

TESTING A HEALTH IMPACT ASSESSMENT TOOL BY ASSESSING COMMUNITY OPINION ABOUT A PUBLIC PARK

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Abstract. The purpose of this study was to assess a health impact assessment (HIA) tool to determine the perceived health impact by the public of a public park. The authors conducted a cross-sectional study from March to April, 2011, using this HIA questionnaire to collect data and through focus group discussions. We also assessed community concerns about the park and obtained recommendations of how to mitigate possible negative aspects of the parks. Four aspects were listed as possible benefits of the park: physical, mental, social, and spiritual health. The negative aspects mentioned by participants were that a park could be a potential place of assembly for teenagers, a place for theft and crime and accidents among children. The HIA tool used for this research seemed appropriate. The next challenge is to use this tool to assess a more controversial project.

Keywords: health impact assessment, public park, community participation

INTRODUCTION

The physical features of a community can influence the health of its residents. Clean air and water, the presence of sidewalks, access to parks, safe streets and quality housing all contribute to a healthy community (Policy Link and the California Endowment, 2007). A deficiency of such features may have a negative impact on residents or expose them to risk factors that lead to poor health. Consequently, new projects in the community should fulfill its desideratum.

A new project may be intended to enhance the quality of community health. But if such developments interfere with or change the structure or function of community physical features, it may have an impact on health.

A Health Impact Assessment (HIA) has been proposed as one mechanism to support decision making, primarily regarding policy, outside the medical sector (Phoolcharoen *et al*, 2003; Kemm *et al*, 2004; Mindell *et al*, 2010). A reason for using a HIA is to determine the perceived effects of policies, programs and projects on health in a population. A HIA promotes health awareness and in the long run contributes to the health of a local people (Sithisarankul and Hengpraprom, 2005). Non-health sectors, where health is not the main objective, may have a significant

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impact on the health and well-being of people, particularly vulnerable groups (Sithisarankul and Hengpraprom, 2005).

The objective of this study was to assess a HIA tool while conducting a HIA in a community located in central Bangkok, Thailand, where a public park was being constructed. Quantitative and qualitative approaches were used to assess impact on health. The findings and recommendations of the community were reported and given to decision-makers.

MATERIALS AND METHODS

Study area and population

The study area was located along the Songtewada Canal, Charansanitwong Road, Bangkok Noi District, Bangkok, Thailand, where a new public park was being constructed. The Bangkok Noi District was responsible for the project development. Ethical approval for this study was obtained from the Faculty of Medicine, Chulalongkorn University. All participants gave informed consent prior to participation. The HIA was conducted in two communities, Trok Pai and Pracha Ruamjai. We selected these two communities as stakeholders because they are adjacent to the park and surround the Canal. The Canal was polluted due to poor drainage resulting from roads blocking the usual water drainage. These two communities had similar settlement and socio-economic conditions. The main sources of income were mixed trading and employments.

All the households next to the park and close to the Canal were chosen for the study and those within 1 km were randomly selected using a grid sampling technique. The sample size was estimated to be 500. By proportion to population

size, 340 persons from Trok Pai and 160 persons from Pracha Ruamjai, who had lived in their communities for at least six months, were included as study participants. Respondents were adults dwelling in the house for at least 8 hours a day, 3 days a week.

Study design

The cross-sectional study was conducted from March to April, 2011. The HIA tool developed by Hengpraprom and Sithisarankul (2011) was used for this study. Both quantitative and qualitative methods were used for the HIA.

We began by communicating with the Bangkok Noi District office before initiating the field study through a representative of the Bangkok Noi District. We also contacted community leaders to explain our objectives and to discuss an appropriate way to approach communities.

The community leaders assisted us in organizing and publicizing the study to yield community participation. They also identified individuals who could be potentially affected by the public park project. Those were used as informants for the focus group discussions.

Quantitative method

Participants were evaluated with house-to-house interviews using the HIA tool developed through the authors' experiences and a literature review. The questions were about the public park project and its effect on quality of life and health impact, concerns of participants and suggestions to mitigate potential problems.

Statistical analysis was performed and data were expressed as means \pm SD for continuous variables and percentages for discrete variables.

