

Active discussion of alternatives using a simple MCA method leads to improved public involvement

18 May, 2018

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Purpose

The purpose of the study is:

1. to clarify a linkage between discussion of alternatives and public involvement; and
2. to propose measures to improve public involvement.

Introduction

1. A linkage between the alternatives and public involvement is indicated (Rega and Baldizzone 2015: Kamijo and Huang 2016).
2. Little is known about a linkage between alternatives and public involvement based on data analysis.

Data and methods

1. Quantitative text analysis (QTA) to the minutes of the meetings of three projects supported by the Japan International Cooperation Agency; and
2. Five coding rules: environmental issues, social issues, developing issues, discussion of alternatives, and a sense of public involvement.

Three case studies

1. *Airport Improvement Project in Guatemala (AIP), 2006*
24 category stakeholders and 8 meetings with 1,231 participants, 19 site alternatives and 6 criteria with summation method.
2. *CALA National Road Project in the Philippines (CNRP), 2006*
13 category stakeholders and 16 meetings with 996 participants, 4 network alternatives and 8 criteria with summation method.
3. *Second Mekong Bridge Project in Cambodia (SMBP), 2006*
18 category stakeholders and 15 meetings with 1,595 participants, 4 alternatives and 13 criteria with AHP method.

Coding rule of QTA

*Environmental issues

air, ecosystem, fauna, flora, health, noise, odor, pollution, sedimentation, smell, vibration, waste, or water

*Social issues

accident, acquire, acquisition, AIDS, compensate, compensation, concession, employee, employment, house, income, job, labor, land, landownership, livelihood, living, loss, ownership, poverty, property, relocation, resettle, resettlement, safety, settlement, safety, settlement, settler, squatter, unemployment, or worker

*Development issues

access, cargo, congestion, decentralization, developer, development, economic, economy, factory, industrialization, industry, invest, investment, investor, jam, market, tourism, tourist, traffic, transport, transportation, or traveler

*Alternatives

alternative, criterion, option, scenario, or site

*Sense of public involvement

consensus, consultation, coordination, involve, involvement, participate, participation, stakeholder, or transparency

QTA result of AIP in Guatemala

Stakeholders	Environmental issues		Social issues		Development issues		Alternatives		Sense of public involvement		Paragraph
Airport Improvement Project in Guatemala (AIP)											
NIAPO	25	12%	81	38%	83	39%	55	26%	21	10%	213
Local people	2	3%	20	31%	13	20%	12	18%	2	3%	65
CODECO	7	6%	10	18%	10	18%	3	5%	1	2%	55
Facilitator	0	0%	4	17%	4	17%	1	4%	4	17%	23
Business	2	9%	6	27%	6	27%	5	23%	1	5%	22
Consultant	4	21%	9	47%	5	26%	10	53%	1	5%	19
Landowner	0	0%	17	94%	4	22%	6	33%	2	11%	18
Aviation	7	47%	2	13%	5	33%	4	27%	2	13%	15
MCIH	3	25%	2	17%	1	8%	1	8%	0	0%	12
Farm/Agriculture	0	0%	4	33%	1	8%	2	17%	1	8%	12
Central government	0	0%	8	73%	0	0%	0	0%	2	18%	11
Local government	3	27%	5	45%	1	9%	1	9%	1	9%	11
NGOs	1	13%	3	38%	1	13%	0	0%	0	0%	8
Construction	0	0%	1	17%	2	33%	1	17%	0	0%	6
DGCA	0	0%	3	60%	1	20%	0	0%	1	20%	5
Developer	2	50%	2	50%	3	75%	0	0%	0	0%	4
Media	1	25%	1	25%	1	25%	1	25%	0	0%	4
Labor union	0	0%	3	100%	1	33%	1	33%	1	33%	3
Transportation	0	0%	1	50%	2	100%	1	50%	0	0%	2
Industry	0	0%	1	50%	1	50%	1	50%	0	0%	2
NISVMH	0	0%	0	0%	0	0%	1	50%	0	0%	2
College	0	0%	1	100%	1	100%	1	100%	0	0%	1
Religion	0	0%	1	100%	0	0%	0	0%	0	0%	1
Lawyer	0	0%	0	0%	0	0%	0	0%	0	0%	1
Total	57	11%	185	36%	146	28%	107	21%	40	8%	515
Chi-square	436.8		468.6		445.3		461.3		421.9		

- Project proponents discussed the most about 40 % and in the next place local people did 10 %. Business, land owners, aviation, NGOs and media also participated in consultation.
- They discussed social issues (36%), development issues (28%), and alternatives (21%).

QTA result of CNRP in the Philippines

Stakeholders	Environmental issues		Social issues		Development issues		Alternatives		Public involvement		Paragraph
CALA National Road Project in the Philippines (CNRP)											
DPWH	9	4%	93	36%	92	36%	43	17%	70	27%	256
Local government	4	5%	21	26%	46	57%	10	12%	11	14%	81
Consultant	2	6%	15	35%	27	63%	11	26%	9	21%	43
Local people	0	0%	19	56%	2	6%	3	9%	0	0%	34
Baranguay	1	3%	11	34%	2	6%	1	3%	1	3%	32
Councillor	0	0%	6	29%	7	33%	0	0%	7	33%	21
Business	1	5%	8	40%	8	40%	5	25%	4	20%	20
Homeowner	0	0%	8	57%	0	0%	1	7%	0	0%	14
Property owner	0	0%	2	67%	2	67%	0	0%	1	33%	3
NGOs	1	50%	2	100%	0	0%	0	0%	2	100%	2
JBIC	0	0%	0	0%	1	100%	0	0%	1	100%	1
HUDCC	0	0%	0	0%	0	0%	0	0%	1	100%	1
Facilitator	0	0%	0	0%	0	0%	0	0%	1	100%	1
Total	18	4%	185	36%	187	37%	74	15%	108	21%	509
Chi-square	361.0		415.0		381.8		402.0		354.0		

