Water and Sanitation Program

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Sanitation in Wonosobo:

Two Evaluation Approaches Compared

Water and Sanitation Program
for East Asia and the Pacific

Field Note

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Photographs by Richard M. Hopkins (WSP-EAP)

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Sanitation in Wonosobo:
Two Evaluation Approaches Compared

A recent comparative case study on two program evaluation approaches found out that both the conventional survey method used by UNICEF and the participatory method employed by WASPOLA[1] yielded comparable outcomes in the assessment of UNICEF's sanitation program in sample villages in Wonosobo district, Indonesia. This field note presents a summary of the comparison of results produced by the two evaluation approaches.

Contrary to prevailing belief that participatory methods are more complex, more time-consuming and more expensive than conventional survey methods, the study showed that the total costs involved in the preparation and implementation of both assessment activities were similar. However, the completion of the participatory method required a smaller team of better trained field staff and less implementation time than the conventional survey.

Further comparison of results generated other similarities and differences. In the assessment of latrine use, for example, the outcomes were rather similar although the respective methodology implementation differed. In other assessments, such as latrine ownership and latrine benefits as perceived by the village residents and leaders, the results varied, due to differences in the methodology design and sampling process.

The design of each evaluation methodology was quite distinct. The conventional survey collected data by measuring individual responses to a series of questions about sanitation and latrine uses; the survey provided limited discussion opportunities with its respondents to clarify unclear issues or solve problems. In contrast, the participatory method emphasized focus group discussions to help empower the participants in identifying, discussing, clarifying, and resolving problems within their own communities. Data recorded represented group conclusions reached collectively by the participants.

Both approaches produced diverse data sets because the sampling pool differed. The conventional survey targeted individual members of certain groups in the village to extract certain information, but it excluded social background considerations of its respondents. In contrast, the participatory method aimed to gather information

1 *WASPOLA is the Water Supply and Sanitation Formulation and Action Planning Project implemented by the World Bank's Water and Sanitation Program–East Asia and the Pacific (WSP-EAP) in conjunction with the Government of Indonesia, led by the National Development Planning Agency (BAPPENAS), with majority funding by the Government of Australia through AusAID.*

from focus group discussions where the sampling design took into account the representation of both gender and socio-economic factors. Data obtained from the two methods therefore reflected the different viewpoints of the sample groups.

Project Background

The study was conducted within the context of UNICEF's stimulant latrine package distribution program in four villages in the Wonosobo district of Central Java: Sawangan, Rejosari, Mergosari, and Kagungan. The UNICEF program was aimed at improving the health and hygiene of rural residents by encouraging latrine construction at the household level through the distribution of stimulant packages, typically consisting of a water-seal closet, a length of PVC pipe, and a sack of cement. Villages were selected based on the existence of previously implemented government sanitation and diarrhea reduction programs, the community's potential to support the stimulant program, and the establishment of at least two community programs, such as community health centers and children education projects.

Objectives of the Comparative Case Study

- To compare the design and implementation approaches of the two evaluation methodologies in collecting data and producing results.
- To compare the results of the two methodologies whenever adequate and suitable results or data are available for comparison.
- To focus on the quantitative data comparison since almost all outputs of the conventional survey method are quantitative.

As indicated in the box, the comparative study of the two methodologies analyzed not only the results, but also the design aspects of the data collection processes, and the respective implementation details (see Figure 1). When program assessment results were different, both the approach design and implementation process were evaluated to identify the possible reasons for the different outcomes. When the assessment results were similar, both approaches were determined to be providing comparable data of village conditions.

UNICEF and WASPOLA agreed to collaborate in conducting a case study in the Wonosobo district of Central Java to compare the results of using the conventional survey by applying questionnaire surveys and the participatory evaluation method by using tools derived from the Methodology for Participatory Assessment (MPA) and the Participatory Hygiene and Sanitation Transformation (PHAST).

The conventional survey consisted of two phases. The first phase, in August-September 1999, included a baseline survey prepared by CIDA[2] consultants and implemented by a local NGO to assess village conditions prior to the distribution of latrine packages. The second phase, in July 2000, entailed an evaluation survey prepared and implemented by the same local NGO to evaluate village

2 *CIDA = Canadian International Development Agency*

conditions and program results after the package disbursement.