Qualitative method

To support the quantitative results,

Table 1
A list of open-ended questions used in focus group discussions.

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1. Have you heard about the public park around the Canal? If yes, from whom?
 2. How do you feel about the public park project during construction and operation?
 3. Do you know the details of the public park project?
 4. What do you think the public park project will change for you and the community in regard to health?
 5. Do you think those changes will affect your health positively or negatively? Why?
 6. Please prioritize those changes.
 7. Which groups of persons do you think will be most affected?
 8. What do you suggest to mitigate the negative impact and enhance the positive impact of the project?
 9. How would you like to contribute to this project?
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focus group discussions were conducted to solicit community opinions and suggestions. We held 3 focus group discussions: a leader and a committee of Pracha Ruamjai community, a leader and a committee of Trok Pai community and those who could be potentially affected; these discussions were held separately to avoid conflict. Face-to-face discussions lasting about 90 minutes each were conducted with 10 representatives from each group. The authors gave a brief explanation of the HIA and the purpose of the study. The discussions were semi-structured using a list of open-ended questions (Table 1). The interviews were audio-recorded and transcribed to enhance reliability.

RESULTS

In this study, we used both quantitative and qualitative approaches to assess the potential health impact to the community of the public park development project.

Of 500 asked, 278 agreed to give an interview (55.6%). Most were female (64.4%) with an average age of 49 years and were in good health; less than half

had existing diseases, primarily hypertension or diabetes. Ten point three percent exercised (walked, jogged, participated in other aerobic activities or sports) at least one day per week by going to public parks near and far from home. More than 90% had a good quality of life; however, had some dissatisfaction. Table 2 shows the factors that caused dissatisfaction.

One hundred fifty-eight participants received information about the study via community speakers, neighbors, community leaders or leaflets. Twenty-nine participants attended community meetings once a week. Most knew there would be a public park but did not know the details of the project.

Most participants agreed with the positive health impact projected for the public park project. Eighty-nine point six percent felt the park would have a benefit for the environment of the community, 83.1% felt it would benefit the ecology of the community, 87.4% felt it would improve community participation and 83.8% felt it would improve relationships in the community (Table 3).

The results showed youth (ages 17-25 years) (72.3%) and the unemployed

Table 2
Number (percent) of dissatisfaction factors influencing the community's quality of life by items ($n = 278$).

Dissatisfaction by item	Number (percent)
You are satisfied with current environment within your community.	181 (74.1)
You can access health services.	37 (13.3)
You do outdoor activities frequently.	29 (10.4)
You are satisfied with help from neighbors or community.	27 (9.7)
You think your community is safe.	22 (7.9)
You have a chance to relax and release stress.	18 (6.5)
You can face your own problems.	8 (2.9)
You are satisfied with the condition <u>within your house</u> .	8 (2.9)
You can concentrate on what you are doing.	6 (2.2)

Table 3
Number (percent) of determinants with a positive impact on individuals and the community as a result of the public park ($n = 278$).

Health determinant	Number (percent)
Environment in community	249 (89.6)
Community participation	243 (87.4)
Relationship within and among community	233 (83.8)
Ecological system	231 (83.1)
Equity in community	212 (76.3)
Education	193 (69.4)
Employment and income	184 (66.2)

(70.9%) were the groups most likely to use the park. Table 4 lists the groups who could be affected by the park. Physical factors encountered during construction and operation phases would be noise (29.1%) and dust (28.1%) and thefts/crimes (22.7%), respectively. Disabled and/or ill-people would be the most vulnerable to these negative impacts.

The respondents felt the park should include areas for exercise and recreation, a library, a multipurpose building for vocational training, religious activities,

community meetings, a community and teenager learning center and a conservation area for authentic Thai trees and flora. One respondent made a positive remark: "I am proud because this will be the first public park in my community. I will come to exercise and meet with friends as often as I can". Another stated, "finally we have a place where both communities can strengthen our community relationships."

They also felt the public park could be a place for teenagers to loiter and use illicit drugs; where theft and crime could

Table 4
Number (percent) of affected groups who could gain health benefits from the public park ($n = 278$).

