Validation Report
June 2020

India: Agribusiness Infrastructure Development Investment Program

Reference Number: PVR-686
Project Numbers: 37091-013, 37091-022,
and 37091-023
MFF Number: 0045
Loan Numbers: 2669 and 2837

Independent Evaluation ADB

Raising development impact through evaluation

ABBREVIATIONS

ADB	–	Asian Development Bank
DCMT	–	Department of Co-operation, Marketing and Textile
DMF	–	design and monitoring framework
DOA	–	Department of Agriculture
FCR	–	facility completion report
FPC	–	farmer producer company
IVC	–	integrated value chain
MFF	–	multitranche finance facility
MSAMB	–	Maharashtra State Agricultural Marketing Board
PCR	–	project completion report
PMU	–	project management unit
PPP	–	public–private partnership
RRP	–	report and recommendation of the President
TAG	–	transaction advisory group

NOTE

In this report, "$" refers to United States dollars.

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PROJECT BASIC DATA

Project number	37091-013, 37091-022, and 37091-023	**PCR Circulation Date**	14 October 2019	
Loan numbers	2669 and 2837	**PCR Validation Date**	Jun 2020	
Project name	MFF: Agribusiness Infrastructure Development Investment Program			
Sector and subsector	Agriculture, natural resources, and rural development	Agro-industry, marketing, and trade		
Strategic agenda	Inclusive economic growth			
Safeguard categories	Environment		B	
	Involuntary resettlement		C	
	Indigenous peoples		C	
Country	India		**Approved** ($ million)	**Actual** ($ million)
ADB financing ($ million)	**ADF:** 0.00	**Total project costs** (Facility)	**212.20** [a]	**0.89**
	OCR: 170.00 (MFF) 67.60 (L2669 or T1) 23.40 (L2837 or T2)	**Loan** T1 and T2 T1 T2	 **170.00** 67.60 23.40	 **0.52** 0.00 0.52
		Borrower T1 and &T2 T1 T2	 **42.20** 17.18 6.00	 **0.36** 0.00 0.36
		Beneficiaries	0.00	0.00
		Others	0.00	0.00
Cofinancier	-	**Total cofinancing**	0.00	0.00
Approval date Facility T1 T2	 16 Sep 2010 24 Sep 2010 19 Dec 2011	**Effectiveness date** T1 T2	 7 Oct 2012 17 Apr 2012	 30 Aug 2012 9 Apr 2012
Financing agreement date Facility T1 T2	 18 Aug 2010 9 Jul 2012 18 Jan 2012	**Closing date** Facility T1 T2	 31 Dec 2017[b] 30 Jun 2018 31 Dec 2015	 12 Aug 2016 12 Aug 2016 31 Mar 2016
Project officers		**Location**	**From**	**To**
	M. Mongiorgi-Lorenzo	ADB headquarters	Sep 2010	Dec 2011
	A. Tayyab	INRM	Dec 2011	Jul 2012
		INRM	Feb 2013	Apr 2013
		ADB headquarters	Aug 2016	Aug 2017
	Y. Shiroishi	INRM	Jul 2012	Aug 2012
	H. Varma	INRM	Sep 2012	Jan 2013
	H. Woldring	ADB headquarters	Apr 2013	Oct 2013
	R. Khan	ADB headquarters	Oct 2013	Dec 2014
	Paolo Spantigati	ADB headquarters	Dec 2014	Aug 2016
	R. Jones	ADB headquarters	Aug 2017	Apr 2018
	S. Sunayama	ADB headquarters	May 2018	Oct 2019
IED review **Director** **Team leader**	 N. Subramaniam, IESP F. De Guzman, Senior Evaluation Officer, IESP*			

ADB = Asian Development Bank, ADF = Asian Development Fund, IED = Independent Evaluation Department, IESP = Sector and Project Division, INRM = India Resident Mission, MFF = multitranche financing facility, OCR = ordinary capital resources, PCR = project completion report, T1 = tranche 1, T2 = tranche 2.
[a] The MFF was to consist of at least four tranches, subject to the submission of government's periodic financing requests. ADB. 2019. *Completion Report: Agribusiness Infrastructure Development Investment Program in India*. Manila.
[b] This is the estimated completion date in Table 3. (ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Agribusiness Infrastructure Development Investment Program*. Manila.
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I. PROJECT DESCRIPTION

A. Rationale

1. The agriculture sector is of strategic importance to India's economy. It represented 17.5% of national domestic product in 2015. The sector was also the main source of income and livelihood for more than 53% of the population living in rural areas in 2010. The increased demand for higher value agricultural products in the last decade created an opportunity for the sector to grow while increasing farm income in rural areas. However, this potential growth did not materialize due to a number of factors, such as (i) outdated technologies and management at the farm level, (ii) limited availability of infrastructure connectivity, (iii) limited capacity and inefficient management of marketing infrastructure, and (iv) weak links among traders and/or processors and farmers. The Government of India recognized the need for private sector investment to improve the performance of the agriculture sector. To encourage private investment, the government established a policy framework to promote public–private partnerships (PPPs) where public capital grants were to be provided to private investors in agribusiness infrastructure.

