



Program Information Documents (PID)

Appraisal Stage | Date Prepared/Updated: 31-Oct-2018 | Report No:

**BASIC INFORMATION****A. Basic Program Data**

Country India	Project ID P165923	Program Name Agriculture Risk Resilience and Insurance Access Program	Parent Project ID (if any)
Region SOUTH ASIA	Estimated Appraisal Date 29-Oct-2018	Estimated Board Date 10-Jan-2019	Practice Area (Lead) Finance, Competitiveness and Innovation
Financing Instrument Program-for-Results Financing	Borrower(s) Republic of India	Implementing Agency Department of Agriculture, Cooperation & Farmers Welfare	

Proposed Program Development Objective(s)

The Program Development Objective is to enhance farmer access and improve service delivery of the PMFBY crop insurance scheme in select states in India.

COST & FINANCING**SUMMARY (USD Millions)**

Government program Cost	27,000.00
Total Operation Cost	402.00
Total Program Cost	402.00
Total Financing	402.00
Financing Gap	0.00

FINANCING (USD Millions)

Total World Bank Group Financing	201.00
World Bank Lending	201.00
Total Government Contribution	201.00



B. Introduction and Context

Country Context

1. **India is one of the fastest growing economies in the world and its achievements in improving several dimensions of human development are impressive.** Between 2005 and 2010, India's share of global gross domestic product (GDP) increased from 1.8 percent to 2.7 percent and by 2017 it reached 7.4 percent. Based on the Government of India (GoI) official poverty line, 137 million people were lifted out of poverty between 2004–05 and 2011–12. However, the country continues to face daunting development challenges.

2. **Agriculture plays a vital role in India's economy, with over 40%¹ of India's population engaged in agricultural activities and contributing to around 17% of the country's GDP².** Even so, majority of India's 138 million operational farm holdings are small with about 85 percent of farmers operating on less than 2 hectares keeping them poor and facing increasing vulnerabilities against climate change and economic shocks. Further, the concentration of poverty is higher in landless agricultural labor households and marginal farm households, which account for more than 50 per cent of the total poor in India. Additionally, 84 percent of women depend on agriculture for their livelihoods directly or indirectly and make up 33 per cent of cultivators and 47 per cent of agricultural laborers.³ The burden of the sector on the economy comes not from the numbers engaged in the work, but from the uncertainty and lack of predictability of assured incomes from this economic activity.

3. **High dependence on rainfall and increasing risks from climate change mean that agricultural risk management products for the farming community, especially for small and marginal farmers, are of critical importance.** Indian agriculture remains dependent on rainfall, in particular South-West monsoons, with 60 percent of the cultivated area growing rainfed crops. On average 12 million hectares of crop area have been affected annually by abnormal monsoons in the last two decades, with shocks to yields and agricultural production. Data shows that extreme temperature shocks can lower agriculture yields on average for Kharif (rain-fed crops, sown during the monsoon season, typically starting in late June / early July) and Rabi (irrigated crops, sown during winter months, from October)⁴ crops by 4 percent and 4.7 percent, respectively, and for extreme rainfall shocks by 12.8 percent and 6.7 percent, respectively.⁵ These averages mask wide variations between irrigated and rain fed regions making some crops, typically non-cereals, more at risk to climatic changes. Expectedly, the combined effect of small holdings and higher variability to climate change increases vulnerabilities of those dependent on agriculture for their livelihoods.

Sectoral and Institutional Context

4. **There is now increasing evidence on the agriculture sector's vulnerability to climate change.** Between 2014 - 2018, the level of real agricultural GDP and real agriculture revenues has remained constant, owing in part to weak monsoons in two of those years. Future projections indicate that in many parts of India, farmers will face more challenging conditions, characterized by a warmer environment, more erratic rainfall patterns and more frequent extreme events⁶. Using district level data, India's Economic

¹ BRICS figures from ILO 2017: Brazil 10%, China 18%, Russia 7%, South Africa 6%

² Annual Report, 2017-18. Department of Agriculture, Cooperation & Farmers Welfare, Government of India

³ Khyade, and Khyade (2016), Indian Women in Agriculture, International Academic Journal of Economics, Vol. 3, No. 12, 2016, pp. 1-8

⁴ Indian cropping season is classified into two main seasons-(i) Kharif and (ii) Rabi based on the monsoon. The kharif cropping season is from July –October during the south-west monsoon and the Rabi cropping season is from October-March (winter).