Affected group	Number (percent)
Youth (17-25 years)	201 (72.3)
Unemployed	197 (70.9)
Teenagers (13-16 years)	197 (70.9)
New mothers	193 (69.4)
Children (5-12 years)	192 (69.1)
Elderly (≥ 60 years)	185 (66.5)
Pregnant women	183 (65.8)
Drug addicts	182 (65.5)
Alcoholics	181 (65.1)
Those with mental problems	174 (62.6)
Babies (0-4 years)	174 (62.6)
Those ill/disabled	171 (61.5)

Table 5
Community suggestions to mitigate negative aspects of a public park.

1. Specify park opening and closing times.
2. Bangkok Noi District officers should handle the public park security along with community members.
3. Police should handle illicit drug problems.
4. Bangkok Noi District officers should manage the park and the community physical environment.
5. The construction should be done during hours so as to not impact traffic or sleep.
6. The public park should have a fence that can be seen through.

occur and where children could become injured. Park security was important to all participants. They suggested a variety of measures to mitigate such problems (Table 5).

They suggested responsible organizations should hire community members to care for the park. If a public park committee were set up, members of the committee should consist of representatives from the community. They also suggested a new

road to the park be constructed to avoid the traffic problem.

Lastly, but most importantly, community members felt they had local ownership and as a result were enthusiastic about sharing their ideas for the park. They requested the responsible organizations/officers come to notify them about the plans and time frame of the public park project periodically in order to enable them to monitor the progress of the project.

The community suggestions obtained were analyzed and reported to the officials involved with the project for their reviews. The final draft of the report was disseminated in the Bangkok Noi District.

DISCUSSION

Five out of the 6 steps of HIA were carried out in this study: initial, screening, scoping, appraisal, reporting and reviewing. We did not carry out the monitoring and evaluation step because of time constraints and the unknown timeline for park construction. However, the ideas of how to proceed were discussed with the participants.

We began by gathering background demographic and geographic data and by establishing advisory and working groups. The screening and scoping were run in parallel emphasizing the participatory process. Quantitative and qualitative approaches were used to determine the health impact of the park. A public review was run after finishing the report to solicit participants' comments and suggestions. The final report was disseminated to the Bangkok Noi District and community.

The HIA revealed a more positive than negative impacts on health resulting from the public park. Youth (17-25 years) and the unemployed people were the group who would gain most from this project, whereas the disabled or ill were the most vulnerable groups of concern. Security of the park was the primary concern expressed by participants. Community suggestions to mitigate these potential problems were presented to decision makers in parallel with the project proposal. We had a relatively poor response rate (55.6%) due to the time of the study, which was early morning when people were too busy to become involved in participatory activities.

Community consultation was important in completing the HIA, as found in previous studies (Mindell *et al*, 2001; Parry and Wright, 2003; Kearney, 2004; Payne-Sturges *et al*, 2004; Davenport *et al*, 2006; Hengpraprom and Sithisarankul, 2011). Despite the limited time we had to conduct this task, we worked successfully with community leaders and responsible organizations to develop community participation. We found organizing a meeting with stakeholders at an early stage was essential.

The methods used to appraise the impacts depend on the impacts identified (Scott-Samuel, 1998). The qualitative part of this study fit well in this circumstance.

Although the quantitative HIA may be more influential in estimating potential health impacts, it does not include differences in people's perspectives and how susceptibility affects the impact (Mindell *et al*, 2001; Parry and Wright, 2003; Payne-Sturges *et al*, 2004; Metcalfe and Higgins, 2009; O'Connell and Hurley, 2009). The results of qualitative studies may give substantial information to policy makers (Taylor, 2004).

Communities are not homogeneous; they often have divisions, tensions and conflicts, and some groups may be unwilling or unable to participate (Parry and Wright, 2003). For focus group discussions, we recruited 10 participants from each group and held each group separately to allow them generate their own opinions.

The results of this HIA are less controversial than some other industrial projects. This is due to the fact that most people perceive public parks as positive for their health. The authors plan to implement this HIA tool to other more controversial projects in the future.

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