2. The Asian Development Bank (ADB) approved the Agribusiness Infrastructure Development Investment Program in September 2010.[1] The program was designed as a multitranche financing facility (MFF) to invest in physical and institutional links along horticultural value chains by (i) supporting site development and agribusiness infrastructure (such as storage facilities, cold chains, and product grading); (ii) linking infrastructure to ensure connectivity (such as roads from production areas to collection points); (iii) providing backward linkages to the production areas through contract farming and producer companies; and (iv) building capacities to strengthen technical and managerial skills along the value chain. The program was to cover selected regions in the states of Bihar and Maharashtra. The MFF was envisaged to have four tranches. Tranche 1 was to establish two integrated value chains (IVC) that will involve agribusiness facilities, post-handling systems, and other ancillary infrastructure for horticulture products in the regions of Muzaffarpur and Patna–Nalanda in the State of Bihar. Tranche 2 was approved in December 2011 to expand agriculture value chains in the regions of Nashik and Aurangabad–Amravati in the State of Maharashtra.[2] There were no subsequent tranches approved after tranche 2.

3. The use of the MFF modality was justified based on the strategic sector road map to create the right conditions for a long-term agribusiness sector partnership with ADB. The Eleventh Five Year Plan of India[3] envisaged countrywide investments in infrastructure, with the private

[1] ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Agribusiness Infrastructure Development Investment Program*. Manila.
[2] ADB. 2011. *Periodic Financing Request: Proposed Tranche 2 of the Agribusiness Infrastructure Development Investment Program*. Manila.
[3] Government of India. 2006. *Eleventh Five Year Plan (2007–2012)*. New Delhi.

sector providing 30% through PPPs.[4] In addition, the two states had sector investment plans, focusing on agribusiness infrastructure. The State of Bihar had a plan to build marketing networks, with an estimated total investment of $422 million from 2010 to 2015.[5] The State of Maharashtra had a strategy to increase investment in modern processing infrastructure with an estimated total investment of $592 from 2010 to 2015.[6] The MFF modality was to allow flexibility in making investment decisions according to what the regions and value chains in the states required within the sector strategies.

4. ADB prepared two completion reports, a project completion report (PCR) for tranche 2 in 2017[7] and a facility completion report (FCR) in 2019.[8] This validation pertains to the FCR. Tranche 2 PCR was validated in 2018.[9]

B. Expected Impact, Outcome, and Outputs

5. At appraisal, the design and monitoring framework (DMF) for the MFF indicated that the project's expected impact was greater value of horticulture products captured by the stakeholders of the IVC in selected regions of Bihar and Maharashtra. The expected outcome was both private and public sectors investing in and the private sector managing at least eight IVCs for horticultural high-value chain, which are inclusive of small-scale farmers. The expected project outputs were (i) an IVC infrastructure set up and functional, (ii) IVC stakeholders effectively participating and properly managing the IVC, and (iii) state governments efficiently performing their regulatory and oversight functions in the IVCs and PPP contracts.

6. Similarly, in the DMF for tranche 1, the expected impact was to have the greater value of horticulture products captured by the stakeholders of two IVCs in Muzaffarpur and Patna–Nalanda regions of Bihar.[10] The intended outcome was both private and public sectors investing in and the private sector managing two end-to-end IVCs for a horticultural high-value chain, which are inclusive of small-scale farmers. The expected project outputs were (i) IVC infrastructure in Muzaffarpur and Patna–Nalanda set up and functional, (ii) IVC stakeholders effectively participating and properly managing the IVCs, and (iii) state governments efficiently performing their regulatory and oversight functions in the IVCs and PPP contracts.

7. The expected impact of tranche 2 was increased private sector investment in IVC infrastructure and greater producer returns in high-value crops in Maharashtra. The intended outcome was expanded agricultural value chains and better integration of small-scale farmers into IVCs in the Nashik and Aurangabad–Amravati regions. The expected project outputs were

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[4] Agriculture was not a focus sector. However, private investments in marketing infrastructure, logistics, food processing plants, and markets were contemplated.
[5] It was expected that the private sector would invest $2.5 for each $1.0 of public sector investment.
[6] Public investment was planned to reach 20% of the estimated needs.
[7] ADB. 2017. *Project Completion Report: Agribusiness Infrastructure Development Investment Program in India–Tranche 2*. Manila.
[8] ADB. 2019. *Completion Report: Agribusiness Infrastructure Development Investment Program in India—MFF.* Manila. This FCR was not prepared together with the tranche 2 PCR as during that time, the possibility of a third tranche was still under discussion. As ADB canceled tranche 1 without disbursement and tranche 3 did not materialize, the FCR was prepared without an accompanying PCR.
[9] Independent Evaluation Department. 2018. *Validation Report: Agribusiness Infrastructure Development Investment Program in India (Tranche 2)*. Manila: ADB.
[10] This is included in the framework financing agreement of August 2010.

(i) IVC infrastructure in Nashik and Aurangabad–Amravati regions set up and functional, (ii) IVC stakeholders effectively participating and managing IVCs, and (iii) project management support strengthened.

