

PAKISTAN
NATIONAL DRAINAGE PROGRAM PROJECT
(CREDIT NO. 2999-PK)

Follow Up to the
Meeting of the Executive Directors of the World Bank (October 31, 2006) on the
Inspection Panel Investigation Report No. 36382-PK and
Management Report and Recommendation

PROGRESS REPORT ON
IMPLEMENTATION OF THE ACTION PLAN

July 5, 2007

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Acronyms

AKPBS	Aga Khan Planning and Building Service	NGO	Nongovernmental organization
AWB	Area Water Board	NWFP	North West Frontier Province
CGAP	Consultative Group to Assist the Poorest	PO	Partner Organization
DPOD	Dhoro Puran Outfall Drain	PPAF	Pakistan Poverty Alleviation Fund
FAO	United Nations Food and Agriculture Organization	SAFWCO	Sindh Agricultural and Forestry Workers Coordinating Organization
FAO-TCP	FAO Technical Cooperation Program	SCAD	Sindh Coastal Areas Development Program
FO	Farmers' Organizations	SCAN	Sindh Coastal Areas Network
GoP	Government of Pakistan	SIDA	Sindh Irrigation and Drainage Authority
GoS	Government of Sindh	WAPDA	Water and Power Development Authority
KPOD	Kadhan Pateji Outfall Drain	WB	World Bank
LBOD	Left Bank Outfall Drain	WSIP	Sindh Water Sector Improvement Project
NDP	Pakistan National Drainage Program		

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**MANAGEMENT REPORT ON STATUS OF IMPLEMENTATION OF THE
ACTION PLAN FOLLOWING THE
INSPECTION PANEL INVESTIGATION REPORT (No. 36382-PK) AND
MANAGEMENT REPORT AND RECOMMENDATION (INSP/R2004-0007/4&5)**

Introduction

1. On October 31, 2006, the Executive Directors discussed the findings of the Inspection Panel's Investigation Report and the Management Report and Recommendation on the Pakistan National Drainage Project (NDP, closed in December, 2004).
2. The Panel found that the design of an earlier project, the Left Bank Outfall Drain (LBOD, closed in December 1997), whose ongoing contracts were funded and completed under the NDP for about 3.3 percent of LBOD's total cost), underestimated prevailing conditions and the risk of extreme meteorological events. This contributed to the breakdown of the outfall system, suffering of local people in the lower Badin district, and to adverse impacts to fisheries and wetland habitats, known as "dhands". The Panel also found instances of non-compliance with Bank operational policies.
3. The Management Report stated that while the LBOD and NDP projects did create opportunities for poor people by expanding agriculture substantially, all involved in the projects could have done a better job of mitigating the risks and impact of natural disasters on the poor within and outside the project areas.
4. After the closing of the NDP,¹ Management has continued to work with the GoP and GoS to address the reform agenda initiated under the project, as well as to address the drainage and outfall challenges arising from the LBOD. An Action Plan prepared for this purpose identifies suitable strategies and instruments to progress on the reform agenda and to support the poorest people of the lower Badin and Thatta districts. The plan includes a poverty alleviation fund, a flood response plan, and a new lending in the water sector approved by the Executive Directors.
5. At the Board's request, this report provides an update on progress made in the implementation of the Action Plan before the 2007 monsoon season. It describes the activities and projects initiated for the short term, as well as those being developed for the medium and longer term. The summary of the Action Plan is provided in Table 2. Four annexes are attached. These materials have also been posted on www.worldbank.org.pk.

¹ The Implementation Completion and Results report was sent to the Executive Directors in May 2007.

Bank Management has committed to report back to the Board again in November 2007 on the implementation of the Action Plan.