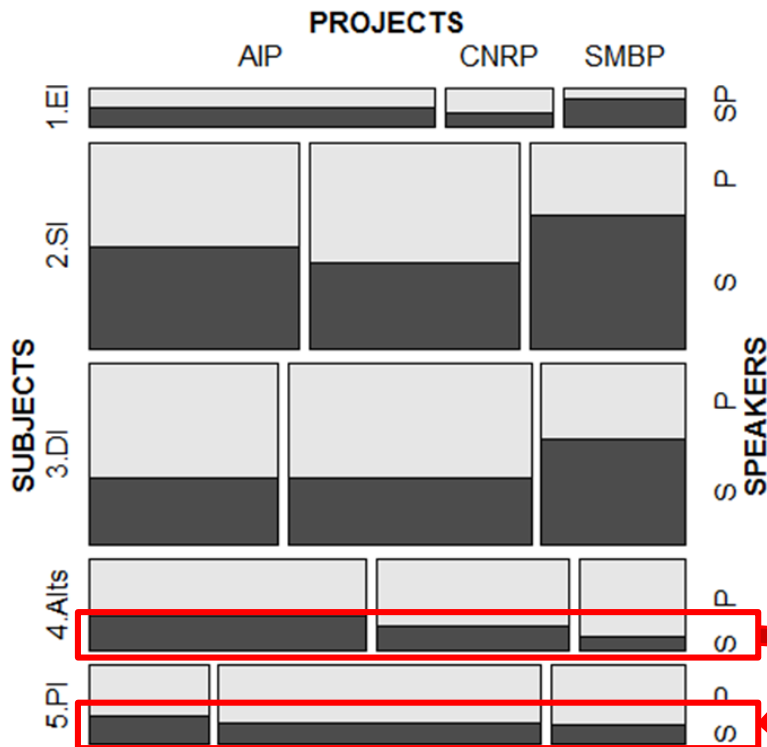
- Project proponents discussed the most about 50 % and in the next place local governments did 16 %. The portion of local people and Baranguay (village) was 7% and 6%.
- They discussed development issues (37%), social issues (36%), and public involvement (21%). The portion of alternative is 15%.

QTA result of SMBP in Cambodia

Stakeholders	Environmental issues		Social issues		Development issues		Alternatives		Public involvement		Paragraph
Second Mekong Bridge Project in Cambodia (SMBP)											
MPWT	2	3%	34	47%	28	39%	13	18%	19	26%	72
Local people	7	11%	49	74%	24	36%	1	2%	0	0%	66
Consultant	2	4%	12	24%	17	33%	21	41%	15	29%	51
Commune	0	0%	11	65%	8	47%	0	0%	0	0%	17
NGOs	2	14%	9	64%	4	29%	2	14%	5	36%	14
District	0	0%	3	25%	5	42%	2	17%	1	8%	12
MRC	2	18%	2	18%	7	64%	0	0%	2	18%	11
Business	2	20%	6	60%	5	50%	0	0%	0	0%	10
Facilitator	1	14%	2	29%	1	14%	1	14%	0	0%	7
Ferry	0	0%	5	100%	0	0%	0	0%	0	0%	5
University	0	0%	1	20%	2	40%	0	0%	0	0%	5
City Hall	0	0%	0	0%	2	40%	0	0%	0	0%	5
MoEF	1	20%	1	20%	4	80%	0	0%	3	60%	5
MoE	1	50%	0	0%	2	100%	1	50%	0	0%	2
Port	0	0%	1	50%	0	0%	0	0%	0	0%	2
MAC	0	0%	0	0%	1	100%	0	0%	0	0%	1
MoA	0	0%	0	0%	1	100%	0	0%	0	0%	1
MoPT	0	0%	0	0%	0	0%	0	0%	0	0%	1
Total	20	7%	136	47%	111	39%	41	14%	45	16%	287
Chi-square		172.1		189.8*		181.7		182.9		209.6**	

- Project proponents discussed the most about 25 % and in the next place local people did 23 %. The portion of local governments and NGOs was 6% and 5%.
- They discussed social issues (47%), development issues (39%). Local people showed a great interest in social issues (74%) and very low interest in alternatives (2%).

QTA results by project proponents and participating stakeholders



1. Participating stakeholders who discussed alternatives tended to talk about public involvement;
2. The discussion of alternatives was more active in the case of a simple analysis method; and
3. The result of Spearman's correlation coefficient by rank test between alternatives and public involvement was significant (correlation coefficient= 0.77, ** $p < .001$, $n=24$).

EI: environmental issues, SI: social issues, DI: development issues, Alts: alternatives, PI: public involvement, P: project proponents, S: participating stakeholders

Conclusions

1. When the summation method was used, the public was more likely to comment on alternatives;
2. Stakeholders who discussed alternatives showed a high sense of public involvement; and
3. A simple MCA method has the potential to activate the discussion of alternatives and could lead to improved public involvement.

Thank you for your attention.

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