⁵ Economic Survey 2018, Volume I, Chapter 6

⁶ World Bank, *South Asia's Hotspots, The Impact of Temperature and Precipitation Changes on Living Standards*, Mani et al., 2018



Survey 2018 documents a long-term trend of rising temperatures, declining average precipitation, and increase in extreme precipitation events. It also states that based on projected long-term weather patterns, climate change could reduce annual agricultural incomes in the range of 15 percent to 18 percent on average, and up to 20 percent to 25 percent for unirrigated areas.

5. **Among other policy instruments, agriculture insurance can play an important role in protecting farmers, including small and marginal farmers from agro-climatic shocks.** Crop insurance, by spreading and sharing risk, can buffer financial impacts of unexpected crop failure from heightened changes in temperature and rainfall patterns as well as extreme events such as floods or droughts. This financial protection to farmers is multi-faceted. First, it can replace lost income due to seasonal calamities so that shocks to household incomes are reduced. Second, agricultural insurance can increase access to finance by reducing risks to lenders who are more willing to lend to small farmers and on more favorable terms when they know their crops are insured against natural disasters. Third, agricultural insurance can reduce the risk of indebtedness to vulnerable households who may borrow for agricultural production but who experience a weather shock, doubly exposing them to a default to a financial institution as well as a loss of household income.

6. **The Pradhan Mantri Fasal Bima Yojana (PMFBY) program is part of the Government of India's longstanding support to the provision of crop insurance to farmers.** The GoI launched the PMFBY program in 2016, which was a follow-on to previous programs such as the Comprehensive Crop Insurance Scheme (CCIS), followed by the National Agricultural Insurance Scheme (NAIS), and other variants of crop insurance programs which experimented with multiple premium sharing arrangements, targeted different farmer groups and adopted distinct approaches to insurance.⁷ The major modification of the PMFBY, compared to earlier programs is an increase in the average amount of the sum insured as well as reducing the premium borne by farmers, with the goal of increasing coverage of insured farmers. Between 2015/16 and 2016/17 there was a dramatic increase in both the number of insured farmers, from 47.4 million to 57.2 million or a 21% increase, and the sum insured increased by 75%, from Rs. 1.15 trillion to Rs. 2.02 trillion under the PMFBY Program (including the Restructured Weather Based Crop Insurance Scheme - RWBCIS). PMFBY helps provide a financial safety net to farmers facing risks, including from increasing frequency of natural disasters, that can severely impact farm incomes.

7. **The PMFBY Program has laudable goals, including doubling coverage of insured farmers and reducing the time taken to settle claims by 2020, but is facing a number of implementation challenges that are limiting its effectiveness.** These include; i) limited capacity at the Central and state government levels to manage the size and complexity of the program; ii) issues with quality and timeliness of crop yield data (through Crop Cutting Experiments); iii) coordination challenges with insurers, which can delay payouts; iv) incomplete awareness of PMFBY modalities at the farmer level, and v) limited coverage among non-loanee farmers and marginalized groups. Standardization and scaling of technology and process solutions will therefore be critical to address the operational challenge of crop yield estimation/loss assessment as well as the process of timely claim settlement.

8. **States face capacity constraints in managing and administering the scheme which too impact the quality of delivery.** State agriculture departments are under-staffed, with limited technical/actuarial capacity and the bandwidth to oversee end-to-end implementation of PMFBY for an entire state. In addition, insufficient use of technology and continued dependence on conventional methods, namely use of manual labor for estimating crop yields and transmitting data impacts operational efficiency of the overall program.

⁷ Farm Income Insurance (in 2003), Weather-based Crop Insurance Scheme (in 2007), modified National Agriculture Insurance Scheme (mNAIS) (in 2010-11), and the National Crop Insurance Program (in 2013).



States struggle to conduct the required Crop Cutting Experiments (CCEs)⁸ per season which are the basis for calculating eligibility for claims. Among others, the poor quality of data impacts risk premium rates which can potentially be improved through better service delivery approaches and effective coordination.

PforR Program Scope

9. **The Agriculture Risk Resilience and Insurance Access (ARRIA) Program of the World Bank under preparation supports GoI's policy objectives of:** (i) doubling the farmers insured under PMFBY; and, (ii) improving the service delivery, namely claims settlement to farmers. **ARRIA has been designed as a Program for Results (PforR) that finances GoI against the achievement of development results. It focuses on five participating states (PSs) which account for about 45 percent of farmers and 35.8 percent of cropped area insured.** The participating states are Uttar Pradesh, Maharashtra, Gujarat, Karnataka and Odisha, selected based on criteria around coverage, technology usage and other technical parameters. Lessons learnt from the Bank supported Program are expected to influence the overall implementation of PMFBY.