Summary of Progress on Implementation of The Action Plan

6. Local communities and civil society organizations in Thatta district were visited in April 2007 by senior Bank Management. Overall, the GoP and GoS have been diligent in implementing the follow up actions approved by the Executive Directors as part of the agreed Action Plan. This report highlights the major results of the first eight months of the implementation of the Action Plan:

- Significant progress has been made to address the harsh conditions of the population living in the area. Direct actions to alleviate poverty are in place through an inclusive consultation process with the communities. The Pakistan Poverty Alleviation Fund (PPAF) agreed to intervene in the area in June 2006. Since then, ten nongovernmental organizations (NGOs) have engaged in efforts to improve the living conditions of the transient fisherfolk communities. This has resulted in 290 community projects prepared, approved, and being implemented with a commitment of about US\$2.8 million. The PPAF is proving to be the right instrument to address extreme poverty in the communities outside the irrigation network given its targeting effectiveness and its partnership with capable NGOs. The mobilization capacity of the PPAF contributed significantly to the emergency relief efforts following the earthquake of October 2005 in NWFP and Jammu & Kashmir.
- A rapid assessment of ecological and livelihood conditions of the “dhands” in the vicinity of the outfall system has progressed less than expected. The consultation process on the terms of reference for the study with the Government and partners active in the area, the identification of a source of financing, and the appointment of qualified consultants took longer than planned. The assessment is now under way, and the first phase results will be available in September, 2007.
- Progress has been made in assessing and improving local government flood management systems. The assessment was carried in April/May, 2007 and discussed with the Government. Also, the district government of Badin, with the help of the Bank, has developed a “Contingency Plan to Combat Cyclones and Floods” for 2007. A similar plan is under preparation for the Mirpurkhas district. While the preparation of these plans represents an important initiative in addressing flood risks and vulnerability, capacity building at the local level will remain a long term issue, and the Bank will continue to assist the Government in supporting this action over the medium to long term.
- Progress has been made in carrying out an assessment of the functionality of the outfall system as well as in implementing the most urgent repairs. The assessment was carried out in April/May, 2007 and discussed with the Government. Increased efforts to repair the damages to the irrigation and drainage infrastructure that occurred during the floods of 2003 and 2006 have been made over the last couple

of years by the GoS with a commitment of US\$12.6 million, of which US\$2.5 million were spent in the last year. While the risk of floods has been reduced by enlarging the flow capacity of the outfall drains, the GoS has yet to put in place a detailed maintenance program for the drainage network. The maintenance program is expected to be effective by November 2007 and will be supported under the Water Sector Improvement Project (WSIP). Detailed plans to improve the functioning of the complex drainage infrastructure have also been initiated and will be supported under the WSIP.

- Appraisal and negotiations of the Sindh WSIP have been completed in March, 2007 and Board presentation is expected in September, 2007. The delays experienced between negotiations and Board presentation stem from the required clearances of the negotiated documents from the GoS and the GoP. This process has not finalized yet, and approval from Federal authorities is expected during their next meeting in August. Major lessons learned during the last ten years of the Bank's involvement in the water sector have been incorporated into project design.

7. Management believes that while immediate actions have been taken to address the main issues affecting the area as a consequence of the floods of 2003 and 2006, flood risks in the coastal zone of the Indus river system will continue to be high. Historically, these areas have been flooded as part of natural phenomena. Efforts to reduce such risks need to be sustained through structural and non-structural measures in the medium and long term, which are being contemplated under the WSIP and potential follow-up operations.

Progress on Immediate and Short Term Actions

8. The Bank's short term actions were selected to provide an immediate response to the plight of affected people and to address other related issues, including:

- Implementation of the Sindh Coastal Area Development Program (SCAD) in southern Sindh, including review of the social profile of the population in Badin and Thatta districts under the PPAF livelihoods program, with the aim of identifying specific nomadic and other vulnerable groups and addressing additional livelihood support issues;
- Rapid assessment of ecological and livelihood conditions in the dhands to identify immediate measures to improve these conditions;
- Rapid assessment of existing local government flood risk management systems to reduce flood damage and vulnerability by building capacity and improving flood risk response;

- Assessment of the condition of the right embankment of the LBOD spinal drain and its discharge to the Kadhan Pateji Outfall Drain (KPOD) and preparation of a detailed maintenance plan; and
- Timely implementation of the WSIP in order to ensure a rapid startup of the technical studies to design measures to improve the performance of LBOD and prepare a comprehensive flood and drainage plan for the left bank of the Indus River in southern Sindh.

