

Public Participation in Environmental Impact Assessment of Korea

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Abstract

Public participation in the Environmental Impact Assessment(EIA) has been implemented since the August 1 of 1991 with the Environmental Policy Act promulgation in the August 1 of 1990. It is structured to comment on draft Environmental Impact Statement(EIS) through open reviewing, public meeting and hearing. Though public participation has an important role in determining environmental significance, it is room for improvement. With positive public participation and system development such as Environmental Impact Assessment Act on June 11 of 1993, the effectiveness of it will be improved.

This article is composed of status of public participation, comparison with other countries, comparison analysis by items of EIS prepared before and after public participation, and contents of public opinions in EIS.

keywords : public participation, EIA, EIS

I. Introduction

Public participation in EIA for reflecting opinion of public who understand well project area and implementing desirable EIA is introduced into Korea on August 1 of 1991 with Environmental Policy Act promulgation in the August of 1990.

Assertions for introducing public participation and methodologies for effective implementation are described in research papers, such as necessity and methodology of public participation in EIA(Chang et al., 1988)²⁾, necessity of public participation for effective implementation by methodology comparison (Lee, 1988)¹⁰⁾, effectiveness of public participation through survey (Chun, 1990)³⁾, desirable methodology in development of resort towns (Kim, 1993)⁹⁾ and Public Environment Index by questionnaire survey (Kim et al., 1993).⁸⁾

EIA system in Korea has introduced firstly EIA concept with the Environment Preservation Act in 1977 which replaced the Pollution Control Act. With the amendment of this Act and Environmental Policy Act promulgation in 1990, EIA has developed as enlargement of EIA project, public

participation and post management introduction. And recently EIA Act on June 11 of 1993 is focused on policy EIA, scoping and post management enforcement.⁵⁾

In order to reflect effectively public opinion in EIA, some experts assert public participation must be included through whole EIA process as well as draft EIS. But others contradict this assertion results in intentional delay and cost increase of project.

This study focuses on description of current public participation and factors such as EIS preparation cost, assessment term, EIS volume, assessment factors and comment contents through EIS analysis before and after public participation.

II. Status of Public Participation

Regulatory basis of public participation is included in article 26 of EPA and article 9 of EIA Act promulgated in 1993. Following contents explain guidelines for implementing public participation of current EPA implementation order.¹¹⁾ In public announcement on draft EIS,

