



# Report and Recommendation of the President to the Board of Directors

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Project Number: 34418-023  
September 2015

## Proposed Loan for Additional Financing and Administration of Grant for Additional Financing People's Republic of Bangladesh: Southwest Area Integrated Water Resources Planning and Management Project

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Asian Development Bank

## CURRENCY EQUIVALENTS

(As of 10 August 2015)

Currency unit	–	taka (Tk)
Tk1.00	=	\$0.01286
\$1.00	=	Tk77.8

## ABBREVIATIONS

ADB	–	Asian Development Bank
BWDB	–	Bangladesh Water Development Board
FCDI	–	flood control, drainage, and irrigation
ha	–	hectare
O&M	–	operation and maintenance
PAM	–	project administration manual
SDR	–	special drawing rights
SIP	–	subunit implementation plan
WMA	–	water management association
WMG	–	water management group
WMO	–	water management organization

## NOTES

- (i) The fiscal year (FY) of the Government of Bangladesh ends on 30 June. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2015 ends on 30 June 2015.
- (ii) In this report, “\$” refers to US dollars.

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## PROJECT AT A GLANCE

<b>1. Basic Data</b>		<b>Project Number: 34418-023</b>	
<b>Project Name</b>	Southwest Area Integrated Water Resources Planning and Management Project - Additional Financing	<b>Department /Division</b>	SARD/SAER
<b>Country Borrower</b>	Bangladesh People's Republic of Bangladesh	<b>Executing Agency</b>	Bangladesh Water Development Board
<b>2. Sector</b>	<b>Subsector(s)</b>	<b>ADB Financing (\$ million)</b>	
✓ <b>Agriculture, natural resources and rural development</b>	Agricultural production		3.70
	Rural water policy, institutional and capacity development		10.50
	Water-based natural resources management		30.80
		<b>Total</b>	<b>45.00</b>
<b>3. Strategic Agenda</b>	<b>Subcomponents</b>	<b>Climate Change Information</b>	
Inclusive economic growth (IEG)	Pillar 2: Access to economic opportunities, including jobs, made more inclusive	Adaptation (\$ million)	45.00
Environmentally sustainable growth (ESG)	Natural resources conservation	Climate Change impact on the Project	Medium
<b>4. Drivers of Change</b>	<b>Components</b>	<b>Gender Equity and Mainstreaming</b>	
Governance and capacity development (GCD)	Client relations, network, and partnership development to partnership driver of change	Gender equity (GEN)	✓
	Civil society participation		
	Institutional development		
Knowledge solutions (KNS)	Application and use of new knowledge solutions in key operational areas		
Partnerships (PAR)	Bilateral institutions (not client government)		
	Civil society organizations		
	Official cofinancing		
	Private Sector		
<b>5. Poverty Targeting</b>		<b>Location Impact</b>	
Project directly targets poverty	Yes	Rural	High
Geographic targeting (TI-G)	Yes		
<b>6. Risk Categorization:</b>	Low		
<b>7. Safeguard Categorization</b>	Environment: B Involuntary Resettlement: B Indigenous Peoples: C		
<b>8. Financing</b>			
<b>Modality and Sources</b>		<b>Amount (\$ million)</b>	
<b>ADB</b>		<b>45.00</b>	
Sovereign Project loan: Asian Development Fund		45.00	
<b>Cofinancing</b>		<b>7.00</b>	
Netherlands Fund (with LoA)		7.00	
<b>Counterpart</b>		<b>11.70</b>	
Government		11.70	
<b>Total</b>		<b>63.70</b>	
<b>9. Effective Development Cooperation</b>			
Use of country procurement systems		No	
Use of country public financial management systems		Yes	

## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on (i) a proposed loan, and (ii) the proposed administration of a grant to be provided by the Government of the Netherlands, both to the People's Republic of Bangladesh, for the additional financing of the Southwest Area Integrated Water Resources Planning and Management Project.<sup>1</sup>

2. The additional financing will expand the success of the current project to nearby geographical areas in the southwest of the country, aiming at enhancing the livelihood of the rural population by improving the productivity and sustainability of existing underperforming flood control, drainage, and irrigation (FCDI) schemes. It will address constraints on agriculture, fisheries, and livelihood development through holistic and participatory planning, development, and management of water and delivery of support services.

## II. THE PROJECT

### A. Rationale

3. Water affects various aspects of the livelihoods of the rural population in Bangladesh. The country is on a vast floodplain at the confluence of three major rivers, and has faced significant physical challenges including monsoon floods, changes in river courses due to erosion and sedimentation, water scarcity in the dry season, cyclones, and widespread arsenic contamination of groundwater. The productivity of agriculture, fisheries, and associated nonfarm industries is susceptible to these water-related issues. More than 80% of poor people in Bangladesh live in rural areas and depend on agriculture or fisheries for their livelihoods.<sup>2</sup> Despite a fall in the share in the gross domestic product to 17% in FY2013, agriculture in Bangladesh remains the largest employer, providing jobs for 48% of the population.<sup>3</sup> Access to and effective management of water is essential to improved productivity and livelihoods for rural poor people. Water management is complicated by diverse interests among different water uses including for agriculture, fisheries, navigation, industries, and drinking water.