9. **Implementation of the SCAD.** The SCAD was established under the PPAF with the objective of rehabilitating the livelihoods of coastal communities and developing local capacity through better integration of Sindh coastal areas with the rest of the country and economy (see Annex 1). The SCAD includes: (a) improving access to basic services, including health, education, and drinking water supply and sanitation; (b) increasing incomes through improved crop, fisheries and livestock production as well as marketing and micro-finance services; (c) securing access to, and better management of, coastal area natural resources; (d) forming viable community organizations that are inclusive, well governed, and can operate in partnership with the public and private sector; (e) integrating these areas with the national economy by developing rural growth centers; promoting integrated development of physical infrastructure, including construction of productive infrastructure, such as jetties and wharfs; and developing transport and mobility, through the construction of inter- and intra-village roads and intermediate modes of transport, using infrastructure grants and micro-credit; (vi) promoting technological innovations, particularly the use of solar and wind energy for pumping water and generating electricity; and (vi) reducing physical vulnerability, through the construction of flood protection and sea water containment structures and better response mechanisms by communities. 8.

Box 1. SCAD Implementation in Keti Bunder

Keti Bunder is a small town along the Sindh Coast in Thatta district, with a population of 1,460 persons living in 285 households. The majority of the population is engaged in fishing and the average monthly income per household is about US\$70. Only 3 percent of the female population and 21 percent of the male population is literate. In the last ten years the community has been affected by droughts and floods. Drinking water is supplied by tankers from another town. Expenditure on water represents 30 percent of the income of the household. Not surprisingly, the major health issues are waterborne diseases.

The PPAF, through the Aga Khan Planning and Building Service partner organization (AKPBS), is implementing several projects with the active participation of the community: safe drinking water; street cleaning; household latrines; waste and storm water disposal; oxidation ponds and repairs of the existing protection bund.

Financing agreements have been signed over the last year with ten partner organizations (POs) participating in the SCAD through an informal organization, the Sindh Coastal Areas Network (SCAN). The network provides a platform for improving the quality of life, alleviating poverty and reducing vulnerability in the SCAD area through a coordinated, cooperative and collaborative effort of all members, local community organizations and external support agencies. Out of US\$18 million allocated for the SCAD under the PPAF, US\$2.5 million have already been committed. The main activities being carried out are:

- The Social Safety Nets Survey has been completed;
- Social mobilization commenced in January 2007;
- A survey has been carried out to map all settlements in the coastal area and identify nomadic groups. The survey covers 2,830 settlements and includes socio-economic conditions especially in terms of housing, occupation, water and sanitation. The maps generated from the spot survey provide a GIS basis on which progress can be recorded;
- Eighteen community infrastructure projects (service and income improvement projects such as water supply and sanitation, roads, latrines, etc.) and seven integrated area upgrading projects, which include several community infrastructure and income improvement interventions at the village level, have been initiated;
- The table below summarizes the number of sub-projects approved by location. Annex 1 provides a breakdown of the types of projects being implemented and Annex 2 describes a CGAP/World Bank/PPAF pilot project to link safety nets with microfinance;
- The sub-districts (Talukas) along LBOD/KPOD—Badin, Golarchi, Tando Bago and Jati—are being targeted for early program implementation. Three POs are intervening in these areas and 98 projects have been initiated in 36 villages.

Table 1: SCAD Projects by Partner Organization and District²

<i>S. No</i>	<i>Partner Organization</i>	<i>Districts</i>	<i>Amount Approved/ Committed (M.Rs)</i>	<i>Projects</i>	<i>Community Organizations</i>	<i>Beneficiaries</i>
1	NRSP	Badin	53.48	83	83	21,580
2	SPO	Thatta	17.736	25	25	6,500
3	AKPBS	Thatta	23.972	43	46	12,000
4	IET	Karachi W	6.506	10	11	5,120
5	SCOPE	Malir	6.5	27	27	8,640
6	HANDS	Karachi E	3.587	14	14	5,040
7	BRDS	Badin	3.601	15	15	5,400
8	SAFWCO	Thatta	19.657	36	36	9,380
9	Sindh RSP	Thatta	1.72	7	7	1,680
10	TRDP	Tharparkar	18.0	30	30	7,500
Total			154.759 (US\$2.5 million)	290	294	82,840

² The Table is a revision of the table that was included in the Action Plan. Two activities have been added in the section on “Immediate and Short Term” actions, and some of the dates have been amended for reasons that are explained in this report.