The participatory evaluation method was implemented once in April 2001 to assess program results and conditions. Tools for the participatory evaluation activities were designed by WSP-EAP staff and implemented by a local NGO.

Research Process

Both the conventional survey and the participatory methods employed field personnel for methodology implementation. In the conventional survey, enumerators equipped with questionnaires interviewed respondents at the household level. In the participatory method, field staff facilitated

Figure 1

Comparative Analysis Flowchart

Step 1

Comparison of Results

- If similar, then list results.
- If different, then proceed to Step 2.

Step 2

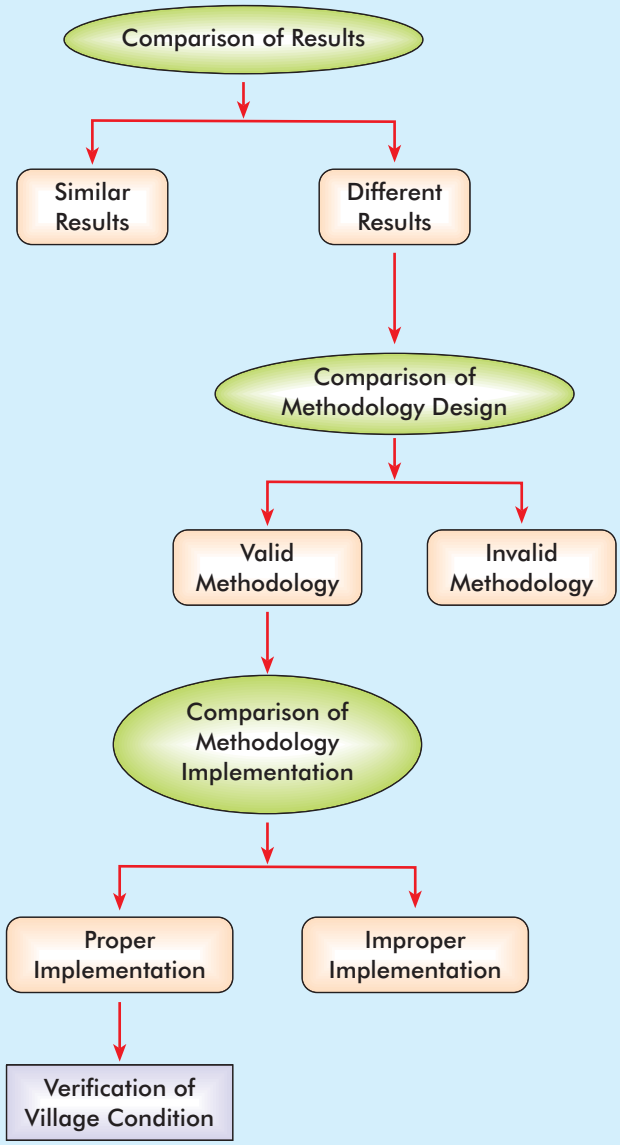
Comparison of Methodology Design

- If the methodology design used was invalid, then such application most likely caused the results disparity highlighted in Step 1.
- If methodology design used was valid, but results remained totally different, then proceed to Step 3.

Step 3

Comparison of Methodology Implementation

- If the methodology was improperly applied, then such conduct most likely caused the results discrepancy noted in Step 1.
- If the methodology was properly used, but results remained totally different, then the change in village conditions most probably caused the discrepancy.



interactive and participatory assessments by community groups, and organized focus group discussions.

How was Information Collected?

Enumerators of the conventional survey interviewed respondents including village leaders, heads of household, and school children using a standard questionnaire. The survey was also designed to cover an equal number of male and female respondents. The responses reflected individual preferences.

In the participatory method, information was collected from focus group activities and discussions as well as individual interaction. The method allowed every community member to express his/her views and discuss issues, and opened opportunities for collective problem-solving and decision-making. The method also included observation at and interaction with individual households to verify the collected information, such as the actual use and maintenance of household latrines.

By design, the conventional survey targeted as many households as possible and balanced the respondents by gender, but not by socio-economic groupings. Households were selected randomly from a list of village residents in each respective village provided by the Village Chiefs; it was assumed that each household was readily represented by one household member. Three different questionnaires were developed to cater three different respondent categories: village leaders/cadres, community/ordinary residents, school children/students. The data collected were highly sensitive to who participated in answering which questions in the questionnaires. By nature, the survey implementation provided minimal discussion with the respondents, thus allowing little flexibility in clarifying any vague questions or uncertain responses.