4. Chronic infrastructure deterioration of existing FCDI schemes, especially large-scale schemes,<sup>4</sup> has impaired water management. The absence of stakeholder participation causes a lack of user ownership, which is followed by rapid deterioration of structures, inefficient and irrelevant planning, and inefficient water use. Managing critical water resources through an integrated and participatory approach is essential for efficient water management; the sustainability of FCDI schemes; and improved livelihood of vulnerable poor people, including women.

5. The Asian Development Bank (ADB) has provided finance for participatory water management projects for small-scale schemes since 1995.<sup>5</sup> The schemes have demonstrated success in improved infrastructure performance through beneficiary participation. To extend integrated and participatory water management to large-scale FCDI schemes, in 2005 ADB

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<sup>1</sup> The design and monitoring framework is in Appendix 1.

<sup>2</sup> World Bank. 2014. *World Development Indicators*. Washington, DC.

<sup>3</sup> Government of Bangladesh, Planning Commission. 2015. *Agriculture Sector Development Strategy, Background Paper for Seventh Five-Year Plan*. Dhaka.

<sup>4</sup> FCDI schemes with command areas greater than 1,000 hectares (ha) are categorized as large-scale in Bangladesh.

<sup>5</sup> For example: ADB. 1995. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Small-Scale Water Resources Management Sector Project*. Manila.

approved a \$20 million equivalent loan for the current Southwest Area Integrated Water Resources Planning and Management Project.<sup>6</sup> The project also included \$12.5 million of cofinancing from the Government of the Netherlands. The current project supports the establishment of participatory water management organizations (WMOs) with the inclusion of socially disadvantaged groups; integrated water resources management planning; infrastructure renovation; and coordinated support services for WMOs in the two pilot subprojects, comprising the Narail and Chenchuri Beel FCDI schemes with a total area of 57,000 hectares (ha).

6. The current project successfully demonstrated that the participatory approach can improve the water resources management of large FCDI schemes. This is the first success case for large schemes among several trials in Bangladesh. After a slow start-up as a result of delays due mainly to limited experience of the Bangladesh Water Development Board (BWDB) in using a participatory approach, the progress of the current project has significantly improved since 2010. Renovation of water management infrastructure and improved capacity of WMOs in the two targeted subproject areas has been completed with satisfactory achievement of anticipated targets. Rice production has nearly doubled and fish production has increased by 30% in the two subproject areas.<sup>7</sup> In total, 116 WMOs, consisting of 102 water management groups (WMGs) and 14 higher-tier water management associations (WMAs), have been organized and trained and are effectively functioning in the two subproject areas. A population of about 191,200 has benefitted from the project, including socially disadvantaged groups such as landless farmers and women. Capacity enhancement activities for WMOs are demonstrating visible proactive WMO activities in agriculture, fisheries, livestock, and collective livelihood actions. Operation and maintenance (O&M) of small structures have been handed over to WMOs, after development of O&M manuals and WMO O&M capacity. BWDB acquired knowledge of and experience in participatory water resources planning and management through the current project.

7. The current project has been continuously rated *on track* since the second quarter of 2011. Cumulative disbursement had reached about \$20.3 million (or 95% of the total loan amount)<sup>8</sup> for the ADB loan and \$12.3 million (98% of the total grant amount) for the Netherlands grant as of 31 July 2015. The current project has been complying with all loan covenants, including requirements for environmental and involuntary resettlement safeguards and gender consideration.

8. The proposed additional financing will replicate the successful current project in nine additional subprojects with a total area of 84,000 ha and a population of about 469,500 in nearby areas. By applying knowledge and experience acquired from the current project, BWDB's institutional capacity for participatory water resources management is expected to be enrooted. Based on the lessons learned through the current project, the design of the institutional strengthening component will be further strengthened by establishment of a national capacity enhancement support mechanism under BWDB to ensure sustainability of participatory water resource management by WMOs.

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<sup>6</sup> ADB. 2005. *Report and Recommendation of the President to the Board of Directors: Proposed Loan to the People's Republic of Bangladesh for the Southwest Area Integrated Water Resources Planning and Management Project*. Manila (Loan 2200[SF] and Grant 0036-BAN).

<sup>7</sup> Government of Bangladesh; Ministry of Planning, Implementation, Monitoring and Evaluation Division. 2014. *Midterm Evaluation Report of the Southwest Area Integrated Water Resources Planning and Management Project*. Dhaka.

<sup>8</sup> The disbursed amount is equivalent to SDR13.172 million out of the total ADB loan of SDR13.863 million. The disbursed amount in dollars at \$20.3 million exceeds the approved loan amount of \$20.0 million because the loan is denominated in special drawing rights.

9. The project is in line with government and ADB strategies. Economic growth and poverty reduction are the main objectives of the government's Sixth Five-Year Plan, FY2011–FY2015.<sup>9</sup> Achieving food security is considered essential to accomplishing these objectives. Food security and agricultural productivity are also part of ADB's strategic priorities for 2014–2020 in the action plan of the Midterm Review of Strategy 2020.<sup>10</sup> ADB's country partnership strategy for Bangladesh, 2011–2015 emphasizes innovative approaches to water resource management and support to the government's objectives for rural poverty reduction, food security, and gender equality.<sup>11</sup>

## B. Impact and Outcome

10. The impact of the project will be enhanced economic growth and reduced poverty in rural areas of the selected districts in the southwest area of Bangladesh, aligned with the government's Sixth Five-Year Plan, FY2011–FY2015. The outcome will be enhanced productivity and sustainability of the selected existing FCDI systems, which could contribute to increasing incomes and livelihood standards of disadvantaged groups, including women. The impact and outcome statements are unchanged from the current project (footnote 1).

