**Global Scaling Up Rural Sanitation**

# Managing the Flow of Monitoring Information to Improve Rural Sanitation in East Java

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water and
sanitation program

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Global Scaling Up Rural Sanitation is a WSP project focused on learning how to combine the approaches of Community-Led Total Sanitation (CLTS), behavior change communication, and sanitation marketing to generate sanitation demand and strengthen the supply of sanitation products and services at scale, leading to improved health for people in rural areas. It is a large-scale effort to meet the basic sanitation needs of the rural poor who do not currently have access to safe and hygienic sanitation. The project is being implemented by local and national governments with technical support from WSP. For more information, please visit www.wsp.org/scalingupsanitation.

This Working Paper is one in a series of knowledge products designed to showcase project findings, assessments, and lessons learned in the Global Scaling Up Rural Sanitation Project. This paper is conceived as a work in progress to encourage the exchange of ideas about development issues. For more information please email Nilanjana Mukherjee or Djoko Wartono at wsp@worldbank.org or visit www.wsp.org.

SANITATION
FOR ALL

# Managing the Flow of Monitoring Information to Improve Rural Sanitation in East Java

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# I. Introduction

Global Scaling Up Rural Sanitation is a Water and Sanitation Program (WSP) project currently being implemented in India, Indonesia, and Tanzania. Working with local governments and the private sector in 29 districts of East Java province in Indonesia, WSP's approach combines generating demand from local governments prior to initiating project interventions and demand from consumers for improved sanitation facilities and behaviors prior to making a greater range of sanitation products and services available through local markets. This demand-responsive approach combines Community-Led Total Sanitation (CLTS), behavior change communication, and sanitation marketing approaches to help villages become open defecation free (ODF).

At the end of the third year of project implementation, household access to sanitation is growing at rates hitherto never seen in rural sanitation projects in Indonesia. On average, one-third of all triggered communities have become ODF within a year. However, across districts, varying levels of progress have been achieved depending on the extent of political support garnered, implementation capacity developed, and the cost-effectiveness of interventions undertaken.

Significantly, district local governments are participating with cost-sharing of funds, institutional facilities, and manpower deployment. Thus, for the first time, local government funding in East Java is being used solely for "software" activities such as generating demand for sanitation, enhancing local market supply of sanitation products and services, and building institutional capacity.

As the project enters the final year of implementation, key questions to address include how to safeguard momentum and how to ensure that local government funding and institutional commitment to the project approach will be sustained. Hard evidence may help. Program financiers at the district level need to see evidence that the new approaches work and are cost-effective, yielding better results per Rupiah expended than previously used approaches. They also need to be able to track progress and outcomes at the community level using easily verified, affordable but reliable methods.

WSP's experience with participatory monitoring in East Java has shown that communities are fully able and highly motivated to monitor progress toward ODF and that they can regularly track changes in community access to improved sanitation. The data generated by initial social mapping activities and ongoing map updates also fulfills requirements set forth in the WHO & UNICEF Joint Monitoring Program (JMP) to track progress toward achieving the Millennium Development Goal (MDG) for sanitation.

## Findings

- Measuring and monitoring outcomes by all levels of stakeholders is the key to achieving goals.
- Participatory mapping makes monitoring fully public and transparent, and catalyzes community action for time-bound collective behavior change.
- Using participatory monitoring, communities are able to generate high-quality monitoring data aligned with Joint Monitoring Program indicators.
- Local governments need not conduct community-level monitoring activities. Government databases can be updated by consolidating community-level data on a periodic basis.
- While communities may be fully able to monitor their own progress, manual data transfer from communities to district databases can prove burdensome when the program scales up.
- Use of mobile phones to report progress into a district-level computerized gateway has greatly improved data flow from the community- to district-levels.
- Institutional incentives are necessary to achieve complete monitoring reports at regular intervals.
- External, third-party, evaluation-based incentives may be more effective than internal ones.

However, during 2009 the project team observed that while monitoring data was being generated regularly in the communities, much of this data was not reaching sub-district, district, or higher levels for regular consolidation. With the number of triggered communities running into the thousands in East Java, it had become too labor and time intensive for government outreach staff to collect data manually from each triggered community on a monthly basis. In response to this challenge, a community-based participatory outcome monitoring system was developed.