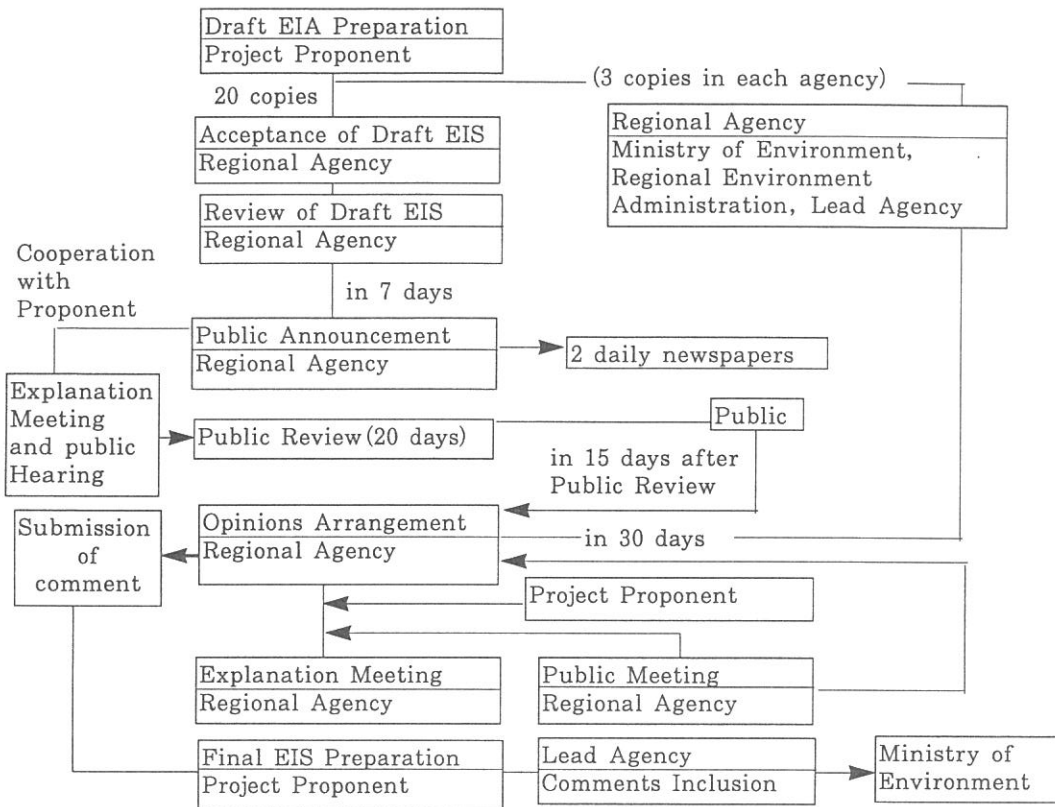


Figure 1. Public Participation Procedure in EIA

regional agency announces project overview, review period, presentation method, and review place of draft EIS based on article 8 of EPA implementation order in more than two newspapers.

Minimum five copies of EIS is placed in easily accessible locations in the area affected by EIA project. Review hour during working day is from am 9:30 to pm 5:30 (pm 4:30 in winter time). And lead agency notices possible opinions to project proponent in case of omitting public review procedure.

Participant scope of public is defined as residents and group in affected area and they comment opinions such as environmental impacts and mitigation measure. Regional agency arranges explanation meeting or public hearing after reviewing opinions by factors, and he presents opinions to lead agency. Lead agency calls a meeting in need of public opinions and notices

final opinions to project proponent.

And lead agency makes the announcement of the explanation meeting to the public who present opinions 7 days in advance. Regional agency can hold public hearing with cooperation of proponent when public opinions are dissident, it notices to the public 7 days in advance. Public who express opinions in public hearing submit application form to regional agency 3 days prior to the meeting.

Opinions beyond mitigation measure for environmental protection can be excluded. Regional agency notices public opinions to proponent and recommends them to reflect this results in final EIS. When it is not reflected in EIS, the reason must be explained in final EIS. Cost during each process is expended by proponent, and lead agency sends final EIS to the Ministry of Environment with examining opinion reflection. General process of public participation is shown as following Figure 1.

Table 1. System Comparison of Public Participation in EIA

Contents	Korea	USA(State of Washington)	Japan (Tokyo Prefecture)	Canada
Lead Agency	Regional Agency	Lead Agency	Lead Agency	FEARO
Stages	Draft EIS	Scoping and Review	before Preparation	Screening and Review
Method	Public Review, Explanation Meeting, Public Hearing	Public Meeting, Discussion	Public Review, Public Explanation, Public Hearing	Public Meeting, Workshop
Period	20 days	DEIS-more than 30 days FEIS-more than 20 days	more than 50 days	Public Meeting: 3~9 days Public Review: 60 days
Area	Affected Resident	Affected Resident	Related Resident	Affected Resident
Project	EIA project	EIA project	EIA project	EIA project
Public Hearing Participants	Public, Lead agency, Ministry of Environment, Regional Environment Administration	Lead Agency, Related Agency, Public	Lead Agency, Public	Panel, Proponent, Reporter, Public, Expert
Public Hearing Process	Submission of Application Form 3 days in Advance	Explanation by Lead Agency, Comment by Public	Comment and Opinion Presentation	Explanation by Proponent, Comment by Public and Expert
EIS Reading Place	Public Office	Mail and Lead Agency	Public Office	Public Office and Post Office
Opinion Scope	Mitigation Measure of Environmental Impact	Methodology and Mitigation Measure	Pollution Protection and Natural Environment Conservation	General and Technical concerning Environment