The participatory method was designed to gather information from the village residents' groups segregated by gender and socio-economic levels. The exact number of participants was not as crucial as the representativeness of the groups. In some exercises, women's participation was more significant because women represented the beneficiaries; in other activities, participation of the various poor-rich and men-women groups in the village was more important. The participatory method provided ample time for discussions with participants, and offered opportunity to include various responses which were locally relevant. The method relied on group participation and the recording of group conclusions, thus minimizing individual respondent biases.

The participatory method at times encountered difficulties in implementation. For example in some of the exercises, the participants were not fully representative of the village because only certain groups, like the rich, attended the discussions. Data generated from these exercises were recorded and identified during the course of the study.

Emphasis on Equity

The participatory method lends itself to promoting equity in community voice through its focus group discussions and community assessment activities, with separate men's and women's groups, and poor and non-poor household groups. By doing so, the design and implementation of sanitation programs can be more focused, not only on providing the sanitation facilities and services that the people want, but also on promoting equitable access to improved sanitation within the community.

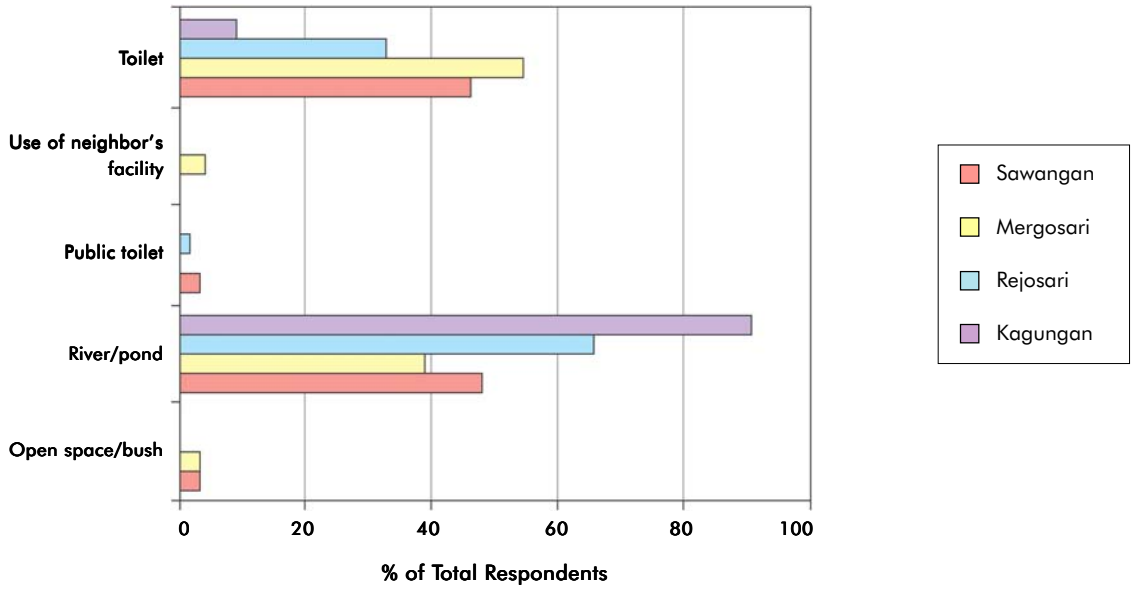
Different Designs, Similar Results

Both methods evaluated the use of sanitation facilities installed after the latrine packages distribution. Although each method used a distinct approach to assess latrine use among the village residents, the results were comparable.

In the conventional questionnaire survey, latrine use (referred to here as use of toilets or neighbor's facility) questions were linked to ownership. During the survey implementation, the enumerators assumed that well-maintained latrines observed in the households were synonymous with effective use; there was no discussion to clarify whether the clean latrines were used by all or only selected household members. Respondents were limited to choose their answers from a preconceived list of latrine use responses prepared by others. Survey results in three of the four villages indicated that use of private, public, or a neighbor's toilet was overshadowed by the use of rivers and fishponds (see Figure 2).

