

TECHNICAL ASSISTANCE COMPLETION REPORT¹

Division: AFRM

TA No., Country and Name			Amount Approved: US\$450,000		
TA 4415-AFG: Kabul Air Quality Management			Revised Amount: US\$450,000		
Executing Agency Ministry of Irrigation, Water Resource and Environment/National Environmental Protection Agency		Source of Funding Government of Denmark	Amount Undisbursed: US\$ 36,680.02	Amount Utilized: US\$ 413,319.98	
TA Approval Date: 15 October 2004	TA Signing Date: 10 November 2004	Fielding of First Consultants: 8 February 2005	TA Completion Date Original: 30 September 2005 Actual: 31 December 2006		
			Account Closing Date Original: 30 September 2006 Actual: 31 July 2009		
Description					
<p>Air quality in Kabul has been adversely affected by vehicular emission (diesel and gasoline); poorly maintained engines; adulterated fuels; burning of vegetation and other biomass for heating, cooking, and bathing; burning of refuse; and operation of brick kilns fired by a variety of fuels, including wood and scrap tires. Impaired air quality has a negative impact on public health and welfare and poses a significant burden in economic and social costs. During the preparation of the technical assistance (TA), the Afghanistan Government had yet to formulate a coherent Air Quality Management (AQM) strategy and baseline air quality and emissions data did not exist. Prior to the TA, no significant activities had been held to raise public and government awareness about the harmful impact of air pollution, and no policy of AQM had been developed. The TA aimed to assess and solve some of the most pressing problems related to AQM. Kabul was selected as the first city to be covered under the TA, as its topography and climatology resulted in serious and prolonged atmospheric inversions during fall and winter.</p>					
Expected Impact, Outcome, and Outputs					
<p>The objective of the TA was to assist the Ministry of Irrigation, Water Resource and Environment (MIWRE), through the National Environmental Protection Agency (NEPA) and the Ministry of Water and Power, to develop a prioritized, phased, and sustainable AQM system for Kabul. This would be achieved through (i) selection of appropriate and affordable technologies for sampling and analysis, (ii) fostering of local ownership by incorporation of NEPA staff into the TA team, and (iii) communication of success and data to elevate local support and sense of ownership.</p>					
<p>The TA had the following expected outputs: (i) baseline air quality monitoring data, and a sustainable AQM system for sampling and reporting of ambient PM-10, SO₂, and NO₂ levels in Kabul; (ii) baseline emissions inventory (industrial, vehicular, and domestic) and a sustainable emissions inventory system; (iii) delivery of software tools and training to support AQM in Kabul, including development of technical proficiency in local counterparts in the public and private sectors for the measurement, management, and control of air pollution; (iv) public information documents, workshops, and seminars on the impact of air quality in Kabul; and (v) development of a draft AQM system for Kabul, and an urban air quality strategy report, with specific policy recommendations for consideration of MIWRE and the Kabul Municipal Government.</p>					
<p>During the TA implementation, two solar energy-powered fountains were proposed to be constructed, as additional TA outputs, to demonstrate the uses of 'clean' energy for air quality control.</p>					
Delivery of Inputs and Conduct of Activities					
<p>The TA design was adequate, the terms of reference for consultants were appropriate, and the TA was completed within the budget. The TA was implemented by 3 international and 3 national consultants. A total of 8 person-months of international and 42 person-months of national consulting services were used, compared to the original plan of 6 person-months of international and 42 person-months of national consulting services. The consultants provided satisfactory reports in accordance with the schedules in the contract. They were able to work in the challenging situation in Afghanistan. They interacted well with stakeholders, provided substantial inputs, trained NEPA staff, and advised the senior officials of NEPA on strategic environmental issues in Afghanistan. A consultative and skills transfer approach was adopted in each activity to ensure the ownership of key stakeholders. Moreover, the consultant provided the opportunity to the staff to practice their new skills as facilitators and trainers.</p>					
<p>Although ADB fielded review missions intermittently, these missions were output oriented and guided the consultants and the executing agency (EA), especially NEPA. The performance of the EA was satisfactory.</p>					

¹ In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.

