

Designing for Public Participation in Environmental Management in China

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Abstract: The purpose of this study is to build a conceptual design flowchart and a feasible prototype for public participation in environmental management. Public participation is an essential element preserved in many environmental management policies and laws, in China, but only explicitly enshrined as an obligation in the “Law of People’s Republic of China on Environmental Impact Assessment” (the EIA Law) now, no concrete legal guidance for public participation has been written. In this study, hierarchical arrangement and public participation flowchart and procedures were proposed for eight environmental management schemes.

Keywords: disclosure of environmental information; eight environmental management schemes;

1. Introduction

In China, the development and promulgation of eight environmental management schemes were based upon three major environmental policies, “prevention first and combination of prevention & control,” “polluter pays,” and “the enhancement of environmental management.”^[1-3] Since 90s, new concepts, i.e. public participation, have been gradually developed to advocate more economic means and promote the cooperation between government and enterprises. Public participation was explicitly regulated as the requirement in the EIA Law, promulgated on Oct. 28, 2002, and became effective on Sept. 1st, 2003. Public participation was then clearly stipulated in the “Provisional Measures on Public Participation in Environmental Impact Assessment” promulgated in Feb. 2006 and became effective in Mar. 2006. The study is to design a hierarchical flowchart of environmental management via the incorporation of three environmental policies and eight environmental management schemes. Various modes of public participation in environmental management are proposed.

2. Practices of public participation

Practices of public participation in environmental management were mainly post-participation, initiated when the environment or the ecosystem was polluted and damaged. Pre-participation was rarely observed. In order to enhance the efficiency of environmental management, it’s necessary to participate in various ways and time.^[4-6]

- Pre-participation: the public should participate in the legislating process of environmental laws, regulations, policies, plans, and design of construction projects.
- Progress-participation: the public should participate in the implementing process of environmental laws, regulations, policies, plans, and construction projects.

- Post-participation: the public should participate in the events of environmental pollution/ecological damage.
- Self-participation: the public should be self-motivated to participate in environmental protection activities.

3. Public participation in process flow

In general, the process flow of an environmental management scheme can be divided into several phases, as listed in Table 3.1.

(1) Preparation & Planning- Baseline investigation is performed, public opinions are solicited, and professional suggestions and recommendations are acquired.

(2) Drafting- All information from baseline investigation shall be disclosed to the public and used for drafting the preliminary environmental management plan.

(3) First Draft- Completed first draft plan shall be opened to the public. Public meetings shall be convened to solicit more comments and suggestions, and to minimize the differences between stakeholders. Public opinions and suggestions shall be recorded in detail.

(4) Revised Edition- Revised plan shall be accessible to the public to solicit more written comments. Also, the proposed plan should be elaborated and demonstrated during public conferences and public hearing.

(5) Finalized Edition- Finalized plan shall be promulgated officially, where one special chapter of public participation should be compiled to include all comments from the public, and to explicitly explain whether these comments were adopted or not.

(6) Implementing- The plan shall be implemented according to predetermined schedule, under the supervision of the public who shall provide written comments on the progress of implementation to competent authority.

(7) Audit & Evaluation- The public shall participate in plan audit and evaluation. The results shall be publicized to enable the public to know the outcomes and to solicit public opinions. Public survey and vote can be

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carried out to further acquire feedback from the public.

(8) Summary- Final reports on the accomplishment of the plan, results of the poll, and conclusions and comments on the plan shall all be promulgated officially.

