Project Summary

Project Background
The following areas of concern and potential barriers to the development of hydropower in Pakistan have been identified:

1) Lack of up-to-date technical competence at engineer, sub-engineer and technician level, both (i) for design of projects according to latest standards, and (ii) for operation & maintenance of existing projects.

2) No integration of climate change-related issues in the design of the dams, for safety issues (for example including the risk of extreme floods in the concept of the dam), as well as for efficiency and profitability of the projects (for example taking into account the variability of rain into the hydrological studies).

3) Insufficient awareness of environmental & social due diligences, in order to make sure that the hydropower projects are in line with the best international standards – thus attracting more international financing.

After extensive review of the options, the Water and Power Development Authority (WAPDA) decided to fully rehabilitate its existing training centre of Mangla, and to transform it into a "centre of excellence for hydropower". This Hydropower Training Institute (HPTI) will be, upon completion, the only centre in Pakistan in charge of training and capacity-building for hydropower, both at technical and engineering levels. It will not be restricted to WAPDA's staff, but will also be opened to other public, provincial or private operators involved in hydropower in Pakistan.

Project Objectives
The role of the HPTI is therefore paramount to promote and accompany the development of hydro power generation. The global improvement of capacities for public & private operators, will bring a very positive contribution to climate change mitigation and adaptation in Pakistan. The Mangla HPTI will address these issues by providing appropriate training and courses. This high instructional quality of training will be achieved through provision of relevant equipments (acquired with AFD loan) and proper technical assistance for the training of trainers.

Project Results
Comprehensive review of existing training facility and all existing training documents;
Establishment of a list of actual training modules to be developed;
Finalized conceptual plan/layout of HPTI;
Finalized architectural and structural design of the HPTI buildings and infrastructure;
Specification for training hardware and tools;
Prepared 10-year Business Plan of HPTI, including estimates of the number of trainees (WAPDA & non-WAPDA) and progressive recovery of O&M costs for WAPDA.

Services Provided
Training Consultants' services were organized in 4 packages:
i) Package-I: Assessment of the training needs
ii) Package-II: Design of buildings & infrastructures
iii) Package-III: Training hardware & tools
iv) Package-IV: Business Plan for HPTI

Services:
• Assessment of actual and specific needs for training of civil works, electrical, electronics and mechanical engineers & technicians.
• On the basis of the assessment of training needs, and of the design already under preparation by WAPDA Central Design Office, review and finalization of conceptual plan/layout of HPTI.
• Preparation of detailed technical specifications, BOQs and Engineer's cost estimates for the requisite training tools.
• Preparation of a 10-year Business Plan of HPTI, including estimates of the number of trainees (WAPDA & non-WAPDA) and progressive recovery of O&M costs for WAPDA.