## C. Outputs

11. The output targets for the current project will be scaled up by expanding the geographical areas from the current two subprojects to include nine additional subprojects. The scope and targets of the additional financing outputs are summarized in paragraphs 12–16.

12. **Output 1: Water management organizations' capacity for sustainable water resources planning and management in the subproject areas strengthened.** The additional financing will cover formation and capacity development of WMOs in the additional nine subproject areas, aiming at enrollment of 70% of farmers. Follow-up support for O&M capacity development will also be provided to the existing 102 WMGs and 14 WMAs in the two subproject areas of the current project. An integrated water management plan will be prepared for each subproject area. Each plan formulates holistic water resources management planning and safeguard assessments for the subproject, following intensive participatory analyses of local conditions and needs. Each subproject will be divided into hydrological subunits. WMAs will be formed that will manage each subunit and lower-tier WMGs. A subunit implementation plan (SIP) will be prepared for each subunit. The plan will include specific requirements for renovation or construction of water management infrastructure, and capacity development and livelihood support programs for WMOs.

13. Subsequent to the preparation of SIPs, the project will support the WMOs to implement the institutional development plan specified in the SIPs, including (i) capacity development training of executive committees and subgroups under WMOs, (ii) development of operational rules, (iii) registration, and (iv) establishment of a fee collection system for O&M services and other WMO activities. The project will also support skills development of WMOs for efficient use of water management infrastructure to improve the productivity of agriculture and fisheries activities, and for ensuring attention is given to all aspects of water resource management related to gender and social inclusion. The support will be linked to other income-generating

<sup>9</sup> Government of Bangladesh, Planning Commission. 2011. *Sixth Five-Year Plan FY2011–FY2015: Accelerating Growth and Reducing Poverty*. Dhaka. The Seventh Five-Year Plan FY2016–FY2020 is currently under preparation.

<sup>10</sup> ADB. 2014. *Midterm Review of Strategy 2020: Meeting the Challenges of a Transforming Asia and Pacific*. Manila.

<sup>11</sup> ADB. 2011. *Country Partnership Strategy: Bangladesh, 2011–2015*. Manila.

activities of WMOs. An additional 150 WMGs are expected to be formed under the project, with the inclusion of the socially disadvantaged and with 33% participation of women.

14. The project support will be extended to training and capacity development of WMOs for monitoring civil works, routine minor maintenance of infrastructure, preparing O&M manuals, and effectively using WMO O&M funds. O&M responsibility for infrastructure will be transferred to WMAs or WMGs, depending on their functions and covering area, after completion of works and WMO O&M capacity development training.

15. **Output 2: Infrastructure facilities of flood control, drainage, and irrigation schemes in the subproject areas restored.** The second output will include renovation or construction of water management infrastructure, such as gated water retention structures, flood embankments, re-excavation of drainage and/or irrigation canals, and local riverbank protection works, as specified in the SIPs.

16. **Output 3: Institutional capacity for sustainable participatory integrated water resources planning and management strengthened.** The third output will focus on the institutional capacity development of BWDB at the national level for (i) efficient coordination with government departments, such as the Department of Agriculture Extension and the Department of Fisheries; (ii) management and monitoring of WMO activities that will be registered with BWDB under the new participatory water management rules 2014;<sup>12</sup> and (iii) performance monitoring and O&M of water management infrastructure.

#### D. Investment and Financing Plans

17. The additional financing is estimated to cost \$63.7 million (Table 1).<sup>13</sup>

**Table 1: Project Investment Plan**  
(\$ million)

Item	Current Amount <sup>a</sup>	Additional Financing <sup>b</sup>	Total
<b>A. Base Cost<sup>c</sup></b>			
1. Water management organization capacity strengthening	7.7	13.8	21.5
2. Infrastructure facilities restoration	21.9	24.9	46.8
3. Institutional capacity strengthening	6.9	16.8	23.7
<b>Subtotal (A)</b>	<b>36.5</b>	<b>55.5</b>	<b>92.0</b>
<b>B. Contingencies<sup>d</sup></b>	<b>6.1</b>	<b>4.5</b>	<b>10.6</b>
<b>C. Financing Charges During Implementation<sup>e</sup></b>	<b>0.8</b>	<b>3.7</b>	<b>4.5</b>
<b>Total (A+B+C)</b>	<b>43.4</b>	<b>63.7</b>	<b>107.1</b>

<sup>a</sup> Refers to the original amount. Includes taxes and duties of \$3.0 million financed from government resources.

<sup>b</sup> Includes taxes and duties of \$6.4 million financed from government resources and Asian Development Bank (ADB) loan resources.

<sup>c</sup> In fourth quarter 2014 prices for the estimated cost of the additional financing.