Table 2. Cases of EISs by EIA Project before and after Public Participation

EIA Project	Cases of EIS	before Public Participation	after Public Participation
Urban Development	51	21	30
Construction of Industrial Site	31	18	13
Energy Development	8	2	6
Harbor Construction	8	4	4
Road Construction	17	1	16
Water Resource Development	5	5	
Railroad Construction	9	2	7
Airport Construction	2	1	1
Utilization and Development of Waterways	2	1	1
Landfill and Reclamation	3	3	
Tourism Development	20	11	9
Construction of Sports Facility	21	19	2
Development of Mountain	0	0	0
Development of Special Areas	1		1
Construction of Wastes Treatment Facility	4	3	1
Total	182	91	91

Table 3. Analysis of EIS Prepared before and after Public Participation by Major Items

Items	() : Cases of Analyzed EISs	
	before Public Participation	after Public Participation
Project Area(1000m ²)	4,651(88)	1,034(79)
Project Term(year)	5.0361(83)	4.7684(86)
Project Cost(million won)	189,622(66)	235,888(74)
EIS Volume(pages)	493(90)	501(91)
Assessment Term(month)	8.7(79)	11.0(87)
EIS Preparation Cost(ten thousand won)	3,788.2(40)	5,929.2(58)
EIS Preparation Cost/ Project Cost×100(%)	0.1172(32)	0.4910(48)

III. Comparison of Public Participation with Major Countries

Public Participation in EIA is implementing in USA, Japan, and Canada as well as Korea. Though method of it is similar, Korea is confined in draft EIS review.²⁾ Following Table 1 shows comparison of public participation.

IV. EIS Analysis before and after Public Participation

1. Cases of EIS Analysis by EIA Project before and after Public Participation

Analyzed EISs¹²⁾ are not EIS prepared at the same time and same number of EIS by EIA project before and after public participation but EIS prepared from June of 1991 before public participation to December of 1992 after public participation.

Types of EIS prepared before public participation are 21 EISs of urban development, 18 EISs of construction of sports facility, 19 EISs of industrial site construction, and after public participation are 30 EISs of urban development, 16 EISs of road construction, and 13 EISs of industrial site construction.

2. Comparison Analysis by Major Items

Project area, project term, project cost, EIS volume, project cost, assessment term, and EIS preparation cost are analyzed.

They show 4,651km² in project area, 5.03 year in project term, 189.6 billion won in project cost before public participation, and after public participation are 1,034km² in project area, 4.7 year

in project term, and 235.8 billion won in project cost. EIS preparation cost after public participation is higher than that before public participation.

Major analyzed items are following Table 3.

3. EIA Factors and Supplementary EIS Factors

Factors of inventory survey, prediction and assessment, and mitigation measure in EIS preparation are 22 factors as following Table 4. Hydrology factor will add in new EIS preparation guideline. Natural resources, obstacles, resident opinions, and community change are not included in current EIS preparation regulation. Most of environmental factors have no difference between before public participation and after public participation, still it explains scoping is not well developed, but soon will be introduced in new EIS preparation guideline.

4. Contents of Public Opinion in EIS

Contents of public opinion in EIS are analyzed through 4 kinds of EIS. EIS of Chunan-Gongju West Seaside Connection Highway Construction⁴⁾ includes a lot of opinions from 38 residents of 239 reviewers, and their comments show specific items such as agricultural damage by soil erosion, transfer station building near I.C., topography and geology, ecosystem, and landscaping, etc.. 10 residents of 255 reviewers in EIS of Daegu City Comprehensive Flow Complex¹⁾ comment on traffic inconvenience and library building.