Figure 2

Use of Sanitation Facilities after Package Disbursement: Conventional Survey

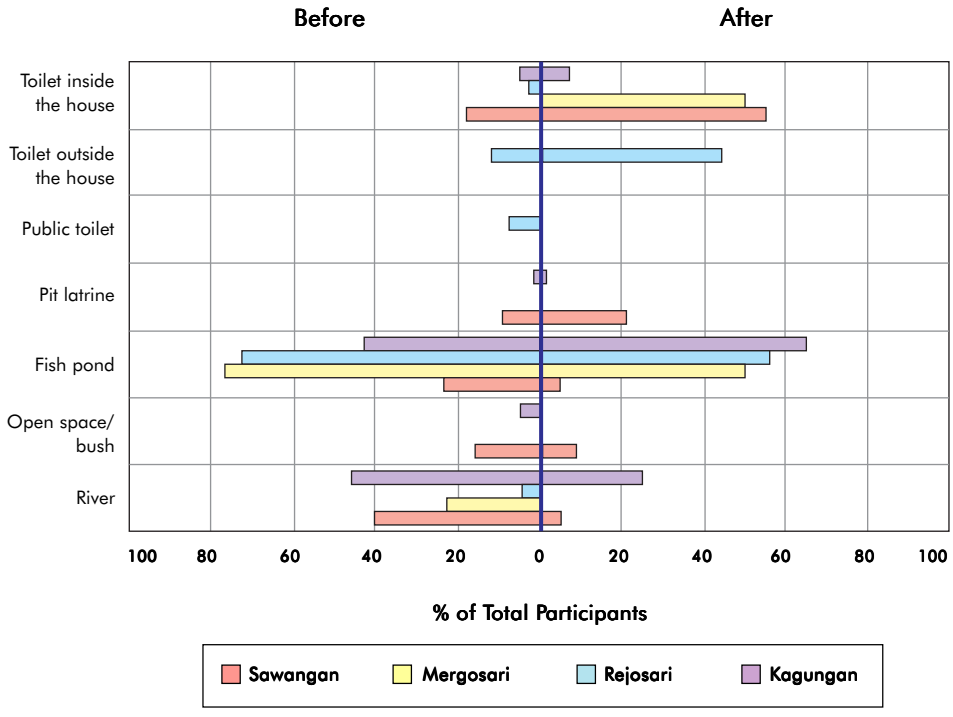


In some respects, the results of the participatory evaluation were similar although the participatory method yielded more information on the extent (or lack thereof) in community sanitation behavior. The participatory exercise asked men and women participants which facilities they used before and after the package distribution. In the exercise, the facilitator's interactive role was crucial to obtain honest and representative responses. Site visits were then performed to confirm the data. Figure 3 summarizes various types of sanitation facilities used by the participants.

In the participatory method, the greater variety of answers resulted from the participants being able to identify and discuss freely the facilities they used; the participants were not restricted to a pre-determined set of answers and instead came up with eight different sites. The questionnaire survey restricted respondents to only five possible sites in the same communities and lost important information by lumping together significant sites such as rivers and fishponds (which have different environmental and behavioral implications for sanitation programs). While this restriction highlights the inherent difficulty in designing questionnaires, at the same time it illustrates a strong advantage of the participatory

Figure 3

Use of Sanitation Facilities Before and After Package Disbursement: Participatory Method



method generally in allowing participants the freedom to describe their outcomes, and thus the structure of the evaluation results.

The survey results, however, were similar to the 'after package distribution' results of the participatory method. Both methods revealed that fishponds were commonly used, both directly and as the final discharge points of latrines instead of septic tanks or pits. Fishponds were generally used more frequently than private (inside and outside) and public toilets in three of the four villages (after package distribution).

In addition, the participatory method produced a comparison of community sanitation behavior before and after latrine package distribution, whereas (at least in this case) the conventional survey only obtained information on the current behavior pattern. For instance, although toilet use increased after package distribution and fishpond use decreased, fishpond uses remained common.

Different Designs, Different Results

Both approaches assessed latrine ownership after package distribution by interviewing village residents in the conventional survey, and engaging them in focus group discussions in the participatory method. The assessment results from the two methods were different, but they were consistent in identifying villages with the lowest to the highest latrine ownership (see Table 1).

The discrepancies in latrine ownership results were attributed to the different methodology design. The conventional evaluation survey was insensitive to the socio-economic backgrounds of the village households. Consequently, the survey may have unintentionally targeted more non-poor respondents who typically already owned latrines, thus resulting in a higher ownership rate in three of the four villages.