<sup>d</sup> Physical contingencies computed at 0%–10% depending on the item. Price contingencies computed at 0.3% for 2015, 1.5% for 2016, 1.4% for 2017, and 1.5% for all remaining years on foreign exchange costs, and 6.5% for 2015, 6.2% for 2016, and 6.0% for all remaining years on local currency costs; includes provision for potential exchange rate fluctuation under the assumption of a purchasing power parity exchange rate.

<sup>e</sup> Includes interest. Interest during construction for the ADB loan has been computed at 2.0% per year. The financing charges include \$250,000 of administration charges for ADB's administration of a grant from the Government of the Netherlands.

Source: Asian Development Bank estimates.

<sup>12</sup> Government of Bangladesh. 2014. *Bangladesh Gazette*. Dhaka.

<sup>13</sup> The cost comprises about 46% for civil works, 24% for training and capacity building, 14% for consulting services, 12% for project management, 3% for equipment, and 1% for land acquisition and resettlement compensation.



18. The government has requested a loan for additional financing in various currencies equivalent to SDR32,265,000 from ADB's Special Funds resources to help finance the overall project. The loan for the additional financing will have a 25-year term, including a grace period of 5 years, an interest rate of 2.0% per annum during the grace period and thereafter, and such other terms and conditions set forth in the draft loan and project agreements. ADB will finance part of taxes and duties, resettlement compensation and interest during construction.<sup>14</sup>

19. The financing plan is in Table 2. The Government of the Netherlands will finance \$7.0 million on a grant basis through cost sharing to cover 11.0% of the total project cost of the additional financing, which will be administered by ADB.<sup>15</sup> The Government of Bangladesh will make the ADB loan, the Netherlands grant, and counterpart funds available to the executing agency through budgetary allocation.

**Table 2: Financing Plan**

Source	Current <sup>a</sup>		Additional Financing		Total	
	Amount (\$ million)	Share of Total (%)	Amount (\$ million)	Share of Total (%)	Amount (\$ million)	Share of Total (%)
Asian Development Bank Special Funds Resources (loan)	20.0	46.1	45.0	70.6	65.0	60.7
Government of the Netherlands (grant) <sup>b</sup>	12.5	28.8	7.0	11.0	19.5	18.2
Government	10.9	25.1	11.7	18.4	22.6	21.1
<b>Total</b>	<b>43.4</b>	<b>100.0</b>	<b>63.7</b>	<b>100.0</b>	<b>107.1</b>	<b>100.0</b>

<sup>a</sup> Refers to the original amount.

<sup>b</sup> Administered by the Asian Development Bank. This amount includes the Asian Development Bank's administration fee, audit cost, and bank charges to the extent that these items are not covered by the interest and investment income earned on this grant.

Source: Asian Development Bank estimates.

## E. Implementation Arrangements

20. BWDB, under the Ministry of Water Resources, will continue to be the executing agency. The existing project management office for the current project under BWDB will continue to be responsible for overall project implementation. Four new subproject management offices will be established to cover the subproject areas. The existing project steering committee will continue to undertake central interministerial coordination. A national technical coordination committee will be formed for timely interdepartmental coordination for practical technical aspects. Relevant departments, such as the Department of Agriculture Extension and the Department of Fisheries, will continue to provide technical inputs under BWDB logistical support.

21. A consulting team led by an international firm and comprising international and national experts will be engaged for project management and capacity strengthening. All procurement and consultant recruitment to be financed under the ADB loan, including ADB-administered cofinancing, will be carried out in accordance with ADB's Procurement Guidelines (2015, as

<sup>14</sup> ADB's country partnership strategy for Bangladesh (footnote 11) indicates that ADB finances taxes and duties if do not constitute an excessively high share of the project cost. The share of the taxes and duties against the total project cost for the additional financing is not significant, and the taxes and duties apply only to ADB-financed expenditures. The financing of taxes and duties contributes to the efficiency of financial management throughout the project period. The Government of Bangladesh will finance the entire land acquisition costs, and the ADB loan proceeds will pay only for resettlement compensation.

<sup>15</sup> This additional financing from the Government of the Netherlands amounting to \$7.0 million represents more than 15% of the original loan and grant amount combined.

amended from time to time) and Guidelines on the Use of Consultants (2013, as amended from time to time). Universal procurement will be applied to all contract packages under the additional financing, as it will be financed with ADB-administered cofinancing resources as well as Asian Development Fund resources.<sup>16</sup> The implementation arrangements are summarized in Table 3 and described in detail in the updated project administration manual (PAM).<sup>17</sup>