10. Progress of the SCAD program under PPAF financing is overall satisfactory considering its promptness in mobilizing resources and partner organizations starting June 2006, and its community driven approach. While the PPAF covers the whole Sindh coastal area, targeted interventions are also being implemented specifically to communities under the direct influence of LBOD. While the PPAF has yet to show visible results, the demand-driven approach requires initial investments in social mobilization prior to income generating activities to ensure sustainability and community empowerment. The PPAF is also perceived as being too widely spread. However, when the SCAD program was conceived, the policy choice was to address poverty issues more broadly than what would be needed strictly around the LBOD area.

11. **Rapid Assessment of Ecological and Livelihood Conditions in the Dhands.** The dhands study has suffered significant delays due to extensive consultations on the scope of the study with the Government and existing organizations active in the area. Identifying the source of financing and appropriate expertise also proved more difficult than expected. However, the assessment is now under way. Funding through the Bank-Netherlands Trust Fund for Pakistan has been approved, contracts have been signed, and field work started in mid-June 2007.

12. The overall study has been divided into three coordinated sub-components. Component A, to be carried out by the National Institute of Oceanography, will (i) review the monitoring data concerning the interaction of the dhands wetland system and the LBOD outfall, including the Tidal Link, (ii) describe the direct physical impacts on the wetland system, and (iii) using new field data, investigate the intrusion of marine ecosystems into the dhands and model its effects. Component B will assess the status of the freshwater ecosystem and its wetland functions and services, including fisheries and water quality, and identify adverse and favorable trends. Component C will conduct consultations with local stakeholders in Badin and in and around the dhands, and undertake a socio economic assessment of the fishing communities directly linked to the dhands.

13. Field work, data analysis, and reporting are planned to be completed by mid-August, 2007. Findings and recommendations will be discussed with stakeholders in a final series of consultations, including GoS, and the report will be finalized by end of September, 2007.

14. **Rapid Assessment of Existing Local Government Flood Risk Management Systems.** The rapid assessment was carried out in April/May, 2007 and discussed with the Government. Badin is one of the most flood vulnerable areas of Pakistan. Flooding is frequent during the monsoon season and the period of flood inundation is typically very long. The region has few natural drains and its vicinity to the Indian border limits the possibilities of water disposal. For this reason, the area has low population, with the exception of transient fisherfolk located near the dhands, who normally move upland during severe weather. The flooding in this area is a natural occurrence. However, the floods of 2003 were particularly severe and evacuation and relief operations had to be carried out by the Army, the Provincial Relief Committee, and the District Coordination

Offices. The area was again hit by floods during 2006 and damages and relief operations occurred principally in Mirpurkhas district, north of the coastal zone.

15. Most recently, on June 23, 2007, tropical cyclone Yemyin 03B lashed the coastal area of Pakistan. While Karachi was the most affected area, floods were also reported in the area under LBOD influence. As part of its contingency plan, the GoS organized a task force to operate the canal network and reduce the water flows to prevent additional flooding in lower Sindh. Rohri canal and Nara canal were closed and irrigation officials reported that the banks of LBOD, Mirpurkhas main drain and other drains were normal and under control. The LBOD system was not affected by the cyclone. Under the PPAF activities, the Sindh Agricultural and Forestry Workers Coordinating Organization (SAFWCO) has begun social mobilization in the affected areas and implementation of relief actions, such as distribution of food, forage and seeds to the population.

16. The past experience of the 2003 and 2006 floods was the basis for preparing a “Contingency Plan to Combat Cyclones and Floods” in 2007 by the District Coordination Officer in Badin. This flood management plan includes: an early warning system; strict watch of the LBOD system; and location of refuges and other infrastructure that can be used in case of emergencies. It also establishes the role of different institutions during emergencies and identifies actions needed to improve the situation of the people and the role of the government and NGOs in cases similar to those in 2003.