C. Provision of Inputs

8. The MFF financing agreement was approved in August 2010 and was to be completed by June 2018. However, the investment implementation period expired as there was no physical progress in tranches 1 and 2, and no further tranche was approved.

9. Tranche 1 was approved by ADB in September 2010. The State Cabinet of Bihar delayed the approval of the financing agreement, triggering a 6-month extension in the MFF approval validity period—from September 2011 to March 2012.[11] The loan agreement was subsequently signed in July 2012 (19 months after loan approval) and declared effective in August 2012. The delay was mainly due to Bihar government's request to amend the original PPP model for the IVCs.[12] The contract with the transaction advisory group (TAG) consultants was signed after almost 2.5 years and no implementation progress occurred and the PPPs were not awarded as the PPP arrangement had yet to be established. The main reasons were the (i) high staff turnover in the executing agency, and (ii) lack of private sector interest in entering a concession that was perceived to have high commercial risks. The project was canceled in August 2016—almost 2 years earlier than its expected closing at approval.[13]

10. Tranche 2 was approved by ADB in December 2011. It became effective in April 2012 and was expected to be completed by December 2015. It took 17 months to prepare and finalize the design and the conditions of the bidding documents as ADB had no previous experience in this type of procurement process. Another 15 months were used to clarify documentation and eligibility requirements with prospective investors. However, after a lengthy procurement process with two rounds of bidding, the selection of a concessionaire did not proceed. There were no bids received in the first round while the two proposals received in the second round were declared nonresponsive to the bidding documents.

11. At appraisal, the total project cost of the MFF was $212.2 million. ADB planned to finance $170.0 million from ordinary capital resources. The MFF was planned to have at least four tranches. However, the government only submitted two periodic finance requests, for a total of $91.9 million. ADB approved the partial cancellation of $45.6 million based on changes in project conditions. Total disbursements under the facility was $0.5 million or 0.2% of the original amount due to lack of physical progress.

12. The total cost of tranche 1 at appraisal was estimated at $84.8 million, comprising an ADB loan of $67.6 million and government counterpart funds of $17.2 million. The project cost at appraisal was based on a capital grant to private investors of 70%. The grant would cover investment costs associated with agribusiness infrastructure on government land sites.

[11] The ADB approved a major change in the implementation arrangements on 28 September 2011, extending the validity period of the MFF by 6 months and making it effective on 18 January 2012. ADB. 2011. *Major Change in Implementation Arrangements: Agribusiness Infrastructure Development Investment Program in India*. Manila.

[12] The State Government Bihar requested ADB to amend the PPP arrangements, as follows: (i) reduce the maximum capital grant provided by the public sector to private sector concessionaires from 70% to 35% of the cost of the IVC infrastructure, (ii) remove the requirement for the private sector concessionaire to share 30% of the IVC gross revenue with the state government, and (iii) shift the obligation for land provision from the public sector to the concessionaire.

[13] ADB. 2017. *Loan Cancellation: Agribusiness Infrastructure Development Investment Program–Tranche 1*. Manila.

Investors were to (i) design, build, operate, and maintain the infrastructure; (ii) collect revenues from it; and (iii) pay land rents to the government. They were to be selected through a competitive bid process.[14] The capital grant was reduced to 35% in the final design of the bidding arrangements, reducing the financing needs of the government for this project. To accommodate this, ADB approved a partial cancellation of $32.5 million, at the request of the government in May 2014. There was no actual progress as awards were not made. Tranche 1 was subsequently closed in August 2016 with zero disbursement.

13. The total cost of tranche 2 at appraisal was estimated at $30.3 million, comprising an ADB loan of $24.3 million and government counterpart funds of $6.0 million. The actual project cost was $0.9 million or 2.9% of the estimate at appraisal (footnote 8). ADB financing amounted to just $0.5 million (59.6% of actual project cost) while government financing was $0.4 million (40.4% of actual project cost), which covered the contract of the transaction advisory consultant. ADB approved a partial cancellation of $13.1 million, at the request of the government in January 2014, based on the reduction of capital grant coverage from 70% to 40% of total investment. ADB canceled a further $10.7 million at loan closure in March 2016 as no withdrawals were made for the concessionaire equity. This tranche failed to attract private investors in agribusiness infrastructure.

14. Consulting services were planned and provided for the preparation and implementation of the investment program. For tranche 1, $3.7 million were originally allocated to cover two packages for a total of 290 person-months, and 24 person-months were allocated for safeguard and project monitoring and evaluation experts. A TAG consulting firm was recruited in February 2015, which was to provide 117 person-months of inputs to support the executing agency in structuring the bidding process for the PPP model. For tranche 2, consulting services of $0.9 million were allocated to cover the cost of the following three packages: (i) a technical advisor team (10 person-months); (ii) a market and value chain design team, and PPP and project management unit (PMU) implementation support teams (62 person-months); and (iii) a procurement specialist (15 person-months of national consultants). The FCR indicated that two of the consulting service packages were financed under tranche 2 (footnote 8). The first package provided 10.7 person-months and the second provided 30.5 person-months of inputs. The FCR did not provide the total number of person-months used at MFF closing.