With a focus on implementing sustainable approaches, WSP focused on integrating innovations with existing monitoring mechanisms used by local governments. In East Java, innovations were developed to:

- Link community-based participatory monitoring with a district-level database;
- Segregate monitoring data into improved and un-improved sanitation as defined by the JMP, enabling tracking of district progress towards the sanitation MDG; and
- Add welfare-classified household sanitation data to track whether poor households are gaining access to improved sanitation.

This Working Paper documents how this system works and shares insights based on implementation to date. Figure 1 on the following page provides a schematic view of the steps described, noting the level, actors, actions, and data associated with each step.

**FIGURE 1:** SEQUENTIAL FLOW OF MONITORING INFORMATION FROM COMMUNITY TO PROVINCIAL LEVEL



This process can extend further to the national level to analyze progress across provinces.

| Step | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|------|---|---|---|---|---|---|---|
| **Level** | Community | | Sub-District | | District | | Province |
| **Key Personnel** | CLTS Facilitators | Community Sanitation Committee | Puskesmas Staff/Team | Sanitarian | District Health Office | District Health Office | Provincial Health Office |
| **Action Taken** | CLTS triggering | Monitor community progress; Request ODF verification | Collect monthly updates from triggered communities; Provide feedback to community; Verify ODF claims | Provide monthly SMS; Report ODF declaration events | Consolidate data from computer gateway; Provide feedback to Sanitarian; Puskesmas reports of ODF declarations | Analyze data to facilitate forward planning and budgeting in district; Report data to JPIP* | Conduct annual cross-district stakeholders reviews and comparative analysis |
| **Data Generated** | Baseline social map, indicating sanitation access in community at time of CLTS triggering | Updated social map, indicating changes in sanitation access over time | LB-1 form, completed using data collected from multiple social maps; ODF verification checklists | Monthly updates, collected to track sanitation access in triggered communities; Newly declared ODF communities | Monthly reports, collected to track sanitation access in district; ODF communities in district | Annual report** | Conduct annual cross-district benchmarking of sanitation program performance; Annual JPIP evaluation |

*JPIP = Jawa Pos Institut Pro-Otonomi, an independent evaluator of district performance. JPIP uses the data to determine the recipient of a coveted annual provincial sanitation award.
** Annual reports are sent to the *Bupati* (Head of District Administration) and DPRD (District Legislative Council)

# II. Collecting Information to Trigger Community-Wide Behavior Change

**KEY POINTS**

- Participatory mapping makes monitoring fully public and transparent, and catalyzes community action for time-bound collective behavior change.
- Using participatory monitoring, communities are able to generate high-quality monitoring data aligned with Joint Monitoring Program indicators.
- Establishing fully public and transparent monitoring catalyzes community action for time-bound collective change.

During an intervention, trained facilitators use the Community-Led Total Sanitation (CLTS) approach to collect information that can trigger collective shame and revulsion at the practice of open defecation and catalyze a community to end the practice immediately. Information collected through a variety of participatory analysis tools: (1) provides a baseline and common reference point, (2) can be used to help a community plan the steps they will take to become open defecation free, and (3) can be used to monitor a community's progress toward this goal (Box 1).

After triggering, the community begins to plan how they will stop open defecation in their village. The information recorded during the social mapping activity is transferred from the large-scale ground map onto large sheets of paper. Next, the facilitator introduces a "Welfare Classification"[1] exercise in which villagers classify households into socio-economic categories and indicate if a household has access to improved or unimproved sanitation.

To increase understanding about different types of facilities and the difference between "improved" and "unimproved"

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**BOX 1:** CLTS AND PARTICIPATORY ANALYSIS TOOLS

**Social mapping—**In social mapping (see image), villagers create a large-scale map of their community on the ground, using locally available materials. This map is used to visualize the community's current sanitation behavior, which helps the villagers analyze exactly how the practice of open defecation threatens the health and well being of all community members.