17. The flood management plan for Badin needs further improvement. The Bank has identified and discussed with the GoS and the Sindh Irrigation and Drainage Authority (SIDA) the approaches that are needed, such as a clear definition of who is responsible for early alerts and warnings; improvements in the communication network; and responsibilities of the different institutions involved in dealing with flood management, including NGOs. A Bank consultant met with NGOs, including one of the requesters, to incorporate their ideas and concerns in the Flood Management Plan, during a field visit to lower Sindh on April 20, 2007. The institutional capacity of SIDA is expected to be improved through the capacity building component under WSIP. SIDA is working to improve the coordination required to make the Contingency Plan work. Mirpurkhas district also is preparing a Flood Management Plan, using the Badin example as a template (see Annex 3).

18. While the preparation of these plans represents a promising beginning in addressing flood risks and vulnerability, low institutional capacity at the local level keeps remaining a long term issue, and since the closing of the NDP in 2004 the Bank’s leverage in influencing decision making and investments has considerably reduced. Government efforts to reduce flood risks and vulnerability in the area can be supported however through the forthcoming WSIP, which among other things plans to help the Government examine long term options and solutions to irrigation and drainage issue of the outfall area.

19. **Assessment of the Right Bank of the LBOD Spinal Drain and KPOD.** The assessment was carried out in April/May 2007 and discussed with the Government. The emergency repair work to restore the functionality of the outfall drains—KPOD and

Dhoro Puran Outfall Drain (DPOD)—was undertaken during 2004 and 2005 by the GoS, in association with the 5th Corps of Engineers, Pakistan Army. About 394 cuts and breaches in drains and 224 cuts in canals were repaired by the Left Bank and Nara Area Water Boards (AWBs) and further strengthening of both banks of LBOD and KPOD has been continued after the 2006 floods. As of May 31, 2007, a total of Rs.756 million (US\$12.6 million) has been committed in repairs and reinforcement of the system; to date about Rs. 322 million (US\$5.3 million) has been spent, US\$2.5 million of which in the last year. However, SIDA has estimated that a total of Rs 1,053 million (US\$17.55 million) is still needed to complete the strengthening of the outfall system (see Annex 4) and the implementation will take over two years.

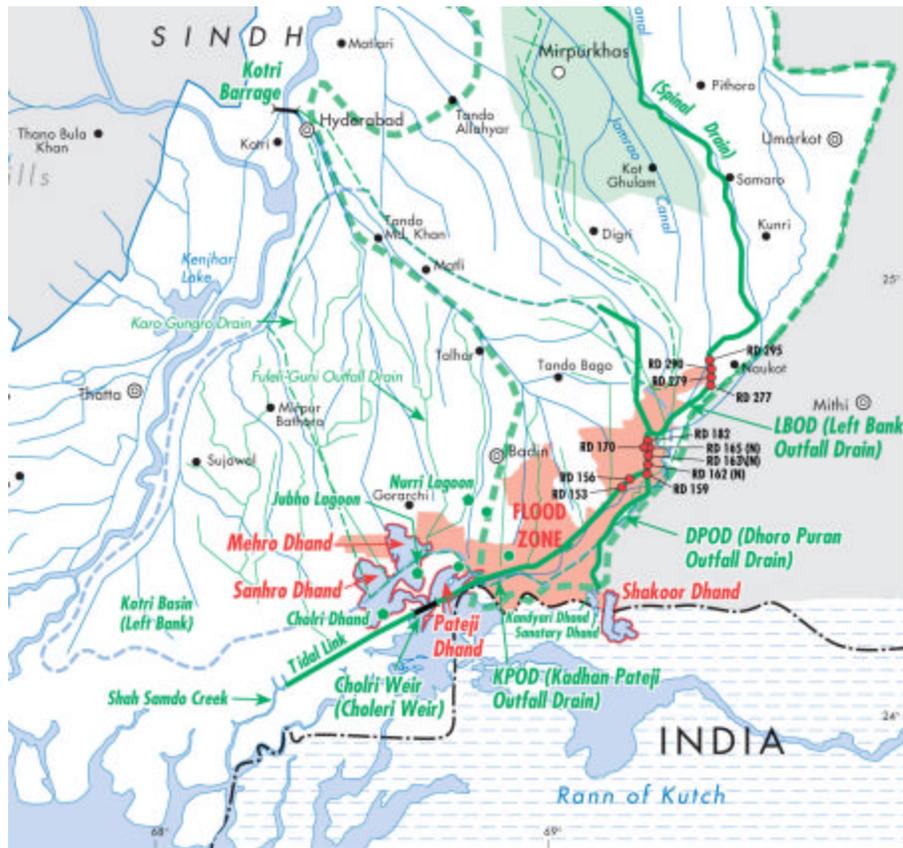


Figure 1. Left Bank of Indus River in Southern Sindh
(Source: POE Drainage Master Plan)