**Table 3: Implementation Arrangements for Additional Financing**

Aspects	Arrangements		
Implementation period	December 2015–June 2022		
Estimated completion date	30 June 2022 (Loan closing date: 31 December 2022)		
<b>Management</b>			
(i) Oversight body	Project steering committee: Secretary, MOWR (chair) 25 members, representing MOWR, BWDB, and other government agencies		
(ii) Executing agency	BWDB		
(iii) Key implementing agencies	BWDB		
(iv) Implementation unit	Project management office in Faridpur and liaison office in Dhaka: 22 professional staff 4 SMOs for subproject implementation: 32 professional staff total		
Procurement <sup>a</sup>	NCB (works)	87 contracts	\$16.9 million in total
	ICB (goods)	1 contract	\$1.0 million
	NCB (goods)	1 contract	\$0.2 million
	Shopping (works)	49 contracts	\$3.0 million
	Shopping (goods)	multiple contracts	\$0.4 million in total
	Community participation (works)	380 contracts	\$3.6 million in total
Consulting services	QCBS (90:10)	1,090 person-months	\$7.6 million
	CQS	various person-months	\$0.5 million (total of 10 packages)
Retroactive financing and/or advance contracting	Advance contracting for eligible expenditures incurred for works, vehicles and equipment, training and capacity building, consulting services, and project management; and retroactive financing of eligible expenditures incurred not more than 12 months before the signing of the loan and grant agreements and up to a maximum of 20% of the loan and grant amounts. Any approval of advance contracting and retroactive financing will not constitute a commitment by ADB to finance the project.		
Disbursement	The loan and cofinancing grant proceeds will be disbursed in accordance with ADB's <i>Loan Disbursement Handbook</i> (2015, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

ADB = Asian Development Bank, BWDB = Bangladesh Water Development Board, CQS = consultant's qualification selection, ICB = international competitive bidding, MOWR = Ministry of Water Resources, NCB = national competitive bidding, QCBS = quality- and cost-based selection, SMO = subproject management office.

<sup>a</sup> Indicative. An actual procurement plan will become available in the course of the project implementation according to needs of beneficiaries, after completing participatory subunit implementation planning.

Source: Asian Development Bank estimates.

<sup>16</sup> ADB. 2013. *Blanket Waiver of Member Country Procurement Eligibility Restriction in Cases of Cofinancing for Operations Financed from Asian Development Fund Resources*. Manila.

<sup>17</sup> Project Administration Manual (accessible from the list of linked documents in Appendix 2).

### III. DUE DILIGENCE

#### A. Technical

22. Minor water management structures of existing FCDI schemes such as flood embankments, water retention structures, piped drainage culverts, and small drainage canals will be renovated and constructed. These types of physical works have already been undertaken under the current project and their technical soundness verified. The project will continue to ensure sustainability of water management structures through beneficiary participation in planning and construction, and capacity development of beneficiary groups for operation of WMOs and O&M of structures.

#### B. Economic and Financial

23. Economic and financial analyses indicate that each subproject and the entire project are both economically viable and financially sustainable. Benefits of the project will be derived from improved agricultural and fisheries productivity. They will be achieved through reduced flooding, timely drainage and water retention through renovated infrastructure, improved water management, and beneficiary capacity development. The economic analysis was carried out for each subproject and for the entire additional scope of the project. The economic internal rate of return for each subproject area ranges between 16.3% and 26.2%, and for the entire project it is 19.6%. The sensitivity tests and risk analysis confirm that the subprojects are consistently robust. The project will remain economically viable under all sensitivity test scenarios. There will also be nonquantifiable and intangible benefits as a result of training and institutional capacity development of local people, such as women's participation in community activities, longer-term integrity of the infrastructure, and awareness raising of water users in efficient water use and the importance of collective actions for their livelihood improvements. The project will also substantially benefit poor people, with a poverty impact ratio of 58%.

24. The project supports the establishment of the annual O&M fund collection system for WMOs. The O&M fund collection system will also be built into the income-generating activities of WMOs. The fund will cover the costs of minor O&M to be undertaken by WMOs, while BWDB's revenue budget will cover major O&M costs, such as replacement of gates. Capacity development programs will be designed to ensure financial sustainability of WMOs.

#### C. Governance

25. The financial and procurement management capacity of BWDB was assessed in 2015 (footnote 17) and confirmed to be generally sound. The government's midterm review and the performance assessment of the current project concluded that BWDB's institutional capacity as the executing agency is satisfactory (footnote 7). The government's draft project completion report of the current project reached the same conclusion, and assessed that the current project has contributed to strengthened capacity of BWDB. The overall risk is rated *moderate*. The project has set clear input and output targets to ensure good governance. Risk management measures have been identified and incorporated in the project design and risk management plan (para. 35).

26. ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government and BWDB. The specific policy requirements and supplementary measures are described in the PAM (footnote 17).

#### D. Poverty and Social

27. The project will have positive impacts on poverty reduction and food security among the socially disadvantaged, including women. Despite recent good progress, Bangladesh's economic situation remains difficult, with an annual per capita gross national income of \$1,010 (in 2013) and with 31.5% of its population living below poverty line.<sup>18</sup> About 80% of poor people reside in rural areas, and most of them are engaged in agriculture, related nonfarm activities, and fisheries. Sampling surveys identified that the proportion of the population in the project area living below the poverty line is estimated at 41%–47%, significantly higher than the national figure. The project will contribute to poverty reduction for about 220,000 people below the poverty line by accelerating agricultural and rural growth through efficient water use.

28. The project will continue to be implemented with high participation of stakeholders in decision making. The empowerment of poor people and women through income-generation and livelihood improvement, and the inclusion of socially disadvantaged groups such as tenant farmers and poor fishers, is built into the project design. The project will provide a more stable environment with improved water management and strengthened livelihood improvement capacity of beneficiaries. The specific strategy includes (i) pro-poor procedures for beneficiary selection and employment; (ii) inclusive membership access to WMGs; (iii) participation in planning, designing, implementing, and monitoring water management structures; and (iv) inclusive capacity development programs for WMG members for water management and livelihood improvement. Employment opportunities for civil works, including minor works by labor construction societies that include the socially disadvantaged and women, will also contribute to income generation of local residents.