**Transect walk—**Villagers and facilitators complete a transect walk through the village to spot and record places of open defecation. Data collected on the transect walk is used to trace the routes through which fecal contamination is transmitted from open defecation sites to household and community living areas.

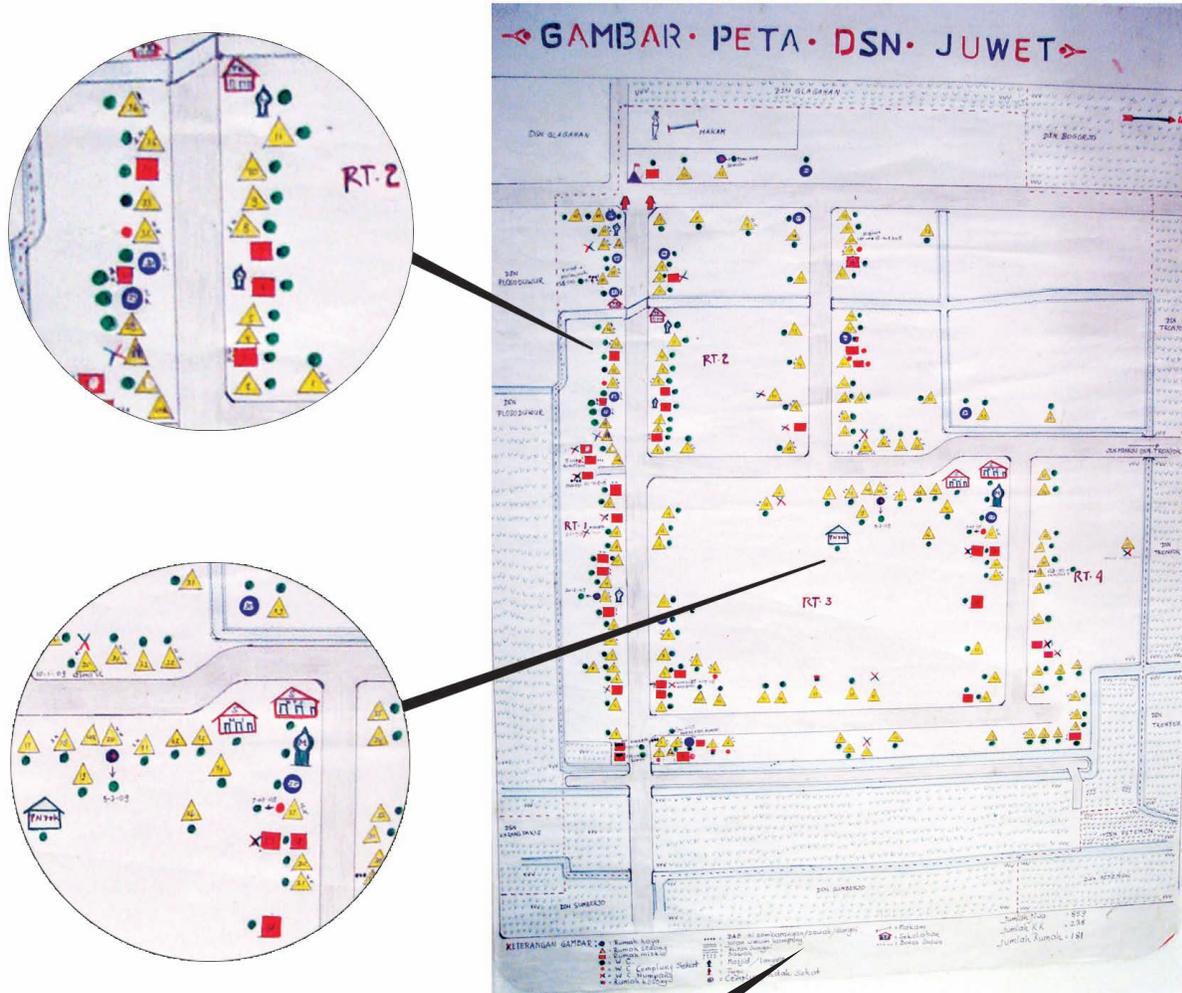**Calculation of daily feces—**A calculation is made of the amount of feces added daily to the village environment.