20. In carrying out repair works and strengthening of drain banks, the discharge capacity of the KPOD and LBOD spinal drains has been increased to about 9,000 cubic feet per second (cusecs) as compared to the original design of 4,400 cusecs. This has been done by moving the bank out from the service road in the right bank of the drain (inspection path) by at least 20 feet and raising its level. The other bank, which does not have a path for field based inspection, has been raised in most reaches of the drain. Finally, the weir controlling the flow to the DPOD has been modified by reducing its crest level to discharge more water. With these measures, the storm water carrying

capacity of the drainage system has been increased significantly, enabling it to handle larger volumes of water and thus protecting the area against flooding.

21. The actions taken by the GoS to strengthen LBOD and KPOD will reduce the risk of flooding in the area. However, the GoS has yet to put in place a detailed maintenance program for the drainage network and this work is expected to start by November 2007 and will be supported under WSIP. Detailed plans to improve the functioning of the complex drainage infrastructure will require long term solution including the need to evaluate possible new structural options. A comprehensive solution to the flooding around the left bank of the Indus and safe disposal of drainage/flood waters will need to be developed through the studies envisaged under WSIP, as indicated below. The Bank provided guidance in the further refining of the flood management plan and the methodology will also be used for developing a sound Asset Management Plan in LBOD following the experience used in Punjab.

22. **Implementation of WSIP Phase-I Project.** The WSIP was negotiated in March 2007. It was approved by the GoS and the GoP. It will be submitted for approval of the Executive Committee of the National Economic Council in July 2007 and to the Bank's Board of Executive Directors in September 2007. The delays experienced between negotiations and Board presentation stems from the need to wait for required clearances of the negotiated documents from both the Government of Sindh and the Government of Pakistan.

23. The overarching objective of the WSIP is to improve the efficiency and effectiveness of irrigation water distribution in three AWBs—Ghotki, Nara and Left Bank—particularly with respect to measures of reliability, equity and user satisfaction. This would be achieved by: (a) deepening and broadening the institutional reforms that are already underway in Sindh; (b) improving the irrigation system in a systematic way, covering key hydraulic infrastructure, main and branch canals, and distributaries and minors; and (c) enhancing long-term sustainability of the irrigation system through participatory irrigation management and developing institutions to improve operation and maintenance of the system and cost recovery. Improved water management would lead to increased agricultural production, employment and incomes from about 1.8 million hectares or more than 30 percent of the irrigated area in Sindh, which is one of the poorest regions of the country. The WSIP covers the catchment area of the LBOD.

24. The WSIP will finance the following components:

(a) Community Development and Capacity Building (US\$10 million): capacity of SIDA, AWBs, and Farmers' Organizations (FOs) would be strengthened under the project, enabling them to perform their responsibilities according to the Sindh Water Management Ordinance of 2002. The project would strengthen the capacity of FOs to carry out operation and maintenance of the irrigation and drainage systems;

(b) Rehabilitation and Improvement of Irrigation and Drainage System (US\$139.8 million): the main and branch canals, distributaries/minors (secondary

level canals) and drainage system in FOs areas would be rehabilitated and improved and a modern water measurement and accounting system would be installed throughout the canal systems in the three AWBs;

(c) Management Plans for Major Irrigation & Drainage Infrastructure (US\$12 million): A feasibility study for rehabilitation of the Gudu barrage would be prepared and assistance provided to prepare studies for rehabilitation of the Sukkur and Kotri barrages. A regional master plan would be prepared to deal with floods and drainage issues on the left bank of the Indus River and measures designed for improvement of the Indus delta and the coastal zone;

(d) Monitoring and Evaluation of the Project Impact and Environmental Management Plan (US\$4.2 million): This component would be for monitoring and evaluation and supervision of the environmental management and social action plans; and

(e) Project Coordination, Monitoring, Technical Assistance and Training (US\$9 million): This component would support project coordination, monitoring of implementation activities, management and supervision of procurement by an independent project management consultant/ procurement agent, and technical assistance and training.