Evaluation of Outputs and Achievement of Outcome

The TA delivered the following outputs:

- (i) An AGM Strategy for air quality improvement in Kabul (the Strategy) was developed, with the policy on vehicular emission reduction.
- (ii) NEPA's capacity for data collection, installation, operation and maintenance of monitoring systems was built through four workshops, seminars, and trainings on air quality.
- (iii) Air quality monitoring systems (equipments) were procured and installed in eight locations in Kabul.
- (iv) Public awareness about air quality was raised through audio-visual and print media, as well as distribution of materials.
- (v) Baseline data on air quality were established.
- (vi) An inventory of pollutant sources at the city level and related pollution corridors was assessed and reported. Data were collected on NO₂, SO₂ and PM-10 as the most hazardous pollutants and analyzed.
- (vii) Two fountains powered through solar panels were constructed. As of September 2008, however, neither of the fountains was operational due to inadequate operation and maintenance by local authorities.

The Government was satisfied with the TA's results and found them useful for air quality improvement in cities like Kabul.

Nevertheless, a TA audit conducted in mid-2007 and early 2008 found that the TA administration was deficient. In some cases, the procedures on TA administration were not strictly followed. These were related to consultant selection, contract variations, budget reallocation, procurement of goods and services, and the submission of back-to-office reports. The documentation and record-keeping were also deficient, which made it difficult to appropriately monitor and follow up TA activities. AFRM took corrective actions.

Although the TA was completed on 31 December 2006, the TA account could not be closed because of the pending issue on the equipment expense of \$39,285.20. ADB paid this amount to Ogawa, the U.S. supplier of air quality monitoring equipment, on 5 August 2005 against a Pro-forma Invoice dated 14 June 2005, based on an order verbally made by a consultant working under TA 4541-AFG. Ogawa made a partial delivery of equipment worth \$5,922.48. The reasons why Ogawa did not make full delivery were not traceable as the project officers directly handling the matter have either left ADB or been transferred. ADB requested Ogawa to refund the amount equivalent to the undelivered equipment, but Ogawa refused to refund and instead proposed another set of equipment and services. Nevertheless, the EA no longer needed such equipment. Extensive consultations were held with the EA on possible options to use the remaining funds, but none of them were feasible. Further action to recover the fund was considered neither economical nor efficient. As a result, CTL wrote off the net amount of \$33,362.72 on 24 July 2009. The TA account was subsequently closed on 31 July 2009.

Overall Assessment and Rating

The TA was relevant and responsive to the Government's requirements, and the TA's objective was substantially met. However, the TA impact and outcome seem less sustainable. The Government has developed the AQM Strategy, but it has not formulated an implementation action plan. No institutional arrangements have been made for the use of data collected under the TA. No adequate systems have been established for the post-TA campaign on public awareness about air quality. Moreover, proper procedures on TA administration were not followed sometimes during the TA implementation, which has resulted in the written-off of part of the TA funds and the delays in closing the TA account. Overall, the TA is rated partly successful.

Major Lessons

The usefulness of a TA is related to the sustainability of its outputs. Because of the lack of developing an implementation action plan under the TA, the Government does not know how to proceed with the AQM Strategy. This has reduced the effectiveness of the TA. A flexible approach, longer implementation period, and realistic implementation arrangements are essential, given the ongoing transition from conflict to peace and development as well as limited human and institutional capacity in Afghanistan.

Recommendations and Follow-Up Actions

The Government needs to implement the AGM Strategy and policy recommendations provided under the TA. NEPA needs to (i) implement the recommendations on vehicular emission reduction adopted by the Government and enforce the measures and mechanisms in the AQM Strategy in a prioritized and phased manner; (ii) continue air quality monitoring, data sampling and analysis as recommended in the AQM Strategy; and (iii) seek financial support for improving air quality in Kabul. AFRM needs to strengthen monitoring and administrative control systems to follow proper administrative procedures. Periodical audits need to be conducted at AFRM.