensure that the procedures are followed, and on-the-ground good practices are adopted. A periodic external agency audit to identify implementation gaps and to suggest improvements will also be required.

17. **Social Risk Rating:** The social risk rating is assessed as being **'Substantial'** as certain investments are likely to lead to adverse social impacts, particularly in case of coastal resilience and WRM in the Pamba river basin. The ESSA has confirmed that all the proposed interventions are in line with what is permissible under a PforR and any potential social risks of the proposed activities under AF on the communities will be addressed through appropriate mitigation measures as well as by creating opportunities for enhancing positive social and gender impacts. Although the proposed investments under additional financing are likely to have many positive impacts for vulnerable groups, there are some key potential social risks that may need to be assessed and mitigated. These relate to a) restrictions or barriers to access to the water sources (the river, tributaries and irrigation channels) for the dependent communities, especially the elderly, infirm, persons with disabilities and pilgrims b) restrictions on traditional access to the sea and its resources for fisher-folks, vendors, fishing communities, coastal villages owing to the construction of sea walls and its impact on their livelihoods and way of life; c) exclusion of local communities, women, fisher-folk, tribal communities and small/ marginal farmers in the preparation processes for coastline and river management plans. In addition, it is envisaged that for the sites where construction is proposed to tackle severe erosion or flooding, social screening reports for any direct impact will be prepared by the implementation agencies before the work is started so that appropriate mitigation measures can be taken. The exact size and scale of resettlement impact will be determined in accordance with the Project Operation Manual (POM), progressively as the works are identified and detailed out.

18. **Social risk management systems of the implementation agencies have been found to be adequate.** However, discussions with the key counterparts in the state indicates the need to enhance the increasing capacities of staff in the

relevant departments on social inclusion and gender issues. The State's central Grievance Mechanism System though works effectively, some additional efforts to ensure greater awareness of the GRMS is recommended to ensure better access to all communities, especially the vulnerable.

E. Financing

19. **The cost of the Government Reform Program for the activities under the AF for FY 2022-2026 is estimated at US$260 million, of which US$150 million will be financed by IBRD.** The government reform program converges with the broad umbrella of GoK's ongoing RKDP. The cost of the parent program for Resilient Kerala PforR is US$ 530.02 million out of which the World Bank finances US$125 million, representing 24 percent of the Program cost. Further, AIIB supports the Program with a financing of US$125 million, equal share to Bank financing, and AFD provides Euro 100 million (US$120 million equivalent). The remaining US$ 160.02 million which is 30 percent of the Program will be financed by GoK. With the proposed the AF, the total program cost including additional $ 65 million GoK financing for the AF will increases to US$ 745 million. Under the AF, US$90 million will be allocated to the coastal resilience activities, US$50 million to WRM in the Pamba Basin, and US$10 million to Climate Budgeting. The PforR Program will be complemented by a strong technical assistance program financed by the GoK, the KfW and the World Bank.

20. **The Addendum to the Integrated Fiduciary System Assessment (IFSA) concludes that the present systems together with proposed mitigation measures will provide reasonable assurance that the financing proceeds will be used for the intended purpose, with due attention to the principles of economy, efficiency, effectiveness, transparency and accountability.** Based on the addendum to the IFSA, the fiduciary risk of the Program is assessed as '**Substantial**'. The Financial Management (FM) and Procurement systems for the proposed AF are predicated on extant country systems. The proposed AF will be implemented by the RKI and three GoK departments. It will, therefore, be influenced by the extant GoI and GoK's fiduciary systems like the Kerala Budget Manuals, Kerala State Treasury Codes, Indian Government Accounting Standard, Public Works Account Codes, Kerala PWD Manual, Kerala Stores Purchase Manual, KMSCL provisions, State delegation of financial powers and staffing regulations, KIIDC and KSCADC procurement and financial delegation provisions. The RKI will be responsible for overall coordination, management, and oversight of the Program. The overarching framework of FM and Procurement systems across the participating departments (PD) are similar however, the practice of the applicable rules and regulations may slightly vary across them. Further, the Program is not expected to procure any large works, goods, and consultancy contracts valued at or above the thresholds for a "Substantial" risk rating. The implementing agencies shall report to the World Bank if any large contracts appear during Program implementation. The World Bank will monitor fiduciary systems and contract management reports to identify any large-value contracts throughout the Program implementation.

Program Financing (Original Program and AF)

Financing Source	**Pa Program** (USD M)	**AF Program** (USD M)	**Total** (USD M)
Counterpart Financing (GoK)	160	65	225
IBRD	125	150	275
Co-financing – Other Sources	245	0	245
- AIIB	125	0	0
- AFD	120	0	0
TOTAL (USD M)	**530**	**215**	**745**

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