

Experience in Technical Assistance Services for Cambodia Road Improvement Project (ADB)

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1. Introduction

The paper presents the experience of Technical Assistance Services (TA) of ADB for Cambodia Road Improvement Project (Fig.1). The TA was implemented over five months, commencing 1st November 2002 and concluding by 31 March 2003. The TA consisted of three phases; (i) review of the previous studies and field investigations and survey, (ii) design update and drawing preparation, and (iii) preparation of bid documents. The TA encountered the following major problems during its implementation.

- Very limited time allowed for design: Total length to be designed of about 350km against a design period of five months,
- No topographical map available, and still need to prepare bid documents,
- Team consisting of multi nationality, and
- Mine contaminated study area.

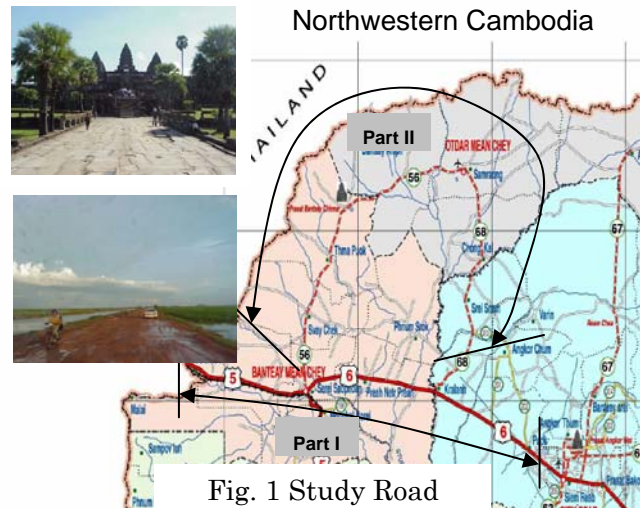


Fig. 1 Study Road

2. Outlines of the Project

Cambodia is in the early stages of restoring its transport infrastructure, which was severely damaged during the years of civil strife (Fig.2). Northwestern Cambodia is one of the poorest regions of the country that is critically in need of post conflict reconstruction to enable resumption of economic activities. The project road forms the spine of the transport network in northwestern Cambodia and its current condition is a major impediment to social and economic development activities. The project road consisted of two parts. The first part is to rehabilitate approximately 150 kilometres (km) of National Road (NR)

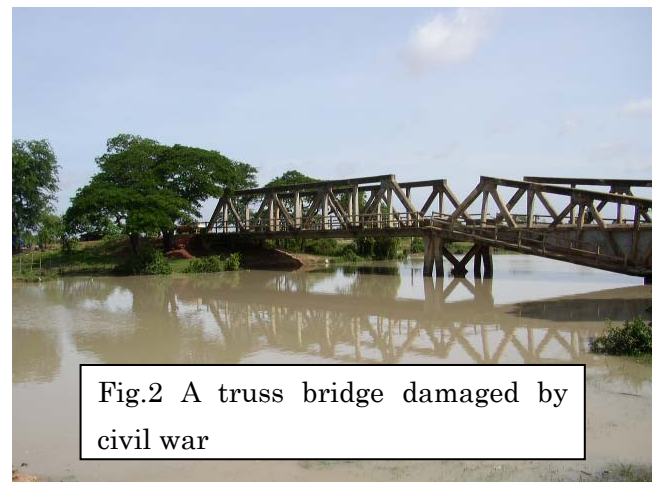


Fig.2 A truss bridge damaged by civil war

5 and NR6 from Siem Reap, via Sisophon, to Poipet on the Cambodian border with Thailand, which are located on the edge of the Tonle Sap floodplain. Aside from a large number of culverts and bridges most of which are severely damaged or in poor condition, approximately 80 percent of the road pavement have failed and are now covered by graded dirt. The road is passable only during the dry season. The project roads have 113 cross drainage pipe culverts and 43 large structures inclusive of 3 bridges in excess of 50 meters. The second part is to rehabilitate bridges on NR56 and NR 68. NR56 is connecting Sisophon to Samraong with a distance of 114km; NR68 is connecting Samraong to Klaranh with a distance of 79km.

