Real GDP growth moderated from an average of 7.4 percent during FY15/16-FY18/19 to an estimated 4.0 percent in FY19/20.[1] The growth deceleration was mostly due to (i) shocks to the financial sector, and (ii) decline in private consumption growth.[2] Against this backdrop of pre-existing weaknesses, the outbreak of COVID-19 had a significant impact, with real GDP contracting by 7.3 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] With the easing of Covid-19 restrictions, GST collections for July, August and September 2021 have crossed INR 1 trillion mark. The robust Goods and Services Tax (GST) revenues are expected to continue as the economic recovery gathers momentum. Given the significant uncertainty pertaining to epidemiological developments, real GDP growth for FY21/22 is likely to be in the range of 7.5 to 12.5 percent.[5]

A resilient food system requires substantial investments in restoration of ecosystems to support precision farming, based on efficient use of natural resources and inputs, including water, land, fertiilzers and pesticides.

In the context of COVID-19, watershed management has the potential to provide rural employment to migrant workers in public works, livelihood protection for vulnerable households, productivity enhancement and value addition services to farmers.

While these programs have treated significant land areas to date with basic soil and water conservation, the broader results have been below expectation in terms of: incorporating hydrology, water management and climate resiliency into plans and investments; supporting farmers to transition to climate resilient farming practices, more value addition and market access for increased productivity and incomes; and strengthening rural livelihood development to improve overall equity and opportunities for women.

The proposed operation will support the objective of promoting more resource-efficient, inclusive and diversified growth in the rural sector under Focus area 1 by contributing to increasing and diversifying income-generating opportunities, while improving efficiency in the use of water and land resources in agriculture. It will support climate resilience and improved natural resource management through investments in infrastructure, facilitating changes in agricultural practices, crop diversification and minimizing agriculture risks.

Drawing from recent Bank experiences in India with multi-state programs across different sectors the proposed financing instrument is a Program for Results (PforR) with a loan to India whose funds are allocated in part to the central DoLR and in part to the participating states.

A straight Investment Project Financing (IPF) model would not be suitable because it would not provide the incentives needed to stimulate action and foster institutional improvements, without which, longer-term

[2] 2 Lessons in the watersheds sector are based on secondary literature reviews and technical consultations with civil society organizations, donor agencies (e.g.

The Odisha Mineral Bearing Area Development Corporation (OMBADC) set up by the Government of Odisha (GoO) in 2014 also provides funds to watershed development in the mining districts of the state.

Empowering farmers with science-based and just-in-time agro-advisories, through information and communication technologies channels in partnership with agriculture extension systems, tailored to meet the requirements of small, marginal and women farmers.

Enhancing livelihood and COVID-19 recovery by the poorest households and women, by: (i) establishing or strengthening FPOs in select watershed clusters, including FPOs led by women; (ii) providing working capital to FPOs; (iii) establishing partnerships to enhance local and distant market linkages with farmers and FPOs; (iv) developing basic agri-processing infrastructure in the FPOs to reduce losses; and (v) providing inputs to farmers and women agriculture workers linked to FPOs; all with an emphasis on climate mitigation and adaptation opportunities along the value chain.

The CIGs will utilize the grant as per the LEP for undertaking new or for up-scaling existing income generation activities.

The REWARD Program will also not procure any high value contracts[38] valued at or above Operational Procurement Review Committee (OPRC) thresholds (USD 115 million for works, USD 75 million for goods and non-consulting services and USD 30 million for consultant services).

PDO Indicators

a) Percentage of Watershed Committees (WC) and Gram Panchayats (GP) which demonstrate satisfactory watershed management as measured through a performance rating system
b) Land area treated with science-based watershed management technologies
c) Number of farmers who adopt resilient agriculture technologies and practices
d) Increase in climate-adjusted soil moisture in targeted watershed areas
e) Direct Program beneficiaries (number, disaggregated by gender and social group).

The sustainable development of watersheds based on better scientific inputs and technical capacities will lead to more effective conservation of soil, improved surface and groundwater availability and efficiency of use, and enhanced agricultural productivity and profitability, thereby generating sustainable improvement in incomes.

Multi-stakeholder platform.

Similarly, while the private sector can bring in much needed technology advancements and market linkages that benefit target communities, they in turn benefit through enhanced business opportunities.

Synergy with agriculture value chains initiatives by the Bank as well as by other development partners will be explored including, for example, the Bank supported Odisha Integrated Irrigation Project for Climate Resilient Agriculture and value chains under the Karnataka Water Multi Stakeholder Platform (MSP), managed by the 2030 Water Resources Group in Karnataka.