15. The MFF and all its tranches were classified category B for environment and category C for involuntary resettlement and indigenous peoples. The initial environmental examination and environmental management plan, resettlement framework, and indigenous peoples planning framework were prepared during respective project loan processing. Since there was no physical progress on project investments, safeguard implementation and monitoring were not conducted. The gender action plans were not prepared as these were contingent on the engagement of the PPP concessionaires.

16. This investment program did not have an attached technical assistance to support its implementation. An associated grant from the Japan Fund for Poverty Reduction was approved in July 2010 and became effective in November 2011.[15] This grant of $3 million for Improving Small Farmers' Access to Market in Bihar and Maharashtra was equally allocated to each state at approval. Due to the lack of implementation progress in Bihar and the significant achievement

[14] ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Agribusiness Infrastructure Development Investment Program*. Facility Administration Manual (accessible from the list of linked documents in Appendix 2). Manila.

[15] ADB. 2010. *Grant Assistance Report: Proposed Administration of Grant to India for Improving Small Farmers' Access to Market in Bihar and Maharashtra*. Manila.

made in Maharashtra, the allocation was revised to $2.4 million for Maharashtra and $0.6 million for Bihar. Given the slow progress, the original closing date of June 2014 was extended until December 2018, when the grant was physically closed. On 14 November 2018, ADB canceled $0.6 million out of the total grant following discussions with both executing agencies that only $1.8 million will be utilized by Maharashtra and $0.6 million by Bihar. Of the remaining $2.4 million, the actual total disbursement was $2.3 million. ADB canceled the unutilized balance of $0.1 million at financial closing in April 2019.

D. Implementation Arrangements

17. The implementation arrangements were generally carried out as planned for the MFF and its tranches. For each tranche, PMUs were to be established as implementing agencies under the respective executing agencies. In Bihar, the Bihar Department of Agriculture (DOA) served as both the executing and implementing agency. In Maharashtra, the executing agency was the Maharashtra Department of Co-operation, Marketing and Textiles (DCMT), and the implementing agency was the Maharashtra State Agricultural Marketing Board (MSAMB). The PMUs in both states, assisted by TAG consultants, were to select the concessionaires for the development of IVCs. In Maharashtra, the state-level committee—Empowered Committee on Agricultural Marketing—was established in December 2010 to oversee the decisions on procurement activities. In Bihar, a state-level oversight committee was not established.

18. Gaps in the value chain were identified during project preparation stage, which formed the basis of the investment project design. Stakeholder consultations were held, and results were used as the basis for preparing (i) the project components for selected IVCs, and (ii) the investments to be funded under each tranche of the MFF. The associated grant (footnote 15) was to contribute in establishing IVC backward links with producers in both states. However, given the program's nonperformance, the grant's achievements had a limited contribution.[16]

19. The FCR assessed the status of compliance with the loan covenants for each tranche of the program. For tranche 1, 10 out of 31 covenants were complied with. Covenants for the setting up of the PMU were complied with, including ADB's prior review of consultant recruitment and procurement documents. The remaining covenants were not complied with as these related to project implementation and achievements. Tranche 2 had a similar situation. Of the 24 covenants, 19 were complied with in a timely manner. The remaining five were not due until actual progress was made on the PPP arrangements and other project physical activities.[17]

[16] The FCR reported the following key achievements in Bihar: (i) 27 farmer groups and two farmer producer companies (FPCs) were formed, and (ii) a potato grader and a honey primary processing unit were purchased for the FPCs. In Maharashtra, the following were achieved: (i) founding of 18 FPCs, comprising 3,682 members from 1,404 farmer groups of 22,417 members; (ii) implementation of the revolving fund schemes by 15 of the FPCs; (iii) establishment of 13 FPCs' direct market linkages with bulk buyers in distant markets; and (iv) launch of the FPC portal to facilitate farmer−buyer direct linkages.

[17] The following covenants were not due until the PPP concessionaires and civil works commenced: (i) ensure that the preparation, design, construction, implementation, commissioning, and decommissioning of project facilities comply with environmental and safety requirements; (ii) ensure that land is available to the concessionaires for facilities to be constructed; (iii) conduct of safeguards monitoring and reporting; (iv) ensure that the works contracts comply with applicable labor laws; and (v) ensure that the gender action plan is implemented and incorporated in key documents and activities.

II. EVALUATION OF PERFORMANCE AND RATINGS

A. Relevance of Design and Formulation

20. The PCR rated the program less than relevant. It was aligned with the government's and ADB strategies and plans. However, the poor program design jeopardized the achievement of intended outcomes. At appraisal, the program was consistent with ADB's India Country Partnership Strategy, 2009–2012,[18] which placed a high priority on agriculture and emphasized private sector participation in infrastructure development, including through PPPs. The program was also in line with the Government of India's agriculture strategy as reflected in the Eleventh Five Year Plan (footnote 3). At closing, the program was still aligned with ADB's country partnership strategy for 2013–2017[19] through the pillar of inclusive provision of infrastructure, and with ADB's operational plan for agriculture through the priority of improved market connectivity and value chain linkages.[20] It was also aligned with the government's agricultural strategy in the Twelfth Five Year Plan, 2012–2017[21] through the targets of improving market linkages and encouraging private sector investment.