Table 3.1 Public participation in process flow

Stage	Participating Level	Activities
Preparation & Planning	Pre-Participation	Information Disclosure, Public Survey, Expert Consultation
Drafting		Public Meetings
First Draft		Written Comments, Public Conferences
Revised Edition		Written Comments, Public Hearings
Finalized Edition	Process-Participation	Information Disclosure
Implementing		Public Surveillance
Audit & Evaluation		Information Disclosure, Public Vote, Public Hearings
Summary	Post-Participation & Self-Participation	Information Disclosure, Public Surveillance

4. Hierarchical arrangement and public participation planning

The environmental management system is delaminated into four layers, i.e. 'Policy Objective Management,' 'Environmental Impact Management,' 'Emissions Management,' & 'Supervision Management.' The most representative environmental management system is primarily integrated by eight environmental management schemes, 'three old management schemes,' promulgated in 1970s, and 'five new management schemes,' promulgated in 1980s. Hierarchical arrangement and public participation planning for these schemes are proposed. [7-9]

4.1 Policy Objective Management

This is the administrative instrumentality to set up the strategic objectives of environmental management as the most important guiding principles of environmental protection and management. 'Liability System for Environmental Protection Objectives' is the scheme of policy objective management to amalgamate old and new management schemes into an integrated system to have the efficacies of thoroughness, collaboration, and scientific management among different schemes. There are four stages in out this scheme, as listed in Table 4.1.

(1) Constituting- To solicit public opinions through bulletin board, questionnaire, and interview; to enable the public knowing the needs and expectations through meetings and conference; to elaborate the determined objectives of all index systems through public hearing.

(2) Promulgating- To solicit public opinions, in written form, through the publicizing of the "Environment Liability Book" at the City Hall, the City Congress, the City Library, and other public concourses.

(3) Implementing- The public are entitled and encouraged to supervise the implementation of the 'Environmental Liability Book,' and to propose comments and

corrective actions on any undesired or unexpected outcomes from any bias or incompleteness of execution.

(4) Auditing- The public should be actively involved in the evaluation on the outcomes from the implementation of the 'Environmental Liability Book.'

Table 4.1 Liability system for environmental protection objectives

Stage	Level	Activities
Constituting	Pre-Participation	Information Disclosure, Public Survey, Expert Consultation, Public Meeting, and Public Hearing
Promulgating		Display the 'Environment Liability Book' to the public for further suggestions and comments
Implementing	Process-Participation	Information Disclosure, Supervising the implementation of the 'Environment Liability Book' and proposing recommendations and corrective actions, if needed
Auditing	Post-Participation	Public Hearing

4.2 Environmental Impact Management

This is the technologic instrumentality consisted of two sections, pollution prevention and pollution control.

4.2.1 Pollution Prevention

Two schemes, 'Environmental Impact Assessment' and 'Three Synchronizations,' are included.

A. Environmental impact assessment

The purpose of environmental impact assessment (EIA) is to prevent possible damages to present environmental quality from proposed pollution sources. There are six phases in scheme, as listed in Table 4.2.

Table 4.2 Environmental impact assessment

Stage	Level	Activities
Screening	Pre-Participation	Information Disclosure
Scoping		Information Disclosure, Public Survey, Expert Consultation
Forecasting		Expert Consultation, Meeting, Conference and Symposium
Evaluation		Expert Consultation, Meeting, Conference and Symposium
Compiling	Post-Participation	Information Disclosure, Public Survey, Expert Consultation
Auditing		Public Hearing

(1) Screening- To solicit public opinions through bulletin board and questionnaire.

(2) Scoping- To conduct survey and interview to solicit public opinions; to convene expert review meeting.

(3) Forecasting- To acquire advices through expert consultation; to call for meetings and conferences to summarize public opinions, and to negotiate any differences and conflicts through arbitration.

(4) Evaluating- To acquire advices through expert consultation; to summon meetings and conferences to summarize public opinions, and to negotiate any differences and conflicts through arbitration.

(5) Compiling- To acquire public opinions on the

evaluation through public hearing; to file all finalized comments, consentaneous and inconsistent, into the EIA Report for review by relevant competence authority

(6) Auditing- To elaborate the results of review to the public through public hearing

B. Three synchronizations

This is a very unique scheme invented through the practice of pollution control in 1970s. After EIA, 'Three Synchronizations' is applied on the approved construction project for pollution prevention and control. Pollution control facility and the construction project should all be designed, constructed, completed and accepted, concurrently, to ensure pollution prevention and control is fully implemented. There are three different stages within this scheme, as listed in Table 4.3.