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[1] A Methodology of Participatory Assessment (MPA) tool that uses communities' own criteria to group households into different welfare categories using culturally acceptable labels such as Upper Class/Rich/Able, Lower Class/Poor/Less Able, and In-Between/Middle Class, etc. (See WSP-World Bank-IRC 2003)

**FIGURE 2:** SOCIAL MAPPING

This social map of Dusun Juwet was created following triggering and updated periodically to track behavior change and access to sanitation. At the time this photo was taken, Dusun Juwet was close to becoming open defecation free, with just three households continuing to practice open defecation. These households became open defecation free in March 2010, four months after triggering. Enlargements show sections of the map in greater detail.



| Key | |
|---|---|
| ● | Wealthy income household |
| ■ | Poor income household |
| ▲ | Average income household |
| ● | Household with improved, permanent sanitation facility |
| ● | Household with improved, semi-permanent sanitation facility |
| O | Household with unimproved sanitation facilities |
| X | Household shares other household's sanitation facilities (date indicates when household acquired own latrine) |
| ----- | Household of open defecators and path to defecation site |

latrines, the project translated the JMP criteria for improved sanitation into descriptions that could be easily explained using local language and terms (Appendix 2). The information is recorded on the map using symbols and a map legend. Most communities go even further and mark households that share facilities. The legend helps clarify, at a glance, which category of household has what kind of sanitation access and defecation practice during a given month (Figure 2).

Social maps are used to:
- Record baseline data such as the location of households, the socio-economic welfare category of these households, if households have access to sanitation facilities, either improved or unimproved sanitation, and where open-defecation practices are occurring within the community;
- Provide a visual reference that is understood and accessible to the entire community; and
- Record progress towards ODF achievement and enable its verification.

Once the social map is completed it is displayed in a public place where all villagers can see and refer to it. The village sanitation/CLTS committee updates the map every month to include households that build latrines or upgrade their sanitation facilities.

# III. Capturing and Sharing Information to Monitor Progress

**KEY POINTS**
- Measurement and monitoring outcomes by all levels of stakeholders is the key to achieving goals.
- At the village or community level, monitoring data is used to self-evaluate progress toward achieving ODF status.
- At the sub-district and district levels, monitoring data is used to report progress and communicate cost effectiveness.
- At the provincial level, monitoring data is consolidated into benchmarking indicators to allow comparison across districts.
- Across districts and at the sectoral level, monitoring and benchmarking data summaries are used to share learning.

## Community Level

At the community or village level, local health center staff such as a sanitarian or village midwife visit the village to collect data from the social map and cross-check reported progress with field observations. Form LB-1 (Appendix 1, *Sample Monthly Progress Report*) is used to record baseline data and monthly updates for each village. Data captured in this form is used to generate graphics and is consolidated into summaries for either a single or multiple communities, as required by district and provincial health offices, and submitted to district health offices on a monthly basis (Figure 3).

At this level, natural leaders and sanitation/CLTS committees use monitoring data after CLTS triggering to evaluate how far their community has progressed toward the goal of achieving ODF status, which households have gained access and which have not, and whether the poor are gaining access. The project has introduced color-coding for households of different welfare classes, thereby allowing community leaders and CLTS committees to identify households that are lagging behind and take action to help them make the desired change.

In some communities, a colored sticker with a thumbs-up sign and the slogan, "*WC ku sehat*" ("My latrine is improved") is used as an additional monitoring tool. This sticker is affixed to the front wall of each house with an improved facility (Figure 4).

## Sub-District and District Levels

At the district level, health offices compile the data and report to the Regent (district administrative head, also known as a *Bupati*), the provincial health office, and WSP, with assistance from a resource agency recruited by WSP to help build district government capacity.

At both sub-district and district levels, local government program staff and managers use monitoring data to report progress to the Head of Health Office, the Head of Regency and to district legislators. They have also begun to use the data to communicate the extent of cost-effectiveness of their budget investment for the community-level outcomes achieved. This has led to a steady increase in local government's annual budget allocations for rural sanitation programs during the years that the project has been implemented in East Java.