21. The FCR indicated the program's design weaknesses that led to implementation problems in both tranches, and ultimately the cancellation of tranche 1, and the closing of tranche 2 and the program, with almost no physical progress. The core of the program was to invest in agribusiness infrastructure and associated linking infrastructure. At appraisal, it was planned that infrastructure were to be developed through a PPP modality in each state. A competitive bidding process was to be used to select private concessionaires that were to design, build, finance, operate, and maintain infrastructure on predetermined government land sites. In Bihar, the successful concessionaires were to share 30% of the gross revenue with the state government after 3 years. They were also to retain the rights over the remaining revenues generated by each IVC for 20 years, and pay land rents to the government.[22] In Maharashtra, the concessionaire was to retain all revenues generated. To attract private sector investors, the state governments offered the successful bidders a capital grant of a maximum of 70% in Bihar and 40% in Maharashtra of their total investment cost.

22. For tranche 1, further modifications to the PPP framework were requested by the State Government of Bihar prior to implementation. These changes included (i) reducing the maximum capital grant from 70% to 35% of the cost of the IVC infrastructure, (ii) removing the requirement for the private sector concessionaire to share 30% of the IVC gross revenue with the state government, and (iii) shifting the obligation for land provision from the public sector to the concessionaire. Despite these changes, the project was unable to award PPP contracts. As stated in the FCR, the private sector found the PPP framework to have high commercial risks (footnote 8, para. 7).

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[18] ADB. 2009. *Country Partnership Strategy: India, 2009–2012. Abridged Version.* Manila.
[19] ADB. 2013. *Country Partnership Strategy: India, 2013–2017*. Manila.
[20] ADB. 2015. *Operational Plan for Agriculture and Natural Resources: Promoting Sustainable Food Security in Asia and the Pacific in 2015–2020*. Manila.
[21] Government of India, Planning Commission. 2012. *Twelfth Five Year Plan (2012–2017): Faster, More Inclusive and Sustainable Growth*. New Delhi.
[22] The public sector was to provide land under a 20-year lease, with leasing costs based on the rent prescribed in accordance with prevailing state government rates. Lease rent was to be reviewed every 5 years, and the lease agreement was to be terminated or renewed at the end of 20 years.

23. For tranche 2, two rounds of bidding were conducted with extensive rounds of consultations. Despite these, little private sector interest was generated and no award was made. The PCR compiled the main reasons cited by private agribusiness investors for their lack of interest in the PPP framework. These included (i) preference was for individual locations and specialized segments of the value chain rather than the preselected IVCs on a varied number of locations; (ii) the use of public land was seen to have a political risk, and there is the possibility of losing business after the termination of the concession; and (iii) lease rentals were deemed too high, impacting financial feasibility. Eventually, no contract was awarded.[23]

24. The FCR indicated that MSAMB proposed to ADB to prepare a third tranche under the MFF, but the implementation mechanism would change from a PPP through competitive bidding to an investment promotion scheme focused on post-harvest infrastructure. However, given the limited remaining period of the MFF, it was jointly agreed not to process any additional tranche.

25. This validation assesses the program and its tranches less than relevant. The program design was based on limited market assessment and experience. The PPP model for agribusiness infrastructure was novel, both for ADB and the states. However, the initial IVC assessment proved to be ineffective in understanding the demands of the market. Little information was collected on existing agribusiness companies (their market size, financial capacity, existing infrastructure facilities, etc.) that are potentially interested in bidding. In fact, during project appraisal, financial analysis was conducted to understand the implications of IVC's bid parameters without any information on the types of potential bidders.[24] This validation considers that these deficiencies could have been foreseen. Due to these inadequacies, the details of the bid process had to be redesigned during implementation. The PPP designs were slightly modified. However, these still failed to attract private investors. This proved once again that the whole program design (with the use of the PPP modality) was not appropriate to deliver the intended outcomes. The use of the MFF is also questionable as neither ADB nor the country had experience with PPPs for agribusiness infrastructure. Also, there was no detailed assessment and strategy for increasing private sector investment in infrastructure. A pilot project with the possibility to scale up would have been more appropriate to manage the risks from limited information and experience.

B. Effectiveness in Achieving Project Outcome and Outputs

26. The FCR rated the program ineffective for not achieving the following outcome indicator targets: (i) at least 25% of the additionally marketed high-value crops go outside the traditional market system, (ii) 75% of producers' groups facilitated by the investment program have a supply contract with the IVCs, and (iii) increased rural employment beyond the farm gate by 0.7 million days per IVC. Similarly, no outcome was achieved for tranches 1 and 2. As there was no physical progress in implementation, data on the values of the target indicators were not

[23] The PCR further stated that the conditions for developing IVCs was reassessed by ADB consultants in November 2015. The following weaknesses were identified: (i) limited support to backward (producers) and forward (wholesalers) linkages increased the commercial risks of operating the planned infrastructure; and (ii) support was not envisioned for the cost of operation and maintenance during the first years of operating the facilities, while demand was expected to build up.