Representatives of public have opinions of industry and water quality in EIS of Ulsan Dongyang Nylon Onsan Seaport construction.¹³⁾ And EIS of Gongreung 2 District Residential Site

Table 4. EIS Cases of Assessment Factors before and after Public Participation

Environment	Factor	Inventory Survey		Prediction and Assessment		Mitigation Measure		Supplementary EIS	
		before	after	before	after	before	after	before (66 EISs)	after (25 EISs)
Natural Environment	Climate	84	90	71	56	10	8	2	2
	Topography/Geology	88	90	88	88	88	82	57	20
	Ecosystem	88	89	90	89	90	89	51	23
	Ocean	22	14	23	13	17	12	13	1
	Natural Resources	19	2	7	2	2		2	
Life Environment	Land Use	88	90	89	85	30	35	36	13
	Air quality	87	90	89	91	89	91	41	18
	Water Quality	89	89	88	90	80	89	58	21
	Soil Pollution	81	88	76	78	24	50	1	1
	Solid Waste	84	90	86	90	81	81	56	16
	Noise/Vibration	85	90	87	91	85	88	51	19
	Odor	44	43	21	33	12	23	11	6
	Wave Interference	58	50	27	34	4	10		1
	Obstacle of Sunlight	43	36	22	20	1	2		
	Recreation and Landscaping	83	81	75	68	18	14	5	1
	Sanitation and Public Health	80	75	70	62	23	7		
Socio-economic Environment	Population	86	90	84	84	22	29	2	2
	Housing	75	81	64	71	15	35	18	1
	Industry	84	88	78	76	15	10	9	2
	Public Facilities	80	76	53	37	4	5		
	Traffic	86	89	83	90	32	45	23	9
	Education	69	67	32	27	5	3		1
	Archaeology	82	78	29	42			5	2
	Obstacles	4		1		3	5		1
	Resident Opinions			1		1			
	Community Change			1					

Development⁶⁾ has no opinions. Contents of public opinion in EIS vary on site and public characteristics.

V. Conclusion

This study carried out through EISs analysis and literature review. Though public participation introduced through a lot of trials, effectiveness of public participation has room for enhancement.

In order to sustain effectively this system, public must have desirable insight of environmental mitigation as well as compensation.

In EIS analysis after public participation, some items in quantity is more than that before. But EIA must improve in quality as well as in quantity and proceeds in incessant and sustainable way with several improvement. EIA Act and new EIS preparation guideline will try to enhance EIA.

Table 5. Contents of Public Opinion in EIS

EIS Title	Project Term	Project Area	Factors	Public Opinion	Participants
EIS of Chunan-Gongju West SeaSide Connection Highway Construction, Korean Road Connection Corporation	4 years (1997~2000)	349,949m ² (expropriation) 139.0 km (road length)	Topography /Geology Ecosystem Air Quality Water Quality Solid Waste Noise/ Vibration Landscaping Housing Industry Traffic	<ul style="list-style-type: none"> ◦ Landslide, Flooding, Agriculture Damage ◦ Topography Change by Cutting and Filling, Rock Sliding ◦ Protected Tree ◦ Mobile Pollution ◦ Wastewater Treatment in Resting Place ◦ Waste Oil and Agriculture Protection ◦ Drainage ◦ Transfer Station Building of Near I.C. ◦ Protection Facility ◦ Resident and Stock Damage ◦ Blasting Protection ◦ I.C. Moving ◦ Region Severance ◦ Compensation ◦ Benefit Refund ◦ Farming Road 	38 Residents from 239 Reviewers
EIS of Daegu City Comprehensive Flow Complex, Daegu City	9 years (1992~2000)	841,327m ²	Solid Waste Landscaping Industry Traffic Public Facilities	<ul style="list-style-type: none"> ◦ Separate Collection Facility ◦ Rest Place ◦ Land Use Change ◦ Road Enlargement ◦ Library Building 	10 Residents from 255 Reviewers
EIS of Ulsan Dongyang Nylon Onsan Seaport Construction, Dongyang Nylon Co.	2 years (23 months from construction)	31,900m ²	Topography /Geology Industry Water Quality	<ul style="list-style-type: none"> ◦ Particulates Mitigation for Development ◦ Compensation for Desirable Life ◦ Suspended Solids Mitigation 	Representative of Public
EIS of Gongreung 2 District Residential Site Development Seoul City	3 years (1994~1996)	384,534m ²		No Comment	None

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