Table 4.3 Three synchronizations

Stage	Level	Activities
Planning & Designing	Pre-Participation	Information Disclosure, Public Survey, Expert Consultation
Construction & Test Run	Process-Participation	Public Survey, Expert Consultation
Accepted and Operation	Post-Participation	Expert Consultation, Public Hearing

4.2.2 Pollution Control

Two schemes, 'Centralization of Pollution Control' and 'Pollution Treatment Scheduling,' are included.

A. Centralization of pollution control

The purpose of this scheme is to congregate existing pollution sources together at development zones and industrial complexes to facilitate the implementation of total emissions control and integrated environmental planning. Also, the cost of pollution control shall be effectively and rationally allocated to meet all requirements of environmental, social and economic benefits. There are three steps in this scheme, as described in Table 4.4.

Table 4.4 Centralization of pollution control

Stage	Level	Activities
Target Selecting	Pre-Participation	Information Disclosure, Public Survey, Expert Consultation, Public Meeting
Treatment Evaluation	Process-Participation	Expert Consultation, Public Meeting, Conference and Symposium
Implementing	Post-Participation	Information Disclosure, Public Surveillance

(1) Target Selecting- To conduct survey and interview to solicit public opinions on selecting targeted pollution sources, polluted areas, and pollutants; to convene expert review meeting; to convene public meeting to learn more about the existing difficulties and urgent needs from the public.

(2) Treatment Evaluation- To convene consultation meeting for experts and representatives from competent authority; to convene conference and symposium for the feasibility analysis of pollution treatment.

(3) Implementing- To disclose finalized plan of pollution treatment; to invite the public to participate in

monitoring the implementation of pollution treatment.

B. Pollution treatment scheduling

This is the mandatory measure to set up time limits on pollution treatment for different pollution sources, especially in highly polluted areas. There are three stages in this scheme, as depicted in Table 4.5.

(1) Pollution Survey and Evaluation- To conduct survey and interview to solicit public opinions on pollution sources; to convene meeting to consult with experts and representatives from competent authority.

(2) Promulgating- to disseminate the results of pollution survey and evaluation, and proposed schedule for pollution treatment to solicit public opinions; to convene public hearing to elaborate the objects, the contents, time limits and expected outcomes of pollution treatment.

(3) Implementing- To disclose finalized schedule for pollution treatment; to invite the public to participate in monitoring the implementation of pollution treatment and time limits.

Table 4.5 Pollution treatment scheduling

Stage	Level	Activities
Pollution Survey and Evaluation	Pre-Participation	Information Disclosure, Public Survey, Expert Consultation, Public Meeting
Promulgating	Process-Participation	Expert Consultation, Public Meeting
Implementing	Post-Participation	Information Disclosure, Public Surveillance

4.3 Emission Management

Two categories, emissions control management and emissions fee management, are included.

4.3.1 Emission Control Management

This is an administrative management to include two major measures, total emissions control and emissions trading. To ensure the environmental quality, total emission cap is set, according to the environmental capacity, to control the total and individual emissions from existing and proposed pollution sources in a specific area. And, 'Emissions Permit' is applied to quantitatively regulate the pollution emissions from all sources, based upon environmental quality standards and total pollution control determined in 'Liability System for Environmental Protection Objectives' and 'Environmental Impact Assessment.' Emission allowance has become the legal requirement for every pollution source to comply with. Furthermore, the administrative approach, emission allowance trading, is used to provide economic incentives for achieving pollutants emission reduction. There are four major stages in this scheme as described in Table 4.6.

(1) Permit Application- To conduct survey to solicit public opinions; to convene consultation meeting with experts and representatives from competent authority.

(2) Total Emissions Allowance Allocation- To disclose finalized total emissions allowance allocation.

(3) Review and Approval- To disclose the finalized decisions on permit applications.

(4) Supervision- To invite the public to participate in monitoring the management of emissions permit and emissions allowance trading.