[24] The financial analysis of the report and recommendation of the President (RRP) acknowledged that there is no a priori knowledge of the successful entities and, thus, the financial models required for evaluation are not possible. ADB. 2010. *Report and Recommendation of the President to the Board of Directors: Proposed Multitranche Financing Facility to India for the Agribusiness Infrastructure Development Investment Program*. Manila. See Financial Analysis, para. 4.

available at project closing.[25] The FCR presented more information on program achievement and tranche outputs in the appendix. For tranche 1, none of the performance targets were achieved. For tranche 2, the first two outputs on building and operating a value chain infrastructure, and stakeholder participation and management of IVCs were not achieved. Two of the three indicator targets, associated with the third output of having a strengthened project management, were achieved.[26]

27. The program and tranches were category B for environment and category C for involuntary resettlement and indigenous peoples. An initial environmental examination, a resettlement framework, and an indigenous peoples' framework were prepared to guide concessionaires in planning the PPPs. Since there was no progress on implementation, no safeguard concerns or measures were implemented and monitored. This validation assesses the program and its tranches ineffective since none of the outcomes and key outputs, as defined in the DMF, were achieved.

C. Efficiency of Resource Use

28. The FCR rated the program inefficient based on the following: (i) no economic benefits were generated as the outputs and outcome were not achieved, and (ii) process efficiency was poor given a disbursement of only 0.2% of the funds. The FCR documented process inefficiencies in the implementation of the tranches. Tranche 1 experienced major delays in implementation. Loan approval was delayed by 19 months and it took 2.5 years to sign the contract with the TAG consultants. For tranche 2, except for the timely establishment of the PMU, the entire implementation period was consumed in the procurement process without concessionaires selected for the IVCs. This validation assesses the program and its tranches inefficient.

D. Preliminary Assessment of Sustainability

29. The FCR rated the program unlikely sustainable as there were no major outputs or outcomes to sustain. This validation assesses the program and its tranches unlikely sustainable. The fact that there was no PPP contract awardee suggests that the program and its tranches were not financially viable nor sustainable. No further assessment can be made for environmental and social sustainability since no concession was subscribed.

III. OTHER PERFORMANCE ASSESSMENTS

A. Preliminary Assessment of Development Impact

30. The FCR rated the program's development impact unsatisfactory. As the outcomes and outputs were not achieved, the program achievements in terms of poverty, economic impacts, or private sector investment in the agribusiness value chain that can be attributed to the project cannot be identified. However, it is emphasized that in Maharashtra, the state government's knowledge of agribusiness and PPPs was enhanced. Awareness was also raised in the private sector on the available investment options in agriculture value chains through road shows and consultations.

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[25] Baseline data was not collected during RRP approval and it was not yet available at project closing.

[26] The first indicator was "Technical Advisory Group for the project management unit formed within 6 months from project effectiveness." The second indicator was "project management unit officials trained on the job in managing a transparent bidding process, awarding a contract in agribusiness infrastructure by the end of 2012."

31. This validation assesses the development impact of the program and its tranches unsatisfactory. The expected impact of the MFF could not be achieved as intended outcomes and outputs were not achieved. The FCR did not present any data on the impact indicators[27] as there was no private sector investment in the value chains in the regions of Bihar and Maharashtra. Increased awareness on agribusiness infrastructure needs and options to invest was achieved. However, these are minor achievements when compared to the expected impacts of the investment program.

B. Performance of the Borrower and Executing Agency

32. As a whole, the FCR rated the performance of the borrower, the Department of Economic Affairs of the Government of India, and the executing agencies—the DOA in Bihar for tranche 1, and the MSAMB and DCMT in Maharashtra for tranche 2—less than satisfactory. Both the borrower and executing agencies did not anticipate the weaknesses of the rigid PPP model and have proven their limited understanding of private sector needs at project design stage. The FCR emphasized that the Department of Economic Affairs played a central role in the design of the investment program, particularly in recommending the PPP approach for agribusiness development, and followed up with the executing agencies on several occasions to expedite implementation progress. Its performance was rated less than satisfactory. The State Government of Bihar did not show high-level commitment. The DOA had high staff turnover and a dedicated PMU was not established, resulting in large implementation delays in tranche 1 that led to loan cancellation.[28] The DOA's performance was rated unsatisfactory. On the other hand, the DCMT and MSAMB demonstrated commitment to implement the project by forming the PMU, contracting the TAGs, and undertaking several rounds of consultations with the private sector to amend the PPP framework. The results were not achieved, and the loan was closed. However, the agencies still showed interest in developing a viable model to foster private sector investments in the agriculture value chain. The performance of these two executing agencies in Maharashtra was rated less than satisfactory.

33. This validation assesses the performance of the borrower and executing agencies less than satisfactory. All the agencies had no previous experience with PPP for agribusiness infrastructure. Their limited understanding of private agribusiness sector needs contributed to program design weaknesses that could have been prevented with additional assessments. Consequently, a large part of project implementation time was used to acquire information on private sector needs to adapt the PPP arrangements. Despite efforts to restructure the PPP arrangements, no contract was awarded and there was a failure in attracting private sector investment in the proposed IVCs. As documented in the FCR, Maharashtra's executing agencies had stronger commitment to the program than in Bihar.