29. The project is classified as having a gender equity theme, to sustain and advance the progress made in the current project that demonstrates remarkable empowerment of women. In addition to the achievement of the number of female WMO members, the current project demonstrates women's quality participation with enhanced decision making capacity with WMG executive committees having an average of 33% women, who hold positions such as vice-president, assistant secretary, and cashier.

30. The project will empower women through (i) participating in decision making of WMA and WMG management committees, which should include a minimum of 33% women; (ii) training in agriculture, livestock, postharvest processing, fisheries production, or other water management and livelihood improvement matters depending on the beneficiaries' practical and strategic needs; and (iii) employment opportunities for community mobilization, construction, and O&M activities. Benefits for women are expected to result in respectful relationships and decision-making power within the family. The percentage of women employed in agriculture increased from 59% in 1998 to 66% in 2008, whereas men employed in agriculture decreased from 83% to 65% during the same period. Women did 48% of agricultural work during 1999–2000 and the rate had significantly increased, to 68%, in 2005–2006.<sup>19</sup> This situation was attributed to migration of men from agriculture to nonfarm occupations, resulting in a change in the role of women from unpaid family workers to farm managers (footnote 19). This indicates

<sup>18</sup> Poverty headcount rate at the upper poverty line by the cost of basic needs method. Bangladesh Bureau of Statistics. 2011. *Statistical Year Book of Bangladesh – 2010*. Dhaka.

<sup>19</sup> W. M. Jaim and M. Hossain. 2011. *Women's Participation in Agriculture in Bangladesh 1988–2008: Changes and Determinants*. Paper presented at the preconference event on Dynamics of Rural Livelihoods and Poverty in South Asia, 7th Asian Society of Agricultural Economics International Conference. Ha Noi, Viet Nam. 12 October. <http://research.brac.net/publications/final%20hanoi%20paper.pdf>

the importance of capacity enhancement of women, including female-headed households, in agriculture and water resources management.

## **E. Safeguards**

31. **Environment (category B).** An initial environmental examination was prepared to cover nine subprojects to be implemented under the additional financing project in accordance with ADB's Safeguard Policy Statement (2009). It was disclosed on the ADB website with the endorsement of BWDB. Considering the nature of the project and the location, the project activities are not expected to generate any significant adverse environment impact that is irreversible, long term, or cumulative. The subproject areas are not located within or close to any protected areas or ecologically important areas. The subproject areas are not environmentally sensitive. Potential environmental impacts will occur mainly during construction, such as dust and sediment pollution of water, and are temporary and reversible. Mitigation measures have been incorporated into the environmental management and monitoring plan. The potential environmental impacts related to the operation of structures are not expected to be significant, because the project will renovate existing structures, except 1.5 kilometers (km) of a new embankment that is replacing a breached portion of an existing embankment system. Stakeholders to be affected have been consulted, and an existing grievance redress mechanism under the current project will be continued. The current project has been complying with environmental safeguard requirements. BWDB has demonstrated adequate capacity to implement and monitor the environmental management plan but has to ensure that adequate staff is available for implementation and monitoring.

32. The climate risk and vulnerability assessment rated the climate risk of the project as *medium*. Adaptation measures responding to address this risk have been built into the project design. Resilience of the water uses against potential climate change will be enhanced through capacity development of WMOs for appropriate operation of gates and improved water use efficiency.

33. **Involuntary resettlement (category B).** The rehabilitation and construction works will be located within the right-of-way of existing structures or in locations where no land acquisition is involved. The new 1.5 km embankment requires 2.74 ha of land acquisition consisting of 49 plots. This land acquisition will affect 55 households, of which 45 households comprising 183 people will lose 10% or more of their productive land. No structure will be affected, and no household will be physically displaced. The resettlement plan for the new embankment was prepared in accordance with the government's laws and regulations and ADB's Safeguard Policy Statement, and was disclosed on the ADB website. Precise locations of the rehabilitation and resectioning of existing embankments and other structures will be determined during the additional financing project through the beneficiary participatory planning. The locations will be selected to avoid involuntary resettlement but there remains a possibility that involuntary resettlement will be unavoidable. As a prudent measure, a resettlement framework was prepared, in accordance with ADB's Safeguard Policy Statement, should any involuntary resettlement issue arise. BWDB has demonstrated its capacity to implement resettlement plans under the current project and to comply with the safeguard requirements for involuntary resettlement.

34. **Indigenous peoples (category C).** There are no indigenous peoples as defined for operational purposes by ADB's Safeguard Policy Statement in the project area.

## **F. Risks and Mitigating Measures**

35. The project has a medium overall rating of potential risks. Major risks and mitigating measures are described in detail in the risk assessment and risk management plan.<sup>20</sup> A potential shortage of BWDB O&M funds was found to be a high risk, and the overall project was designed to mitigate the risk. Local water users are trained in routine O&M to minimize deterioration of structures and are involved in major O&M to be conducted by BWDB. Specific loan covenants are included to ensure that the government provides adequate budget to BWDB. Mitigation measures for other potential medium-to-low risks have been taken during the implementation of the current project and are also built into the project design of the additional financing. The integrated benefits and impacts of the project are expected to outweigh the potential costs from the risks.