In addition, the survey used questions that were closed-ended and multi-staged. Survey respondents who replied "Yes" to latrine ownership were further questioned about latrine usage; those who answered "No" were not asked further questions. The survey questionnaire did not leave much room for discussion to clarify latrines that were "owned but not installed" vs. "owned and installed". While the survey's intent was to collect data of owned latrines, meaning installed and used, it did not consider instances of residents who received latrine packages but had not installed the latrines, and thus had not used them, or those who installed them but instead used the public or their neighbor's latrines. As a result, respondents who owned latrines, whether built or not, responded positively to latrine ownership, thus increasing the ownership rate.

Table 1 Comparison of Latrine Ownership

Village	Ownership (%)				
	Conventional Survey	*Participatory Method*			
	After	*Rich*	*Middle*	*Poor*	*After (Total)*
Kagungan	**12**	21	6	0.5	**7**
Rejosari	**38**	53	31	9	**16**
Sawangan	**48**	93	34	3	**30**
Mergosari	**55**	100	77	46	**59**

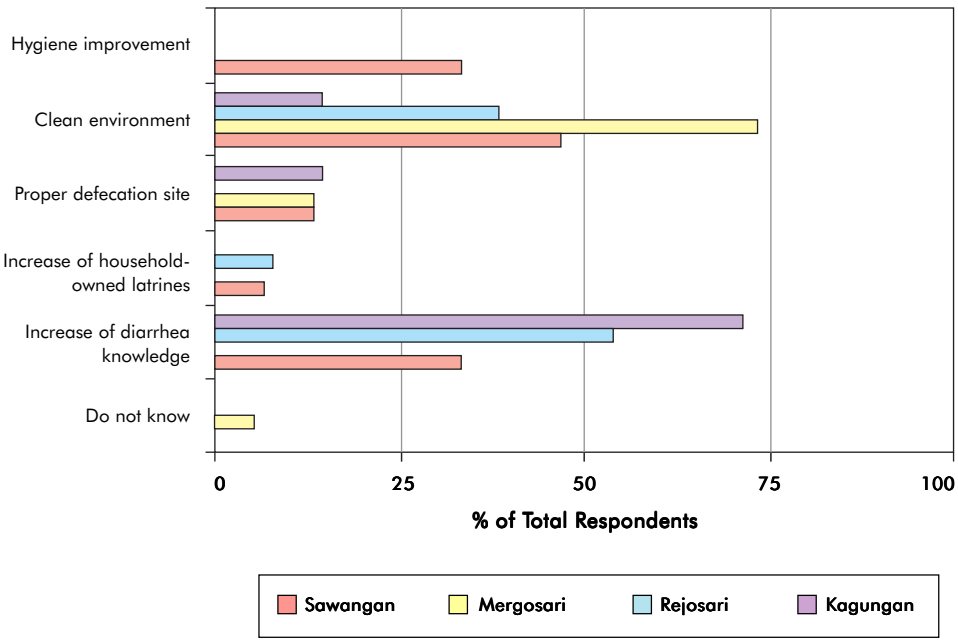
The participatory method discussed latrine ownership and use issues among village residents in focus group discussions, and assessed household demand for latrines through cost/benefit perception assessments. Vague ownership definitions were discussed and clarified to avoid any misinterpretation. The method also considered local conditions as part of its design, in particular the different socio-economic groups within a village, and distinguished recipients of the UNICEF program from other development projects and from those who built the latrines all by themselves. Ownership data were then verified with actual household visits. Results from the method suggested that different socio-economic groups had different rights and privileges, and received different benefits, although they were part of the same community. Although the poor formed the major socio-economic group in most villages, they had the lowest access to latrines. Due to its design, the conventional survey was not able to capture this information.

Different Designs, Different Results

Both approaches gathered data on the user's perceptions of the benefits of owning and using latrines. The results arising from the two methods however were different; community perceptions obtained through the participatory method were more varied. In the conventional survey method, only village leaders/cadres were interviewed about benefits of latrines after latrine package disbursement (see Figure 4).