10. **The total cost of the PforR Program is US\$ 402 million, of which World Bank financing is US\$ 201 million.** ARRIA is carved out of PMFBY to support enhancing coverage and efficiency under the existing agricultural risk insurance system targeting five Participating States (PS) in India through a combination of investments towards cost of ongoing and new reforms/interventions. The Program development outcomes are aimed at increasing participation of beneficiaries in crop insurance through improved service delivery. As coverage levels increase from the existing 48.5 million farmers (in 2017-18) to the GoI's target of insuring 75 million farmers (doubling the coverage of farmers insured from 35 million farmers in 2015-16), over the next 4-5 years costs will materially rise appropriately identifying with the Program Development Outcome. Program expenditure will be on establishing Technical Support Units, technology enhancements for Crop Cutting Experiments and other technical aspects of the scheme, insurance portal functionality enhancements, training and capacity-building activities across stakeholders, awareness campaigns, as well as other related operational expenditure.

11. **To enable benefits of an ex-ante insurance program to be better realized, ARRIA has been designed around support at both Central and states levels:** ARRIA's results areas are structured around institutional strengthening at the Central and state levels, enhancing service delivery of the insurance program, and deepening inclusion - leveraging technology wherever possible. Notably, the Program through its multiple coordinated interventions has strong piloting and cross learning dimensions for India's states including on improving environment and social impacts. ARRIA focuses on working with PSs not just to strengthen implementation capacity, but also to modernize the methods of data collection so as to enable timely and transparent pricing and payouts to farmers. In the medium term, the support of the ARRIA is expected to contribute to increased coverage of beneficiaries, particularly voluntary non-loanee beneficiaries, and more timely payouts of insurance claims.

12. **The national crop insurance portal has been mandated to act as a centralized database for information on PMFBY⁹ and is critical both for service delivery of the national program and the measurement of results critical for the PforR:** ARRIA will support the GoI and Participating States (PS) in addressing several of the implementation challenges through building institutional and technical capacity both at the Center and in the Participating States, strengthening the data collection and data sharing system, streamlining the end-to-end process (from enrollment, loss assessment (conducting CCEs), settling of claims, and premium subsidy payments by the Governments) and improving awareness and knowledge of

⁸ Crop cutting experiments (CCEs), which are used to obtain accurate estimates of yield of principal crops, Experiments are conducted through stratified random sampling technique taking village as a primary unit of planning by the agricultural statistics department of each state.

⁹ enrollment/crops/threshold yield/price and area of exposure



PMFBY crop insurance amongst the farmers. The portal that aggregates data from multiple sources is expected to be a critical pillar for effective implementation and measurement of results.

C. Proposed Program Development Objective(s)

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The Program Development Objective is to enhance farmer access and improve service delivery of the PMFBY crop insurance scheme in select states in India.

D. Environmental and Social Effects

13. **Environment:** The PMFBY, on its own, does not have any direct adverse environmental impacts or risks. Crop insurance, when done timely and efficiently could act as a safety net for farmers and help reduce their vulnerability to climate change impacts. That said, the issue of notifying crops for mandatory insurance when a crop loan is taken from a formal credit institution as well as capping of farmer premiums for notified crops may be limiting crop diversification. The Program will encourage implementation of PMFBY as part of an integrated agricultural package to increase its uptake and to work towards realizing other objectives of PMFBY. The Program’s focus on promoting technology, improve crop yield assessment and building institutional capacity for PMFBY implementation will help improve its environmental alignment.

14. **Social:** The Program envisages bringing within its scope farmer groups previously under-included by PMFBY. These groups include small and marginal farmers, non-loanees (viz. who often access informal, non-institutional credit) as well as women. In order to enhance inclusion, the Program proposes studies and development of strategic plans to evolve criteria for accessing insurance that better align with specific requirements of under-included groups. It also proposes a comprehensive communication assessment to inform design of an awareness campaign, including Behavior Change Communication for all stakeholders. It is proposed that the campaign design would consider a range of communication channels and messages for dissemination at periodic intervals to raise awareness on PMFBY. Through Program interventions, the agricultural community including marginalized ones are expected to incrementally enhance resilience to agro-climatic risks and consequent vulnerabilities.

E. Financing

Program Financing

Sources	Amount (USD Million)	% of Total
Counterpart Funding		50.00
Borrowing Agency	201	50.00
International Bank for Reconstruction and Development (IBRD)	201	50.00
Total Program Financing	402	



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