## **IV. ASSURANCES**

36. The government and BWDB have assured ADB that implementation of the project shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the PAM and loan documents. The government and BWDB have agreed with ADB on certain covenants for the project, which are set forth in the loan agreement, grant agreement, and project agreement.

## **V. RECOMMENDATION**

37. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve

- (i) the loan in various currencies equivalent to SDR32,265,000 to the People's Republic of Bangladesh for the additional financing of the Southwest Area Integrated Water Resources Planning and Management Project, from ADB's Special Funds resources, with an interest charge at the rate of 2.0% per annum throughout for a term of 25 years including a grace period of 5 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan and project agreements presented to the Board; and
- (ii) the administration by ADB of the grant not exceeding the equivalent of \$7,000,000 to the People's Republic of Bangladesh for the additional financing of the Southwest Area Integrated Water Resources Planning and Management Project, to be provided by the Government of the Netherlands.

Takehiko Nakao  
President

8 September 2015

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<sup>20</sup> Risk Assessment and Risk Management Plan (accessible from the list of linked documents in Appendix 2).

## REVISED DESIGN AND MONITORING FRAMEWORK

<p><b>Impacts the project is aligned with</b></p> <p><b>Current project</b> Enhanced economic growth and reduced poverty in rural areas of the selected districts in the southwest area</p> <p><b>Overall project</b> Unchanged (Sixth Five-Year Plan, FY2011–FY2015)<sup>a</sup></p>
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Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
<p><b>Outcome</b></p> <p><b>Current project</b> Enhanced productivity and sustainability of the selected existing FCDI systems</p> <p><b>Overall project</b> Unchanged</p>	<p><b>Current project</b> By 2015: a. Cropping intensity increased by 30% b. Annual cereal production increased by 104,000 t, other crops by 70,000 t, and cultural fisheries by 5,000 t c. Annual family income of landless farm laborers increased by more than Tk1,200</p> <p><b>Overall project</b> By 2022: a. Cropping intensity increased to 235% (2013 baseline: 205%) b. Annual rice production increased to 2.61 t/ha (2013 baseline: 1.62 t/ha) c. Annual production of cultural fisheries increased to 3,729 t (2013 baseline: 2,076.6 t) d. Average annual household income of WMG members increased to Tk64,758, with data provided for female headed households (2013 baseline: Tk50,727)</p>	<p>a. District statistics, BWDB reports b–c. Project MIS reports, evaluation reports, BWDB annual reports</p> <p>a–b. BME reports, annual data from district offices of the Department of Agriculture Extension</p> <p>c. BME reports, WMO household survey, annual data from district offices of the Department of Fisheries</p> <p>d. BME reports, WMO household survey</p>	<p>Water-related disasters, such as flooding and drought, exceed the design level</p>
<p><b>Outputs</b></p> <p><b>Output 1.</b> <b>Current project</b> WMOs' capacity for sustainable water resources planning and management in the subproject areas strengthened</p> <p><b>Overall project</b> Unchanged</p>	<p><b>Current project</b> 1a. Participatory IWMPs are formulated in all selected schemes 1b. 13 SIPs</p> <p>1c. 100 WMGs completed agriculture, fisheries, and livelihood programs and achieve SIP targets</p>	<p>1a. Prepared plans, project processing reports 1b–1d. Prepared SIPs, project progress reports, project websites</p>	<p>Tense political situation disrupts field activities</p> <p>Flooding delays civil works progress</p>

Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
	<p>1d. Joint management committees are established in two subprojects and FCDI infrastructure managed through annual O&amp;M plan</p> <p><b>Overall project</b> (by 2022)            1a. 13 IWMPs approved by ADB (2015 baseline: 9)            1b. 36 SIPs with sex-disaggregated data are endorsed by WMAs (2015 baseline: 14)            1c. 70% of beneficiary household are enrolled as members of WMGs with 33% female participation (2015 baseline: 0% in 9 subproject areas)            1d. 252 WMGs completed agriculture, fisheries, and livelihood programs and achieve SIP targets with 33% female participation (2015 baseline: in 102 WMGs)            1e. O&amp;M transfer agreements are signed with WMOs concerned for all structures planned in SIPs (2015 baseline: 13 agreements)</p>	<p>1a. IWMP reports</p> <p>1b. WMA meeting minutes, project progress reports</p> <p>1c. BME reports, project progress reports, project completion report</p> <p>1d. BME reports, project progress reports, project completion report</p> <p>1e. BME reports, project progress reports, project completion report</p>	
<p><b>Output 2.</b>  <b>Current project</b>            Infrastructure facilities of FCDI schemes in the subproject areas restored</p> <p><b>Overall project</b>            Unchanged</p>	<p><b>Current project</b>            2a. FCDI infrastructure in Narail and Chenchuri Beel subproject areas are improved</p> <p><b>Overall project</b> (by 2022)            2a. In 11 schemes, FCDI infrastructure is fully functioning (2015 baseline: in two schemes)</p>	<p>2a. Prepared SIPs, project progress reports, project websites</p> <p>2a. Prepared SIPs, BME report, project progress report</p>	
<p><b>Output 3.</b>  <b>Current project</b>            Institutional capacity for sustainable participatory integrated water resources planning and management strengthened</p> <p><b>Overall project</b></p>	<p><b>Current project</b>            3a. MIS to monitor completed schemes is operational</p> <p>3b. BWDB's O&amp;M MIS is made operational in the project area</p> <p>3c. BWDB–Local Government Engineering Department MOU is signed for coordinated FCDI works</p>	<p>3a. Project progress and completion report, MIS</p> <p>3b. Project progress and completion report, MIS</p> <p>3c. Project progress reports, MOU</p>	