## District and Provincial Levels

At the provincial level, monitoring data is consolidated into benchmarking indicators to allow comparison across districts while evaluating district-level sanitation program performance. Since 2009, the sanitation benchmarking indicators are included in an annual evaluation of district governance for choosing the best-governed district for that year. This prestigious award is given by the *Jawa Pos Institut pro-Otonomi*, a foundation of East Java's Java Post media network.

Across districts and at the sectoral level, monitoring and benchmarking data summaries are used extensively for sharing learning. Healthy, performance-based competition is generated through monitoring and benchmarking data analysis at annual stakeholder learning reviews. These popular group learning events are attended by provincial and

**FIGURE 3:** SAMPLE DATA ANALYSIS FROM MONTHLY PROGRESS REPORTS

**Sanitation Behavior Change One Month after Triggering in Dusun Nglawan-Village Senden**



Key

Baseline        Progress

R = Rich households        M = Middle income households        P = Poor households

**Progress in Phase Three Districts (September 2009 to April 2010)**



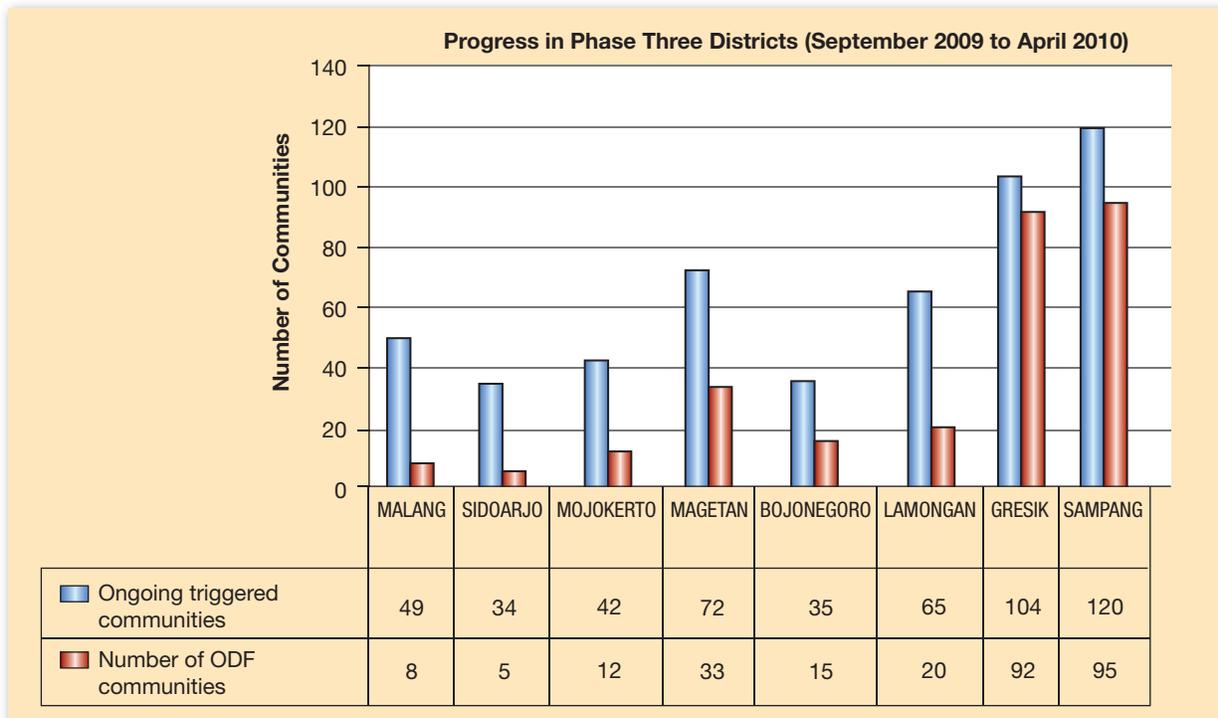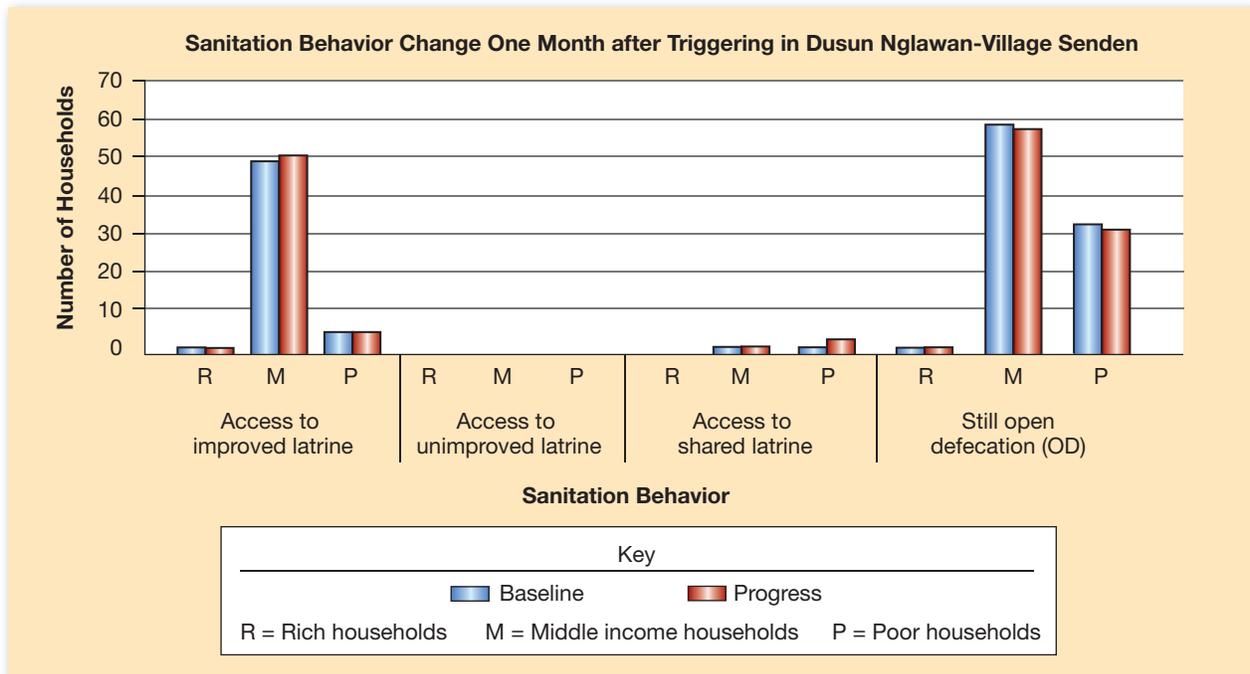| | MALANG | SIDOARJO | MOJOKERTO | MAGETAN | BOJONEGORO | LAMONGAN | GRESIK | SAMPANG |
|---|---|---|---|---|---|---|---|---|
| Ongoing triggered communities | 49 | 34 | 42 | 72 | 35 | 65 | 104 | 120 |
| Number of ODF communities | 8 | 5 | 12 | 33 | 15 | 20 | 92 | 95 |

**FIGURE 4:** MONITORING IMPROVED SANITATION: *"WC KU SEHAT"*



In some communities, a colored sticker with a thumbs-up sign and the slogan, *"WC ku sehat"* ("My latrine is improved") is used as an additional monitoring tool. This sticker is affixed to the front wall of each house with an improved facility. The absence of a sticker indicates that the residents continue to practice open defecation or use shared latrines. Also, in some communities, households having an unimproved facility (e.g., an unhealthy, unhygienic latrine) are marked with a different colored sticker, which serves both as an embarrassing and persuasive force encouraging owners to upgrade to improved facilities as soon as possible.

district level officials representing Health, Public Works, Education, Planning, and Community Development sectors, which helps bring about greater cross-sectoral agreements about the way forward for the province in terms of rural sanitation.