Figure 4

Benefits of Latrines as Perceived by Village Leaders: Conventional Survey



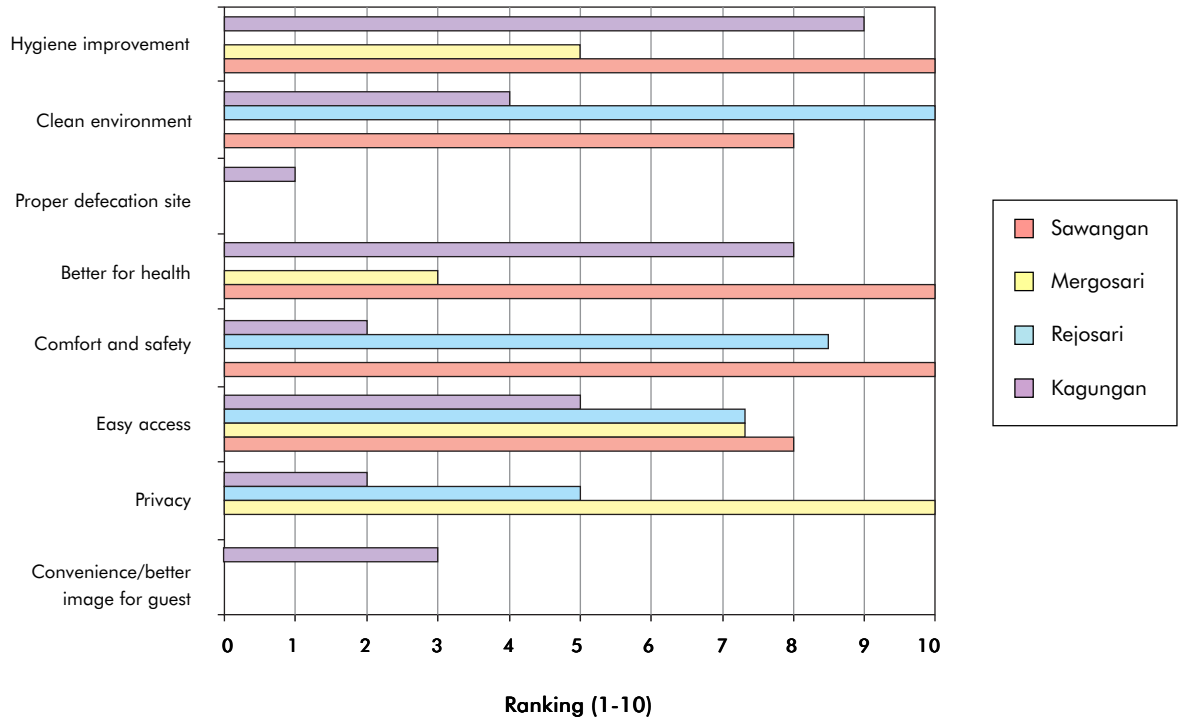
According to the respective village leaders/cadres of the survey, greater knowledge of diarrhea and cleaner environment were the two most common perceived benefits. Field assessments, however, documented that most village residents continued to use fishponds as the final discharge points of private latrines instead of septic tanks or pits after the latrine packages were distributed. Using fishpond water for bathing/washing is a common source for the transfer of diseases. Contrary to what the village leaders noted, residents seemed no more aware of the causes of diarrhea after package distribution than before distribution.

The participatory method involved a cross-section of the village residents, namely the poor and women, to express what they perceive as the benefits of owning and using private latrines. The participants not only had to identify the benefits, but they also had to rank them (see Figure 5).

Participants ranked the following benefits from most to least: better hygiene, better for health, cleaner environment, easier access (proximity), greater privacy, greater comfort and safety (protected from rain, ample space), and convenience/better image for guests.

Figure 5

Benefits of Latrines as Perceived by Village Residents: Participatory Method



Note: Ranking Process: once the perceived benefits were mentioned in separate men's and women's groups, they were ranked with a scoring system between 10 (highest) and 1 (lowest) using beans or seeds. The ranking scores in Figure 5 represented the average scores of both gender groups. For instance, men and women in Mergosari ranked privacy as the highest benefit of using latrines relative to those in Kagungan, who did not rank privacy as a main benefit.

The disparity of the results can be attributed to the sampling process and the methodology design, namely the research tool selection. To identify the benefits of latrines, the conventional survey asked only village leaders/cadres while the participatory method asked a greater cross-section of residents, particularly the poor and women. Assessment results indicated that village leaders had different perceptions relative to the residents. Also, the survey questionnaire provided a pre-determined list of answers from which the respondents had to choose their responses from regarding the benefits; they were restricted to the provided answers.