Results Chain	Performance Indicators with Targets and Baselines	Data Sources and Reporting	Risks
Unchanged	3d. Ministry of Water Resources–Ministry of Land MOU for public water body leasing is signed  <b>Overall project</b> (by 2022) 3a. BWDB uses MIS for O&M monitoring (2015 baseline: No) 3b. OCWM strengthening proposal approved by BWDB (2015 baseline: Not available) 3c. BWDB conducts annual auditing for 252 WMGs after WMG registration (2015 baseline: 0) 3d. WMO database of BWDB with sex-disaggregated data is functioning (2015 baseline: Not available)	3d. Project progress reports, MOU  3a–3d. Project progress reports, BME report	
<p><b>Key Activities with Milestones</b></p> <p><b>1. WMOs' capacity for sustainable water resources planning and management in the subproject areas strengthened</b></p> <p>1.1 Prepare IMWPs (seven IWMPs: completed, four IMWPs by June 2017: added)</p> <p>1.2 Prepare SIPs, including finalization of required physical works and overall WMO training programs (in two subprojects: completed, in nine subprojects by November 2018: added)</p> <p>1.3 Form WMOs (in two subprojects: completed, in nine subprojects by July 2018: added)</p> <p>1.4 Train WMOs (in two subprojects: completed, in nine subprojects till June 2022: added)</p> <p>1.5 Support WMOs in Narail and Chenchiri Beel subproject areas for annual O&amp;M fee collections (till December 2019: added)</p> <p><b>2. Infrastructure facilities of FCDI schemes in the subproject areas restored</b></p> <p>2.1 Provide detailed design, procurement, construction and rehabilitation, and construction supervision of civil works (in two subproject areas: completed, in nine subproject areas by December 2021: added)</p> <p><b>3. Institutional capacity for sustainable participatory integrated water resources planning and management strengthened</b></p> <p>3.1 Prepare an OCWM capacity strengthening proposal, including job descriptions and human resources (by July 2017: added)</p> <p>3.2 Conduct training to BWDB, including project management office, OCWM, and Directorate of Audit (till 2022: added)</p> <p>3.3 Develop basic modules of MIS (completed)</p> <p>3.4 Upgrade existing MIS (by December 2017: added)</p> <p>3.5 Develop WMO database for BWDB (by December 2017: added)</p> <p><b>Project Management Activities</b></p> <p>Recruitment of the project management consultant team (for the current project: completed, for additional financing by January 2016: added)</p>			

<p><b>Inputs</b></p> <p><b>ADB Loan:</b>  \$20.0 million (current)  \$45.0 million (additional)  \$65.0 million (overall)</p> <p><b>Government of the Netherlands:</b>  \$12.5 million (current)  \$7.0 million (additional)  \$19.5 million (overall)</p> <p><b>Government of Bangladesh:</b>  \$10.9 million (current)  \$11.7 million (additional)  \$22.6 million (overall)</p>
<p><b>Assumptions for Partner Financing</b></p> <p><b>Current project</b>  None</p> <p><b>Overall project</b>  Unchanged</p>

ADB = Asian Development Bank; BME = benefit monitoring and evaluation; BWDB = Bangladesh Water Development Board; FCDI = flood control, drainage, and irrigation; ha = hectare; IWMP = integrated water management plan; MIS = management information system; MOU = memorandum of understanding; O&M = operation and maintenance; OCWM = Office of Chief Water Management; SIP = subunit implementation plan; t = ton; WMA = water management association; WMG = water management group; WMO = water management organization. Note: The design and monitoring framework was revised and realigned in line with ADB's Updated Design and Monitoring Framework Guidelines (2015).

<sup>a</sup> Government of Bangladesh, Planning Commission. 2011. *Sixth Five-Year Plan FY2011–FY2015: Accelerating Growth and Reducing Poverty*. Dhaka.

Source: Asian Development Bank.

**LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/RRPs/?id=34418-023-3>

1. Loan Agreement
2. Grant Agreement
3. Project Agreement
4. Sector Assessment (Summary): Agriculture, Natural Resources, and Rural Development (Water-Based Natural Resources Management)
5. Project Administration Manual
6. Summary of Project Performance
7. Contribution to the ADB Results Framework
8. Development Coordination
9. Economic and Financial Analysis
10. Country Economic Indicators
11. Summary Poverty Reduction and Social Strategy
12. Gender Action Plan
13. Initial Environmental Examination
14. Resettlement Plan
15. Resettlement Framework
16. Risk Assessment and Risk Management Plan

**Supplementary Document**

17. Project Climate Risk Assessment and Management Report