25. Particularly relevant is Component C of the WSIP, which includes detailed studies and preparation of a regional master plan in consultation with stakeholders. This plan would address flooding and drainage issues in the area on the left bank of the Indus River, taking into consideration structural and non-structural measures, including remedial measures for any outstanding deficiencies in the LBOD and measures for the retention and/or safe disposal of storm and flood water. A separate plan would be prepared for rehabilitation and improvement of the delta area, wetlands and coastal zone, taking into consideration the environmental importance of the region and its economic potential, and drawing upon international experience. Feasibility studies would be completed and detailed designs would be prepared for priority works for implementation under a future investment project that Sindh may undertake with the assistance of its development partners.

Progress on Medium Term Actions

26. **Flood Management Plan for the Left Bank of the Indus River.** A common understanding has been reached with the Governments of Sindh and Pakistan regarding the approach, methodology, and allocation of resources for preparation of a master plan to manage flood issues in the area of the Indus River and the coastal zone. About US\$7 million have been allocated under WSIP to carry out this work, along with preparation of feasibility studies and detailed designs of priority works identified under the plan. WAPDA has begun studies in the area to determine the need for a structure in KPOD to control the back flows coming from the Tidal Link and the overall criteria for redesigning the capacity of the outfall system.

27. **Coastal Development Program.** Under the FAO Technical Cooperation Program (FAO-TCP), a mission visited Sindh on December 6-19, 2006 to develop a project concept note for a Coastal Development Program . While mission's findings were discussed with the GoS and GoP, the final concept and the scope of the activities for the FAO-TCP are still under discussion and are not expected to be finalized before March 2008. Additionally, an Asian Development Bank (ADB) supported project (US\$40 million) is financing mainly demand-driven community infrastructure. The PPAF has allocated about US\$18 million. These are substantive resources for the coastal area, which counts about two million inhabitants. The coastal development program will need therefore to ensure alignment of its interventions and also address some of the issues identified under the regional planning studies mentioned above. The approach to coastal development will be finalized during the WSIP studies.

Long-Term Outcomes

28. In the context of improving management of irrigation and drainage infrastructure, services and equitable distribution of water in Pakistan, the Bank has intensified the dialogue with all Provinces in an effort to pursue institutional reforms coupled with infrastructure development. In Punjab, the Irrigation Sector Development Policy Loan (DPL-II)³ is actively promoting a new governance agenda in the irrigation sector to increase accountability and transparency in service provision and farmer participation. In Sindh, the WSIP would cover 30 percent of the irrigated area in which the Government has taken action to reform irrigation and drainage institutions, establish AWBs and develop FOs for irrigation management. The implementation of WSIP is a significant step in addressing the present governance issues in the Province by strengthening the financial management and procurement systems and pursuing the process of devolving irrigation management to the farmer community for greater accountability and transparency. In Balochistan a small scale irrigation and watershed management project combined with drought mitigation measures is being prepared. In NWFP the Bank is pursuing a dialogue to sustain the initial reform efforts carried out under the previous on-farm water management project.

29. An improved institutional framework for water resources management is also central to the Bank's ongoing discussions with the GoP on further development of dams and water resources infrastructure on the Indus River. Pakistan is moving steadily to ensure the sustainable management of the Indus system; this will include the preparation and implementation of a comprehensive framework of policy and institutional reforms and development plans, all to provide sustainable and equitably-shared benefits to the people of Pakistan. This concept has been fully endorsed by key stakeholders at the highest level in the Government and by most civil society organizations. The challenge for the Bank and other donors is to move the process forward in a manner that ensures

³ To support the Government of Punjab Medium Term Irrigation Sector Reform Program begun in 2005 to implement institutional and policy reforms to improve their asset management plans; to make interprovincial water allocation and distribution more transparent; to decentralize irrigation management to water users associations; and to improve water productivity.

full government ownership at the federal and provincial levels and leadership in the water reform process, compliant with international best practice.

