Some Observations on Ecological Assessment From the Environmental Impact Assessment Ordinance Perspective

(Important Note :

The guidance note is intended for general reference only. You are advised to refer to and follow the requirements in the Environmental Impact Assessment Ordinance (Cap 499) and the Technical Memorandum on the Environmental Impact Assessment (EIA) Process. Each case has to be considered on individual merits. This guidance note serves to provide some good practices on EIA and was developed in consultation with the EIA Ordinance Users Liaison Groups and the Advisory Council on the Environment. This guidance note is subject to revision without prior notice. You are advised to make reference to the guidance note current to the date. Any enquiry on this guidance note should be directed to the EIA Ordinance Register Office of EPD on 27th Floor, Southorn Centre, 130 Hennessy Road, Wan Chai, Hong Kong. (Telephone: 2835-1835, Faxline: 2147-0894), or through the EIA Ordinance web site (www.info.gov.hk/epd/eia)

Purpose

Although the Environmental Impact Assessment (EIA) Ordinance - Technical Memorandum on Environmental Impact Assessment Process (TM), particularly Annexes 8 and 16, has sought to provide some guidance on conducting ecological assessment, there are many areas which may require further elaboration. This guidance note serves to clarify the requirements and share our experience with all practitioners.

Presentation

Habitat Map

2. Under Annex 16 of the TM, a habitat map of suitable scale should be provided to show various habitats of the study area and its surroundings. The legibility of this map is often a matter of concern. The map should facilitate any interested parties to verify the information provided in the ecological assessment.

Inconsistencies

3. It is common to spot inconsistencies among reports produced under the same project, for example, the main report, the appendices, the Environmental Monitoring & Audit manual, the executive summary etc. It is also not unusual to find such problems between different chapters of the same report, like the ecological assessment chapter and the landscape chapter. Sometimes there are inconsistencies between different sections of the same chapter. For instance, an ecological impact is rated as moderate in the impact assessment but subsequently considered minor in the conclusion without any elaboration for the difference.

Presentation Target

4. The EIA process in Hong Kong is very transparent and open. The ecological assessment should therefore be written and presented in easily understandable language such that any member

of the public could grasp the essence of the findings and participate in the discussions. In short, the target of the presentation should not be restricted to the experts.

Data Collection

Reference

5. The references quoted in the ecological assessment should be of direct relevance to the study at hand. Studies and findings on the general locality should not be taken as the representative information of a specific area though that area may fall within the locality. If too much of such information is included in the ecological assessment, it could only be regarded as superfluous.

Literature Review

6. Existing ecological information taken from other sources should be evaluated and verified before being adopted in the ecological assessment. The reliability of the source and validity of the information are often matters of concern. A good practice is to take note of these previous findings and verify such information in the field survey.

Information Source

7. Due weight should be given to published data (e.g. journals, books, reports) and recognized sources instead of unpublished document, personal communication or casual sighting. The information given in the ecological assessment should be reliable, scientific and professional such that any interested parties should be able to review the findings.

Field Survey

8. The duration of the ecological baseline survey specified in the study brief is based on the preliminary information provided in the project profile. It is a consideration taking into account factors such as the scope and complexity of the project, its geographical coverage, availability of existing information, types of habitats affected, types of potential impacts, significance of seasonal variation etc. It is a professional judgment during the course of the study to see if a longer survey is required.

Survey Coverage

9. It is essential that the potential impacts on all important habitats and species are covered in the field survey and the assessment. It could be a serious mistake if it is not. Even if the impact is not envisaged to be significant, it has to be clearly stated in the assessment for the sake of completeness.

Baseline Condition

Habitat Type

10. It is over-generalization to assume homogeneous nature of a habitat type. For example, all woodlands in the study area are assumed as having similar ecological value or all streams are important. In the case of woodlands, they could be very different in their age, structure,

composition, species mix etc. Each woodland should be separately studied and evaluated.

Importance of habitat

11. Sometimes a certain habitat is labelled as important in the study area but without much elaboration on its importance. For example, a woodland is considered as important for birds because of the number of bird species recorded. This judgment on the importance should be supported with observations and information on the ecological functions served by the woodland.

Types of Important habitat

12. The purpose of specifying the important habitat types in Annex 8 of TM is to provide a yardstick to raise the awareness on the potential importance of such habitats which should be subject to detailed study in the ecological assessment. It does not follow that a natural stream course, for example, of over 500m must be important or, alternatively, a natural stream course of less than 500m could be disregarded.

Evaluating Habitat Importance

13. In order to satisfy the requirements at Annex 8 of the TM in evaluating the habitats involved in the project, some EIAs chose to assign a score on each evaluation criterion for each habitat type. Such scoring system assumes a linear scale and equal weighting for all the criteria, which is often not the case. It should also be borne in mind that a habitat type with the highest total score among other habitats found on site does not automatically qualify it as an important habitat. The score only tells that this habitat is relatively more important than other habitats within the study area.

Artificial Habitat

14. Artificial seawall is often regarded as of low ecological interest. However, seawalls of suitable type (e.g. sloping seawall), of considerable age and at suitable location may allow colonization of many marine organisms and should be evaluated carefully. Fishpond is also an example of artificial habitat with ecological interest.