C. Performance of the Asian Development Bank

34. The FCR rated the performance of ADB less than satisfactory based on its deficiencies during project design and contribution to implementation delays. ADB had no previous experience with PPPs for agribusiness and was not able to properly anticipate the possible problems in

[27] The indicators were (i) increased investments to diversify into high-value crops by 10%, (ii) increased value addition in horticultural HVC from 2% to 4%, (iii) 40% of IVC throughput supplied by farmers through direct contracting with the IVC, and iv) increased per capita incomes by at least 5% for IVC suppliers.

[28] DOA initiated the TAG recruitment in July 2013 but the TAG contract was only signed on 5 February 2015. The consultants adapted the PPP framework based on consultations with the private sector and potential investors. However, the State Government of Bihar did not make a timely decision on the proposed PPP modality to continue with the procurement process.

implementing an investment program using the PPP approach. It failed to collect and analyze critical information on the characteristics and interests of potential bidders during project appraisal and had chosen the PPP modality that was inappropriate for the market. ADB was not prepared to advise the executing agencies on the bidding documents and in the selection of concessionaires. Technical advisory consultants were engaged during most of the program's implementation period to reassess private sector interest and to adapt and streamline the implementation of the PPP framework, but without much success. ADB also provided project administration support, fielding 10 missions for a total of 85 person-days. However, there was a high turnover of officers responsible for administering the program and its tranches. From the time of the facility's effectiveness to actual closure, there were nine project officers, with some officers taking charge for not more than 3–6 months.

35. This validation finds ADB performance less than satisfactory. ADB underestimated the risks associated with a novel agribusiness infrastructure investment program to be delivered through PPPs. Additional private sector assessments, financial analysis, and consultations could have been undertaken at appraisal to better inform project design. Program implementation time was used to try to correct fundamental design weaknesses based on further assessments and consultations, but these were ineffective.

D. Others

36. The program financed three consulting services packages. Tranche 1 had one consulting package that was procured starting July 2013 and its TAG contract signed in February 2015. The consultants were to engage with the private sector and potential investors to adapt the proposed procurement strategy. The FCR did not rate the performance of their work. Tranche 2 had two consulting packages, as follows: (i) TAG 1—for supporting the bidding process for IVCs in Nashik and Aurangabad–Amravati, which was mobilized in February 2012; and (ii) TAG 2—for preparing the detailed project reports for additional four IVCs envisaged under the project, mobilized in September 2012. The performance of the consultants was not rated by the FCR.

IV. OVERALL ASSESSMENT, LESSONS, AND RECOMMENDATIONS

A. Overall Assessment and Ratings

37. Overall, the FCR rated the program and tranches unsuccessful. This validation also assesses the whole program and its tranches unsuccessful. The program and tranches were consistent with the priorities of India and ADB for the agriculture sector. However, this validation assesses these less than relevant primarily due to the major design flaws. In particular, the use of the PPP modality did not match the demands of private agribusiness investors. The program and its tranches were not implemented as designed, no PPP contract was awarded, disbursements were minimal, and few of the targets in the DMF were met. Based on these, this validation assesses the program and its tranches ineffective, inefficient, and unlikely sustainable.

Overall Ratings

Validation Criteria	PCR	IED Review	Reason for Disagreement and/or Comments
Relevance			
L2669	Not rated	Less than relevant	
L2837	Less than relevant	Less than relevant	

Validation Criteria	PCR	IED Review	Reason for Disagreement and/or Comments
MFF 0045	Less than relevant	Less than relevant	
Effectiveness L2669 L2837 MFF 0045	 Not rated Ineffective Ineffective	 Ineffective Ineffective Ineffective	
Efficiency L2669 L2837 MFF 0045	 Not rated Inefficient Inefficient	 Inefficient Inefficient Inefficient	
Sustainability L2669 L2837 MFF 0045	 Not rated Unlikely sustainable Unlikely sustainable	 Unlikely sustainable Unlikely sustainable Unlikely sustainable	
Overall Assessment L2669 L2837 MFF 0045	 Not rated **Unsuccessful** **Unsuccessful**	 **Unsuccessful** **Unsuccessful** **Unsuccessful**	
Preliminary assessment of impact L2669 L2837 MFF 0045	 Not rated Not rated Unsatisfactory	 Unsatisfactory Unsatisfactory Unsatisfactory	
Performance of borrower and executing agencies L2669 L2837 MFF 0045	 Not rated Satisfactory Less than satisfactory	 Less than satisfactory Less than satisfactory Less than satisfactory	This validation assesses the performance of the executing agency in Bihar (tranche 1) unsatisfactory.
Performance of ADB L2669 L2837 MFF 0045	 Not rated Less than satisfactory Less than satisfactory	 Less than satisfactory Less than satisfactory Less than satisfactory	
Quality of PCR		Satisfactory	Para. 42.