Concrete and measurable benefits to the communities are ensured through: treatment of 200,000 ha benefitting about 72,000 farmers; about 20 percent increase in soil moisture status; promoting adoption of climate resilient technologies by about 43,200 farmers; strengthening/establishing about 30 farmer producer collectives with forward and backward value chain linkages; and reach about 115,200 farmers with LRI and weather based agro-advisory services to help improve productivity.

The incentives for key stakeholders are: (i) communities benefitting from improved productivity and livelihood opportunities; (ii) WCs/GPs having incentives and building capacities to improve their performance, which can also function as a good political incentive; (iii) district and block offices benefitting from improved team capacity and IT enabled tools (which contribute to reduced work load); (iv) SWDs benefitting from technical agency support, improved coordination with other line departments, and lessons from innovative pilots, all leading to more effective program management and enhanced results/impacts; and (v) generation of lessons that would help the DoLR to effectively implement the new national watershed program and achieve targets.

Four different scenarios have been assumed to calculate Economic Internal Rate of Return (EIRR) over a 20-year period.

The EIRR of the project over a 20-year period for the base case, excluding benefits from GHG emission reduction, is 35.0 percent with a Net Present Value (NPV) of USD 285.4 million at a discount rate of 12 percent.

The GHG estimation does not include the effects of value chain activities and promotion diversified livelihood activities among vulnerable communities . These activities being demand based are diffi

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[1] The Value Chain benefit estimates have been estimated using similar World Bank funded projects in India (JOHAR, TNRTP, BTDP, NRETP). The benefits have been estimated to be an annum additional income of 13,232 per household engaged in value chain activities or a B/C ratio of 0.95.

[2] The Vulnerability Reduction benefit estimates have been estimated using similar World Bank funded projects in India (BRLP, TNPVP, NRLP) for [illegible] and enhanced credit-based livelihood activities. The benefits have been estimated to be an annum additional income of 15,465 per household or a B/C ratio of 0.99.

Based on the activities identified in the Program scope, the main procurable items are: (i) community procurement of works and supplies towards micro-watershed sub-projects; (ii) consultancy services such as the engagement of technical partners, capacity building, M&E, IVA, communication, knowledge management; and (iii) goods (such as laboratory equipment) and IT systems (such as development of a decision support system).

Performance is found acceptable, with a scope for

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[53] Public Financial Management System [PFMS] developed by the Planning Commission and the Office of the Controller of Accounts, Ministry of Finance, GoI the objective of establishing a financial management platform for all plan schemes, a database of all recipient agencies, integration with core banking solution of banks handling plan funds, integration with state treasuries and efficient and effective tracking of fund flow to the lowest level of implementation for plan scheme of the Government.

The overall E&S impacts of the REWARD Program are likely to be positive, owing to benefits such as increased groundwater level, improved soil condition and increase in crop productivity due to multi-cropping, increased rural incomes and reduced poverty.

The COVID-19 crisis has resulted in a sharp growth slowdown in FY21 and significant fiscal stress at both central and state levels

(Number)		0.00	27,000.00

Of which, farmers in Odisha.

(Number)		0.00	72,000.00
Of which, farmers in Odisha.			

This DLI is defined as the number of Farmer Producer Organizations (FPOs) supported under the REWARD Program, tha achieve an average annual sales turnover that is at least 25% higher than their baseline levels.

This includes USD 115 million from IBRD and national and state program financing estimated at USD 295.96 million.5 9 The financing will support: (i) USD 6 million for DoLR expenditures on consultancies and/or goods for activities including capacity building, knowledge exchange, development of national standards around integrated watershed management; and (ii) USD 109 million for the entire WDC-PMKSY operation in all two participating states based on USD 60 million for Karnataka, USD 49 million for Odisha.

The Program will also promote appropriate performance incentives to the community institutions, such as GPs and WCs, to strengthen active community participation and ownership of assets that will lead to improved sustainability.

Besides systematic procurement and vendor management guidelines that can reduce political patronage to some extent, the Program will further improve the situation through science-based watershed planning, better Standard Operating Procedures (SOPs), strengthened community engagement, performance monitoring, social audits, and performance incentives.

.3 Borrower Capacity

Based on discussions with the clients and sector experts, the Technical Assessment identified institutional weaknesses in the following thematic areas; improved science-based planning, human resource management, program management, community engagement, coordination between sector related line departments, private sector participation, M&E, O&M and knowledge sharing.

Third, the private sector can also benefit through enhanced business opportunities by bringing in much needed technology and market linkages that ultimately benefit the target communities.