Using this approach, data indicating changes in access to improved sanitation and, in particular, progress for poor households within each community can be tracked. The data is easily verifiable through the social maps and visual checks, and meets the monitoring requirements of the JMP. Communities are not required to send data to the district health center on a periodic basis. Instead, they send data when they submit a claim that they have achieved ODF status, inviting local government verification.

A global Monitoring Information System (MIS) developed by WSP was implemented in East Java and other project countries. However, in East Java, local government pick-up of community monitoring data on a monthly basis has been variable, with community data being picked up every one, two, or three months. In East Java, institutionalization of the project's monitoring system has been influenced by the following realities:

- **The program cannot compel communities to report progress of sanitation activities to the sub-district or district levels**. The project encourages communities to monitor the process of behavior change so that they can reach ODF status and the prestige associated with it. Creating and using social maps serves as a medium of verifying and communicating their progress transparently.
- **All districts have health center outreach staff called *sanitarians*, functioning at sub-district and community levels for improving environmental health**. The project has therefore cast the sanitarian in a leading role for triggering and monitoring sanitation behavior change, and for collecting, analyzing, and reporting monitoring data to the district level.

# IV. Collecting Information to Verify ODF Achievement

**KEY POINTS**
- Local government facilitators organize ODF verification events.
- ODF verification is made through the use of a checklist.
- ODF verification results are immediately shared with the community, and, if needed, a time-frame for re-verification is set.

Local government facilitators, mostly *sanitarians* or health center (*puskesmas)* staff, encourage communities to report progress before declaring ODF status. The facilitators can use Form LB-1 reports as an "early warning" to identify communities that are close to achieving open defecation free (ODF) status. For example, a community that is reporting zero or close to zero open defecation and zero households using unimproved latrines may be close to achieving ODF status.

When a community thinks that it is ODF, it notifies the local *puskesmas* staff. These requests are collected and, periodically, the staff will organize an ODF verification event conducted by an ODF verification team. The verification team should consist of health center staff, a sub-district/ district cadre, a villager from another hamlet/village, and members of other community development agencies.

On an appointed day, the ODF verification team arrives at the community and is given a briefing on the exercise. As they conduct the ODF verification, the team follows parameters to ensure a complete and objective verification (Box 2; also Appendix 2, *Guidelines for ODF Verification of Hamlet/Village*).

The ODF verification team consults the social map in the village to determine the route each verifier will take in order to cover the community fully. Once all the household observations and verifications are completed, the members of the verification team return to a specified meeting place where the community can also gather.

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**BOX 2:** HOUSEHOLD LEVEL PARAMETERS FOR ODF VERIFICATION

On an appointed day, the ODF verification team arrives at the community and is given a briefing on the exercise. As they conduct the ODF verification, the team follows parameters to ensure a complete and objective verification.



The parameters for ODF verification at the household level include:

1. The latrine facility is being used and is in good working order.
2. Babies' feces are disposed of into latrine facility.
3. The toilet slab is well/safely constructed.
4. The cesspit is located at least 10 meters away and downstream from water sources.
5. The latrine facility prevents access to pit contents by flies, other vectors, and animals.
6. No feces are visible on the floor/walls/pan of latrine.
7. Water and soap are available in or nearby the latrine for washing hands after defecation.
8. The latrine hole has a fully closing cover (dry pit) or water seal (pour flush).
9. A handwashing facility is available near the main eating area.
10. No human excreta, including children's feces, are found in the yard, garbage pit, or drains.

Results are compiled and shared with the community. One result could be that the community fulfills the criteria for ODF verification. Alternatively, the community may not be ready for ODF verification. The reasons why it may not be declared ODF are reported to the community and agreements are reached as to when it will be ready for re-verification. Usually communities ask verification teams to return within a week or two.

In addition, during the ODF verification visit, the verification team checks indicators of a community's commitment. These include: the existence of village regulations/sanctions to check open defecation; the existence of a monitoring system involving key community leaders; and functioning school sanitation facilities.