Table 4.6 Emission control management

Stage	Level	Activities
Permit Application	Pre-Participation	Information Disclosure, Public Survey, Expert Consultation, Public Meeting
Total Emissions Allowance Allocation	Process-Participation	Information Disclosure, Expert Consultation, Public Meeting
Review and Approval		Information Disclosure, Expert Consultation, Public Meeting
Supervision	Post-Participation	Information Disclosure, Public Surveillance

4.3.2 Emission Fee Management

According to the principle of 'polluter pays,' emissions fee management is the economic scheme to charge pollution sources for their pollutants emissions. Emissions fee management is a very sensitive scheme since huge amount of money and interests are involved. Emissions fee should be collected based upon the permit, according to payment standards regulated by the government. Collected fee should be then used for environmental protection, ecological restoration, and related. Detailed financial budget and report should be submitted to the competent authority (people's representative body) for review and approval. Hence, the most significant activity for public participation is to supervise, as summarized in Table 4.7.

Table 4.7 Emissions fee management

Stage	Level	Activities
List of Permit Certificate Payment Standards	Pre-Participation	Information Disclosure, Public Surveillance
Financial Budget	Process-Participation	Information Disclosure, Review and Approval by People's Representative Body
Records of Fee Collected	Post-Participation	Information Disclosure, Public Surveillance
Financial Report		Information Disclosure, Review and Approval by People's Representative Body

4.4 Supervision Management

One of the major purposes of environmental management schemes is to resolve the issues of environmental pollution and improve the environmental quality, through integrated environmental management and planning. Therefore, as the supervision management scheme, 'Quantitative Performance Evaluation' is adopted to quantitatively audit and evaluate the outcomes of various environmental management schemes. Through quantitative auditing indices system, the deficiency, ineffectiveness, and

inefficiency of integrated environmental management and planning should be thoroughly identified for future improvement and adjustment, as summarized in Table 4.8.

Table 4.8 Quantitative performance evaluation

Stage	Level	Activities
Integrated Environmental Management and Planning	Process-Participation	Information Disclosure, Public Survey
Audit and Evaluation	Post-Participation & Self-Participation	Public Vote, Supervised by People's Representative Body

5. Conclusions

Public participation is the foundation and an essential element of successful environmental management. Without efficient and effective public participation, solid achievement cannot be accomplished. Through integrated designing, public participation activities in environmental management system can be substantial, feasible and operational. Also, the establishment of process flow for public participation in environmental management will be very practical for the implementation and promotion of public participation. However, the design for public participation shall be very flexible due to different subjects, various stakeholders, diverse spatial distribution, and a lot of important factors and conditions. Therefore, there is no defined or fixed mode of public participation in environmental management. With good planning, public participation can be implemented through regulated procedures. The outcomes shall be expected and monitored, with the application of standardized procedures, to further promote the development of public participation in environmental management.

References

- [1] LIU, C., ZHANG, M., 1994. Environmental Management. Beijing, Chinese Environmental Science Press.
- [2] YE, W., 2000. Environmental Management. Beijing, Higher Education Press.
- [3] ZHANG, C., 1997. Principles and Methods of Environmental Management. Beijing, Chinese Environmental Science Press.
- [4] LAI, X., CHENG, S., 2008. Research on Public Participation in Environmental Protection. Law and Society, 2008 (1), pp. 58-59.
- [5] MEI, X., 2007. Path Selection of Public Participation in Environmental Protection. Environment and Sustainable Development, 2007 (6), pp. 42-44.
- [6] ZHOU, G., 2006. Public Participation in Environmental Protection and Community Roundtable Conversation Mechanisms. Center of Policy Research, the State Environmental Protection Administration.
- [7] CHANG, I.-S., 2005. The Study on the Mechanisms of Public Participation in Environmental Management. Nankai Journal (Social Science- Additional Edition), pp. 101-105.
- [8] CHANG, I.-S., 2008. Studies on Public Participation in Environmental Management in China. Doctoral dissertation, Tianjin, Nankai University.
- [9] CHANG, I.-S., (ZHANG, Yi-Xin), WU, J., ZHU, T., 2005. Public Participation in Environmental Management in China. Urban Environment & Urban Ecology, Vol. 18, No. 4, pp. 1-