Number of species recorded

15. Some EIA reports give detailed account of the total number of bird species recorded in the study area. This number might be derived from adding all previous records to the present survey record while discounting the duplication. This number in fact is not very informative as it does not indicate the importance of the area as foraging habitat, breeding ground, roosting site or, simply, passage route for the birds.

Rare species

16. There is often no elaboration on the rarity status of the species found in the study area. The EIA report should clearly explain the rarity of the species from a global, regional or local perspective and such classification must be fully supported with recognized sources.

Impact Assessment

Use of data

17. Sometimes the baseline ecological survey is very comprehensive and gives very detailed account of the ecological profile of the study area. However, habitats and species identified in the baseline survey are not covered in the subsequent assessment and impact evaluation.

Indirect Impact

18. In assessing marine ecological impact, the indirect impact of the project should not be neglected. Construction and operation at the project site may lead to significant impact at ecological sensitive receivers away from the site as a result of water quality deterioration. These sensitive receivers that may be affected indirectly by the project should be identified early in the assessment process. The significance of this indirect impact should then be evaluated. References to the water quality impact assessment, such as hydrodynamic or water quality modeling results, should also be made as appropriate.

Tree Survey and Vegetation Survey

19. The terms vegetation survey and tree survey are often mixed up. The vegetation survey is a general profile of the existing vegetation types and may contain a rough proportion of the tree species involved. The main purpose of the vegetation survey is to provide a basic reference for drawing up the landscape reinstatement/compensatory planting plan. The tree survey, on the other hand, is a detailed survey of the existing trees covering the details of each individual tree to be affected by the works. The main purpose of it is to facilitate the tree felling application process at the later detail design or construction stage.

Temporary Habitat Loss

20. There is increasing concern on the actual extent of disturbance to the natural environment during the implementation of the project. It is often the case that such disturbances are not restricted to the development footprint but spilled over to the surroundings in the form of haul roads, storage areas, site parking etc. This kind of temporary use should also be assessed towards habitat loss. A reinstatement plan should be included in the ecological assessment.

Cumulative Impacts

21. Some EIA reports have failed to fully account for the interface with other development projects in the vicinity and, hence, failed to address the cumulative impacts of the projects involved. These development projects should be identified during data collection stage and the extent of the cumulative impacts assessed.

Mismatching

22. There are often discrepancies between impact evaluation and mitigation measures. Sometimes an impact is identified and evaluated as significant but no mitigation measure is proposed in the EIA report.

Pre-determined Conclusion

23. The conclusion of the EIA report should be a summary of the major findings and recommendations of the EIA study. It is of course not acceptable to ignore the findings and promulgate a pre-determined conclusion.

Mitigation Measures

Details on Mitigation Measures

24. It is not acceptable to propose a mitigation measure with no elaboration at all. Reference should be made to EIAO Guidance Note No. 003/2002 - Flexibility and Enforceability of Mitigation Measures proposed in an Environmental Impact Assessment report. Under the TM, all mitigation measures recommended should be feasible to implement. To reinforce the confidence on the measure proposed, the relevance, reliability, design, programme, monitoring, maintenance and management of the proposed mitigation measure should be clearly stated in the EIA report.

Lack of Communication

25. In some cases, it was found that there is a lack of communication between the main consultant and the sub-consultants. This would have serious implication on the mitigation measure to be proposed. Take it as an example, the sub-consultants may prefer no dredging and green channel as mitigation measure without consulting the main consultant. It would be disastrous to the study if it is later revealed that the measure is not viable.

Maintenance of Mitigation Measure

26. It is preferable that the maintenance agents of the proposed ecological mitigation measures could be sorted out in the EIA Study. In an event that a maintenance agent could not be identified in the EIA stage, the project proponent should take up the maintenance role until such an agent is identified. For experimental mitigation measure, such as wetland habitat enhancement, it would certainly be helpful if the objectives, maintenance requirements and monitoring indicators etc. of the proposal are clearly stated in the EIA report, or preferably in the form of a habitat creation and management plan.

Habitat Compensation

27. As a general rule, habitat compensation should first aim at achieving both the physical size and ecological functions of the habitat lost. The general principles of "no net loss" and "like for like" should be followed as far as possible. However, it may be acceptable to consider a compensation area which is physically less than the area lost if practically a larger area is not available and it can be demonstrated that the compensation area could provide equivalent, if not higher, carrying capacity and ecological functions.

Residual Impact

28. The residual impact, i.e. the net impact after mitigation, is often neglected and sometimes disregarded. Actually, the TM has devoted considerable length on evaluation of residual impact (Section 4.4.3 of TM refers). On the contrary, it is not acceptable to evaluate the residual impact

as significant without proposing any further mitigation measures or making other recommendations.

Environmental Monitoring

29. On some occasions, the EIA proposed excessive post-project monitoring. Any such proposal should be fully justified. The objectives and the possible action plan should be clearly stated in the report. The consultants should fully brief the project proponents on the implications of the monitoring work proposed and obtain their consent before incorporating the work into the EIA reports.

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in conjunction with Environmental Protection Department

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