

## **Environmental Assessment Methodology**

The Project Environment team, consisting of one international and one domestic consultant was mobilized on the 9<sup>th</sup> of October. The core activities of the Environment team have been to identify and screen possible impacts of the proposed expressway projects on biophysical and social components of the environment. Environment assessment methodology has included review of relevant documents and maps, site visits, consultations with PMUs, and other stakeholders.

The Environment team have completed ADB's Rapid Environmental Assessment Checklists (REAs) and Environmental Categorization Forms for all the proposed expressways in accordance with the ADB's Operations Manual (OM)-F1 on Environment and Environmental Assessment Guidelines. Appendix 3.D of this Draft Final Report contains REAs and Environment Categorization Forms for all of the proposed expressways. The PPP Projects of Ninh Binh - Thanh Hoa (part of the Project No 2), HCMC- Long Thanh- Dau Giay (Project No 7), and Bien Hoa - Ba Ria (part of the Project No. 22) are analysed more thoroughly and the preliminary assessments are attached in in the same Appendix 3.D of this report.

The ADB REA checklist is to be used to scrutinize each expressway link as to its location, the sensitivity, scale, nature, and magnitude of its potential environmental impacts and the availability of cost-effective mitigation measures. The checklist is to be prepared to support the environmental classification of a project.

The REA Checklists are completed based on feasibility studies, which the team requested and obtained from the Project Management Units (PMUs) and VEC. Feasibility studies are in Vietnamese and it has been time-consuming and difficult to obtain those. 62% of the projects (16) have no pre-feasibility or feasibility study available, because they are too early in the project cycle.

Moreover, available topographical maps have been reviewed for the purpose of environmental screening and REAs. NGO of Winrock has been consulted, which has helped the Team to identify environmentally sensitive areas (forest areas) located near or within some of the proposed expressways in Southern region.

The screening involves determining the need for a full Environmental Impact Assessment (EIA), Initial Environmental Examination (IEE), or only a mitigation and impact statement. Projects thus screened for their expected environmental impact (REAs) are then assigned to one of the four ADB categories; A, B, C or FI.

- (i) Category A projects are those which could have significant adverse environmental impacts. An environmental impact assessment (EIA) is required to address significant impacts. The following locations for prospective projects suggest a Category A classification:
  - in or near sensitive and valuable ecosystems (e.g., protected areas, wetlands, wild lands, coral reefs, and habitats of endangered species);
  - in or near areas with cultural heritage sites (e.g. archaeological, historical sites or existing cultural sites);
  - densely populated areas where resettlement may be required or pollution impacts and other disturbances may be significant;

- regions subject to heavy development activities or where there are conflicts in natural resource allocation;
  - watercourses, aquifer recharge areas, or reservoir catchments used for potable water supply; and
  - lands or waters containing valuable resources (e.g. fisheries, minerals, medicinal plants, prime agricultural soils).
- (ii) Category B projects are those which could have some adverse environmental impacts on human populations or environmentally important areas, (e.g., wetlands, forests, grasslands, and other natural habitats), but of lesser degree or significance than those for category A projects. An initial environmental examination (IEE) is required to determine whether significant environmental impacts warranting an EIA are likely. If an EIA is not needed, the IEE is regarded as the final environmental assessment report.
- (iii) Category C projects are those, which are unlikely to have adverse environmental impacts. No EIA or IEE is required, although environmental implications are still reviewed.
- (iv) Category FI projects are those which involve a credit line through a financial intermediary or an equity investment in a financial intermediary. The financial intermediary must apply an environmental management system, unless all subprojects will result in insignificant impacts.

According to preliminary environmental screening and REAs, 85% of the expressways (22) falls under category A requiring an EIA to address significant impacts 15% of the expressway (4) are categorized as Category B projects. The proposed three PPP projects are also categorized as A projects. It is possible for a project to be reclassified as new information becomes available or as modifications are introduced in the project design.

The TA Project team will propose the PPP projects based on economic, social and environmental assessment processes for ADB funding. The REAs and environmental categorization forms for the PPP projects will be submitted to the Chief Compliance Officer of the Regional and Sustainable Development Department of ADB.

The environmental analysis is based on pre-feasibility and feasibility studies, statistics, geographical data (topographic, thematic maps such as vegetation/forest maps), relevant agency publications, and informant/stakeholders interviews from the affected area. Published scientific environmental literature is also reviewed to support the preparation of the analysis. The main set of documents that were reviewed by the Environment Team were pre-feasibility and studies, Government laws and regulations, the Environment documents of Vietnam Environment Protection Agency, relevant ADB and WB Environment documents, UN Environmental reports and statistic, etc.

Environmental site visits and surveys are the usual methodology tools that will be conducted under the preparation of each Expressway project if donor funding is part of the package. The Environmental Impact Assessment (EIA) is typically done for ADB funded projects, World Bank (IDA/IBRD) and most bilateral donors. Naturally, there will be Expressways that do not have donor funding and therefore they will follow the environmental impact assessment requirements of Vietnam.

The Environment Team has conducted site visits to PPP projects. More detailed analysis of these projects is provided in the Appendixes 3.D of the report. The site visits to all of the proposed Expressways were not possible due to budget and timing limitations.

Stakeholders who have been met include VEC staff, several PMU's on their environmental assessment and management process, staff from the main engineering design company (Tedi), and local construction companies. Several indigenous Environmental NGOs were also consulted. The Contact list provides a full list of persons consulted.

A presentation on environmental assessment of expressways was held in a Workshop called "Expressway Network Development Plan, Workshop 2: Expressway Master Plan" in Da Nang in 2<sup>nd</sup> of December, 2006 to provide information on environmental assessment methodology and environmental impacts of the expressways.