ADB = Asian Development Bank, IED = Independent Evaluation Department, PCR = project completion report.
Source: ADB (IED).

B. Lessons

38. The PCR identified several valuable lessons from this program, as follows:

- **Sector level—**(i) The limited experience on PPP arrangements for large agribusiness projects implies that pilot testing before scaling up is a better way to manage risks. (ii) When designing agribusiness infrastructure interventions, it is important to understand the size, capacity, and business models of existing business. (iii) Private agribusinesses are specialized in different segments of the value chain and do not have interest and capacity to invest in infrastructure beyond their segment.

- **Project level—**(i) Investment proposals should be informed by procedures and mechanisms that are proven to be workable, either through experience in the borrowing country, ADB's experience in other countries, or international best practice. (ii) For projects with private sector participation, involvement, or partnerships, it is important to use more flexible project designs and involve the private sector in the

process to adequately incorporate their needs and interests. (iii) For projects that entail an element of private sector involvement, their preparation should include in-house coordination with ADB's Private Sector Operations Department and the Office of Public−Private Partnership. (iv) Consider the Japan Fund for Poverty Reduction implementation, which highlights the importance of the linkages, starting from integrating farmer producers to providing access to working capital finance.

39. This validation has a similar view on the FCR's lessons and adds the following:

- **Sector level—**(i) It is important to understand and compare existing mechanisms and designs to promote investments in agribusiness infrastructure. Aside from capital grants and PPPs, there are other possibilities, such as financing.[29] (ii) Engaging farmers to improve coordination, productivity, and the quality of agricultural products contributes to reducing commercial risks of agribusiness investors.

- **Project level—**(i) Program implementation risks can be reduced through a more detailed private sector assessment at project design. (ii) When innovative mechanisms such as PPP are to be used, it is critical to build capacity in the implementing agencies and to provide adequate and timely technical support.

C. Recommendations for Follow-Up

40. This validation builds on the FCR's recommendations and suggests that ADB should continue to engage with the State Government of Maharashtra and stakeholders to capitalize on the accumulated experience. Future opportunities can be identified to support value chain development—through support to agribusinesses and farmer producer organizations. Synergies with the agribusiness unit of the Private Sector Operations Department should also be exploited. This will leverage the existing knowledge and private sector contacts generated within this operation and the department's experience in financing agribusiness investments in other countries.[30]

V. OTHER CONSIDERATIONS AND FOLLOW-UP

A. Monitoring and Reporting

41. The FCR did not assess the DMF of the program and its tranches. This validation finds that some of the indicators and data proposed in the DMF at project design could have been more accurate,[31] measurable, time-bound, and consistent with the project logical framework. Several of the output indicators related to IVC infrastructure represented outcomes[32] and were even redundant given the impact indicators.[33] Several of the indicators did not have

[29] ADB. 2017. *Report and Recommendation of the President to the Board of Directors: Proposed Loan and Technical Assistance Grant to the People's Republic of China: Shanxi Inclusive Agricultural Value Chain Development Project.* Manila.

[30] Independent Evaluation Department. 2018. *Sector-wide Evaluation: ADB Support to Agriculture, Natural Resources, and Rural Development*. Manila: ADB.

[31] An example is the additionally marketed HVCs that go outside the traditional marketing system.

[32] Some examples are the post-harvest losses reduction, throughput marketed through the IVC infrastructure, farm gate prices or price premiums, and additional value added captured within IVC.

[33] Output indicator on additional value added captured within IVC is similar to the indicator on increased value addition in horticultural HVC. The same view is made on the indicators on the quantity produced by IVC suppliers and IVC throughput supplied by farmers.

baseline data, which suggests that the assessment at design stage was not complete.[34] Finally, appropriate control groups should have been established to attribute results to the program; for example, for indicators such as increases in farm gate prices or farmers' income. Ultimately, these deficiencies in the DMF would have limited its effectiveness in assessing the program's development results and achievements. As the program had no physical progress, the FCR did not present any information on the achievement of indicator targets.

B. Comments on Facility Completion Report Quality

42. This validation assesses the quality of the FCR satisfactory. The FCR was, on the whole, well written and provided adequate discussions on the key issues in program design and implementation. The following aspects could have been improved as (i) the FCR did not rate tranche 1, stating that it was not required as the loan was canceled; (ii) more information could have been provided on specific implementation issues for the regions and the value chains considered; (iii) the lessons and recommendations could have been consolidated and made more concise; several of the lessons just revolved around the same underlying issues and conclusions; and (iv) the adequacy of the proposed DMF at design was not assessed.

C. Data Sources for Validation

43. Data sources for this validation were the PCR, FCR, RRP and its annexes, back-to-office reports and aide memoire on loan review missions, special administration missions, and the midterm review mission. India's development plans and ADB's country partnership strategies for 2009–2012, and for 2013–2017 were also reviewed.

D. Recommendation for Independent Evaluation Department Follow-Up

44. None.

[34] For example, baselines for investments in HVC, per capita income of suppliers, IVCs throughput, rural employment, farm gate prices and price premiums, and quantity produced by IVC suppliers were not available.