Conclusions

30. Implementation of the five actions under the Action Plan agreed by the Executive Directors during the discussion of the findings of the Inspection Panel's Investigation Report and the Management Report and Recommendation on the Pakistan NDP project is broadly on track. Although the solution to many of the poverty, ecological and flood management issues of the outfall area of Sindh are of a long term nature and require management and structural measures, the activities initiated under the Action Plan are an important step in the right direction. Despite strong support at a high level in the GoS, weak capacity at the local level will remain a serious issue and will need considerable strengthening. The Sindh coastal zone and, in particular, the LBOD outfall system will continue to remain a high-risk subject.

31. Management's assessment is that addressing the complex socio-ecological and structural issues affecting this area will continue to be a difficult challenge compounded by recurrent and adverse weather events. Management will remain actively engaged in following up on these issues. The NDP project is now closed, but the Bank will continue to support the Government through the on-going dialogue, the PPAF, the WSIP and the coastal zone management initiative under preparation. Management will report again to the Board on further progress in implementation of the Action Plan and other issues as needed, in November 2007.

32. As stated in October 2006 Report, in Management's view the Bank was diligent in the application of its policies and procedures in this case. The Bank has done its best to help the Borrower to address two distinct problems with specific inherent complexities: the technical challenges of an outfall system in southern Sindh presented by LBOD, and the national reform process challenges taken up by NDP. NDP succeeded in initiating a process of critical governance reforms, changing the direction and strategy in the sector towards decentralization, participatory management and the empowerment of farmers. This was a critical step in transforming a governance system that was over 100 years old. This process will continue for some time, but the foundation has been securely established.

33. In regard to LBOD, with hindsight, the Bank could have made some judgments differently, especially by calling for more explicit consideration of risks and tradeoffs in the context of a participatory planning process during the LBOD design stage, by finding a way to support the implementation of the LBOD Environmental Management Plan at a much earlier stage, and by encouraging and supporting Sindh to undertake the livelihood diagnostic study in the coastal areas of Badin that were not benefited directly by LBOD. The Government of Pakistan and Sindh have promptly responded to the flood emergencies in the outfall area of LBOD, which as has been repeatedly assessed by different experts as a flood prone zone.

Table 2: Action Plan

<i>Activities & Projects</i>	<i>A</i>	<i>B</i>	<i>C</i>	<i>Responsibility</i>	<i>Updated-Schedule</i>
Immediate and Short Term					
<ul style="list-style-type: none"> Implementation of Livelihood Improvement Program in Badin and Thatta Districts Phase I (US\$2 million) Phase II (US\$16 million) 				Pakistan Poverty Alleviation Fund (PPAF)	2006-2007 2007-2009
<ul style="list-style-type: none"> Sindh WSIP Appraisal Board Presentation Effectiveness 	✓	✓	✓	GoS/GoP/SIDA WB GoS/GoP/SIDA	Nov. 2006 Aug. 2007 Nov. 2007
<ul style="list-style-type: none"> Socio-economic and environmental diagnostic study of the dhands and surrounding areas 	✓			WB/SIDA	Sep. 2007
<ul style="list-style-type: none"> Assessment of the conditions of the right embankment of the LBOD spinal drain and KPOD. Preparation of a maintenance plan. 			✓	SIDA/WAPDA	July 2007
Rapid Assessment of Existing Local and Government Flood Risk Management Systems.			✓	SIDA/Local Governments.	May 2007
Medium Term					
<ul style="list-style-type: none"> Flood Management Master Plan for the left bank of the Indus River in southern Sindh 	✓	✓	✓	SIDA	2007-2009
<ul style="list-style-type: none"> Coastal Development Program <ul style="list-style-type: none"> Project Concept Note 	✓			WB/FAO-TCP	Mar. 2008
Long Term Outcomes					
<ul style="list-style-type: none"> Improved management (O&M) of irrigation and drainage infrastructure; improved service delivery and governance; and transparent and more equitable water allocation and distribution 	✓	✓	✓	GoP/GoS/WB	2006-2009
<ul style="list-style-type: none"> Modern institutional framework for Indus Basin water resources management 	✓	✓	✓	GoP/GoS/WB	2009-2016
<ul style="list-style-type: none"> Sustained governance reform agenda 			✓	GoP/GoS/WB	2009-2016
KEY: A: Poverty and livelihoods, B: Flood risk, C: Threatened ecosystems					