Relative to conventional survey results, the participatory method outcomes were more diverse due to the more varied nature of the participants. The participants had full freedom to mention the kinds of benefits they perceived, which generated a more varied range of responses; they were not limited to choose from a pre-determined list.

Table 2 Comparison of Costs and Resources to Implement the Conventional Survey and Participatory Activities

Parameters	Conventional Survey		Participatory Method	
STUDY TEAM & STUDY PERIOD	1 national consultant, 48 weeks	48 person weeks	-	-
	1 survey coordinator, 12 weeks	12 person weeks	1 coordinator, 5 weeks	5 person weeks
	2 field coordinators, 20 weeks	40 person weeks	-	-
	16 field researchers, 3 weeks in the field	48 person weeks	7 field researchers, 2 weeks in the field	14 person weeks
	4 weeks for material and field preparation, and training (19 persons)	76 person weeks	1 week for material preparation and training (8 persons/team)	8 person weeks
	5 weeks reporting (by 3 coordinators)	15 person weeks	2 weeks reporting (7 persons)	14 person weeks
TOTAL INPUTS	239 person-weeks		41 person-weeks	
TOTAL COST* (Rp.)	100 million		82 million	

Note: * Total cost was inclusive of reimbursables (travel), material preparation, training, field implementation, data consolidation/analysis, and report preparation. In addition, the costs and resources of the external consultant who prepared the baseline survey questionnaire were assumed equivalent with those incurred by various WSP-EAP personnel involved in the initial planning stages of the comparative study. These costs were omitted from the total costs of both methodologies.

Despite the differences in overall results, both the village leaders and residents interestingly perceived better health and a cleaner environment as important benefits of owning and using latrines.

Different Methodologies, Comparable Costs

The total costs to prepare and implement the conventional survey and the participatory method were comparable. Table 2 provides a summary of the overall inputs and costs of implementing the two methods in the four villages in the Wonosobo district of Central Java. It shows that the conventional survey used more, but cheaper enumerators, whereas the facilitators for the participatory method were more expensive, but smaller in number and better trained.

The conventional survey consisted of baseline and evaluation surveys that were implemented at two different time periods; the baseline survey was an inherent part of the entire survey. The survey incorporated fees for a local consultant to perform project preparation and design tasks to aid UNICEF in the preparation of detailed project Terms of Reference for the participating NGO (for baseline survey), design of detailed baseline survey questionnaires, and upfront contract preparation. In the evaluation survey, data were estimated from the baseline survey parameters. Based on the smaller number of participants in the evaluation survey relative to the baseline, it was assumed that the overall evaluation survey preparation and implementation required 2/3 of the time needed for the baseline.

The participatory method was conducted once and its total cost did not significantly differ from that of the conventional survey.

Key Findings

- The case study shows the two approaches produced both similar and different assessment results. However, it is also clear that the use of different approaches can provide comparable results if sufficient attention is given to their design and implementation processes, particularly with respect to the sample selection and the questionnaire development.

- The sampling process was a key attribute in the discrepancies of the assessment results. The participatory method was sensitive to the representation of men-women and rich-poor groups in the respective communities to reflect differences in village conditions, such as latrine ownership, use, and benefits. The conventional survey results were sensitive to the total number of respondents in order to properly represent the village conditions. Identifying a representative sample requires a lot of effort, especially when village households show more diversity. Therefore, by excluding considerations of village-level variations during the design of the sampling process, assessment results may be biased toward certain groups within the village.

- The participatory method encouraged village residents to voice their ideas, opinions, issues, and add local knowledge to the response categories, thus resulting in a broader picture of sanitation conditions in their villages, such as latrine benefits and latrine uses. The conventional survey entailed a pre-determined set of response categories, thus restricting the respondents' preferences to those listed. In theory, this problem in the conventional survey technique could be overcome by extensive field testing of the survey questionnaire. But in practice, as the study shows, inadequate time was invested in undertaking this part of the survey, resulting in a less accurate picture of village conditions.

- The total costs of the participatory method were comparable to the costs of the conventional survey. The conventional survey employed more, less expensive enumerators, whereas the participatory method used fewer, better trained facilitators. The participatory method required less time to implement and was easier to manage because of its one-time application to assess both before and after village conditions, whereas the conventional approach required two separate surveys (baseline and evaluation) to measure and assess the pre- and post-project conditions.

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