These two roads form a loop in the north of NR6. The pavement of NR56 and NR68 is natural gravel with cobblestones embedded in the laterite surface and the road width is typically 7 to 8 metres. There are some 50 bridges on the loop, distributed approximately one-third on NR56 and two-thirds on NR68. Most of the bridges are in very poor condition and several bridges are collapsed. Critical needs for accessibility on the loop are replacement of all the existing bridges. Thus, they will be replaced by two-lane bridges or culverts with 10 meters width. Katahira & Engineers International in association with Khmer Consultant Engineering Corporation Ltd. was engaged as the consultant for the TA and conducted engineering design for road, bridges and culverts.

3. Salient Features Involved

(1) Project scope re-definition and total time management

- Re-defining accuracy to be designed and time allowance consideration,
- Determining the critical tasks such as accurate road levels and Year 2000's flood trace inventory and detailed structure inventory for their replacement design,
- Adding new task of minimum centre line, structure elevation survey, and cross section survey, which were excluded in the original TOR, and
- Adjusting time schedule and staff organization (Fig.3 and 4)

(2) Human resource management

As shown in Fig.3, the TA team had multi nationality including British, Cambodian, Japanese and Philippines. Culture, religion, and language were different. Communication based on appreciation of these socio-cultural differences each other was important to make team efficient.

(3) Risk Management against Mine

The study area is declared as the mine contaminated area. The survey was limited restrictedly within the demining zone. In addition, the technical standards for clearance of demining and Unexploded Ordinance (UXO) was prepared for bid documents.

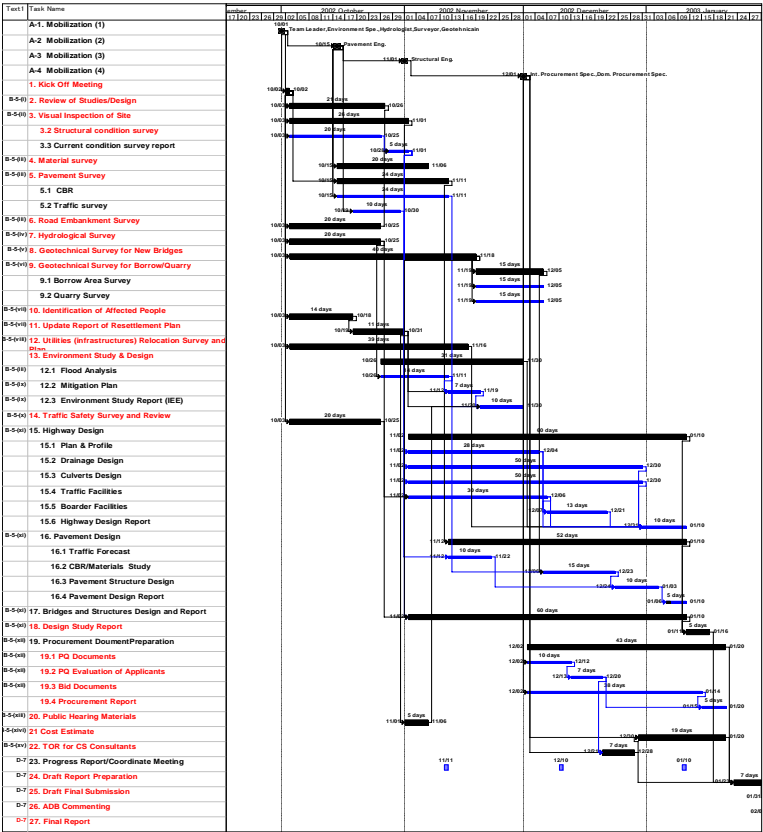


Fig.3 Time Schedule

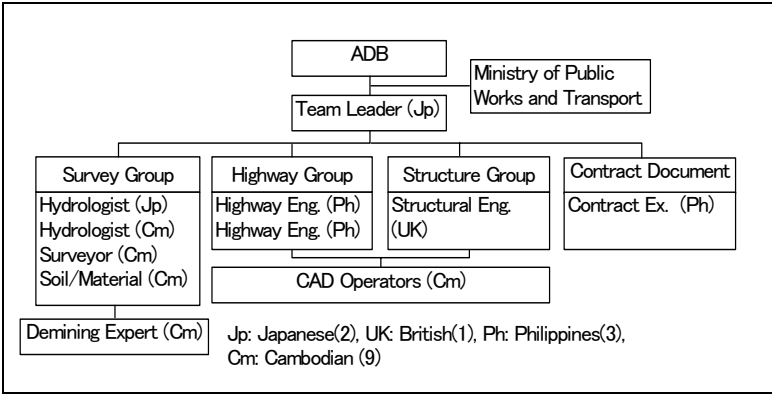


Fig.4 Organization