While science-based planning will contribute to minimizing risks related to selecting sites for infrastructure, the performance monitoring and rewards will encourage GPs to maximize community participation.

The main economic benefits are expected from: (i) increased efficiencies in watershed planning and implementation leading to shorter planning and implementation time; (ii) increases in the area under production and crop productivity through improved soil and water conservation practices and adoption of recommended agricultural practices; (iii) diversification from food grains into climate-adaptive, pulses and oilseeds based on improved advisory; (iv) improved post-harvest management, value addition and marketing; and (v) vulnerability reduction initiatives for the landless and marginalized communities within the watershed development areas. It is expected that facilitating value chain links will lead to increased incomes of beneficiaries due to: (i) higher prices for the agricultural produce through better aggregation, better market information, and new market channels; (ii) potentially reduced input costs such as fertilizers resulting from more detailed soil nutrient information; and (iii) increased employment and value addition from post-harvest activities, including aggregation, cleaning, grading, sorting and processing.

The EIRR of the project over a 20-year period for the base case, excluding benefits from GHG emission reduction, is 35.0 percent with a Net Present Value (NPV) of USD 285.4 million at a discount rate of 12 percent.

The benefits from the dissemination of agro-advisory services to improve farmers decisions and resilience improves the base case EIRR (excluding benefits from GHG emissions) to 31.8 perce 5 The benefits of the value chain activities increase the base case EIRR (excluding benefits from GHG emission) to 32.8 perce 6 and the benefits from vulnerability reduction activities (excluding benefits from GHG emission) further improve the EIRR to 35.0 percent.7 7

The EIRR calculations also assume a five percent operations and maintenance costs and a 15 percent tax rate on project costs (to account for transfer payments) over the 20-year period for which the EIRR has been calculated.

The GHG estimation does not include the effects of value chain activities and promotion of diversified livelihood activities among vulnerable communities. These activities

Effective value chains will be critical to improve the incomes of farmers in the Program.

In addition, in Karnataka, the Program will leverage the experience of the MSP Forum, being facilitated by 2030 WRG, in enabling private sector participation.

[6] The Value Chain benefit estimates have been estimated using similar World Bank funded projects in India (JOHAR, TNRTP, BTDP, NRETP). The benefits have been estimated to be an annum additional income of 13,232 per household engaged in value chain activities or a B/C rat of 0.95.

[7] The Vulnerability Reduction benefit estimates have been estimated using similar World Bank funded projects in India (BRLP, TNPVP, NRLP) for simple and enhanced credit-based livelihood activities. The benefits have been estimated to be an annum additional incom of 15,465 per household or a B/C ratio of 0.99

It is observed that open tendering method was used for for these cases with adequate procurement cycle time; and while no cases for cost over-run and no complaints were received, there is room for improving bidder participation and avoid time extensions.

Establishing high-level coordinating bodies in the state government on the lines of Multi Stakeholder Platforms, supported by the 2030 Water Resources Group, for convergence of watershed issues will benefit the environment with convergence of state specific goals on forest cover, agriculture and horticulture development for developing rainfed districts.

In addition, the program will also enhance local employment and livelihood opportunities for watershed populations including for marginal and small farmers, landless and wage laborers and lead to improvements in household incomes and general economic development in the program areas.

While watershed development programs have treated significant land areas with basic soil and water conservation, there have been gaps in terms of: incorporating hydrology, water management,

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[84] The climate co-benefit estimation in WB-financed projects is based on the Joint MDB methodology that has been developed by a group of multilateral development banks (MDBs), composed of the African Development Bank (AfDB), the Asian Development Bank (ADB), the Asian Infrastructure Investment Bank (AIIB), the European Bank for Reconstruction and Development (EBRD), the European Investment Bank (EIB), the Inter-American Development Bank Group (IDBG), the Islamic Development Bank (IsDB), the New Development Bank (NDB) and the World Bank Group (WBG).

Pilot on science-based fertilizer demand and supply that involves aligning demand and supply of fertilizers through interventions such as building farmer awareness on soil nutrient status to improve productivity by addressing climate impact on soil quality.

Value chain interventions focusing on production enhancement, post harvest management, infrastructure development, and forward and backward linkages of producers to markets.

The GHG estimation does not include the effects of value chain activities and promotion of diversified livelihood activities among vulnerable communities.

Value chain investments that integrate climate mitigation and adaptation opportunities (such as use of renewable energy in agri-processing, energy efficient agriculture infrastructure, climate risk resilient infrastructure development).