# V. Celebrating Achievement of ODF Status

After the ODF verification team confirms that a village has fulfilled the criteria for ODF verification, the District Health Services submits a report to the *Bupati* through the district sanitation coordination committee (chaired by District Planning Board). Respected village elders invite the *Bupati* to attend an ODF celebration. During this celebration, the *Bupati* recognizes and declares the community's new ODF status, felicitates them, and usually offers some form of reward such as assistance for other infrastructure needs such as a road, bridge, water supply, and so forth (Figure 5).

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**FIGURE 5:** CEREMONY TO DECLARE A VILLAGE HAS ACHIEVED ODF STATUS



A Vice-Regent inaugurates an ODF declaration following ODF verification in Babadan village, Ngawi District. The attendance of a Regent or Vice-Regent serves to motivate and encourages neighboring villages to accelerate access to improved sanitation and achieve ODF status.

# VI. Improving Data Collection and Reporting

**KEY POINTS**
- Manual data transfer from community maps to local government databases becomes burdensome when programs scale up.
- The use of emerging technologies such as SMS text messaging linked directly to a computer-based database may reduce manual data errors and improve the frequency monitoring and reporting.
- Institutional incentives to motivate staff to conduct monitoring on a regular basis are a key requirement.

The experience with participatory monitoring has shown that communities are fully able and highly motivated to monitor progress towards ODF status and that they can regularly track changes in community access to improved sanitation. The data generated by the initial social mapping activity and ongoing map updates also fulfills the requirements of JMP monitoring. However, with the number of triggered communities running into thousands in the province, it has become too intensive in terms of time and labor needed from government outreach staff to collect data manually from each triggered community on a monthly basis. As shown in Figure 6, most community data updates reach district databases only every three months.

During 2009, it was observed that even though monitoring data was being generated regularly in the communities, much of this data was not reaching sub-district, district, or higher levels for regular consolidation.

To overcome bottlenecks, a data collection process using mobile phones, short message service (SMS), and a computer-based gateway system was piloted in two districts where the project is being implemented, an approach made possible due to the widespread ownership of mobile phones in rural areas of East Java (Figure 7).

The results of the pilot have been encouraging. By end of March 2010, 22 *puskesmas* had sent baseline and progress data through SMS gateway, as compared to 13 *puskesmas* prior to the implementation of the SMS-based monitoring system. And using the SMS system, it was possible to reduce reporting errors that occur in manual collection and data entry systems. There was also a positive impact on data verification since records were stored in the sanitarians' mobile phones.

In order to adopt the SMS-based reporting system, a district must: (i) provide the hardware—a computer at the district level and cell phones; (ii) build both commitment and a functional reporting mechanism among the monitoring actors (district, *puskesmas*, and cadre/community); and (iii) fund the operation cost for running SMS monitoring.

Three SMS messages are entered for each new community: one on the community profile (population etc.), one on baseline sanitation data, and one on progress. Subsequently, the community leader or representative who reports progress to the sanitarian sends one SMS each month. The sanitarian forwards messages to the district gateway. After the pilot, Jombang District Health Office started to provide Rp.5,000 (US$0.60) worth of cell phone pulses per month to sanitarians who registered their phone numbers in the system, covering the cost of approximately 20 SMS per month. This is a very small cost that all districts can bear easily.

**FIGURE 6:** FREQUENCY OF MONITORING REPORTS



Key
- 1 month
- 2 months
- 3 months
- >3 months

(11 districts — 1 month; 4 districts — 2 months; 13 districts — 3 months; 1 district — >3 months)
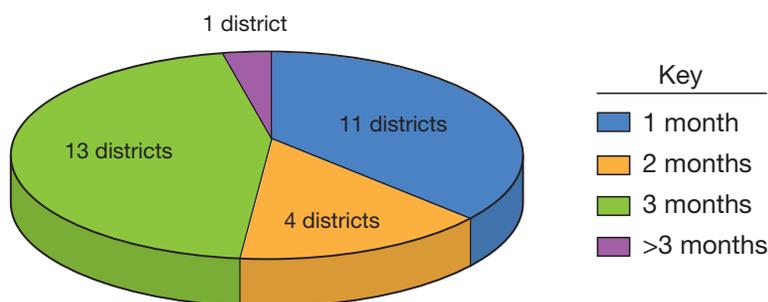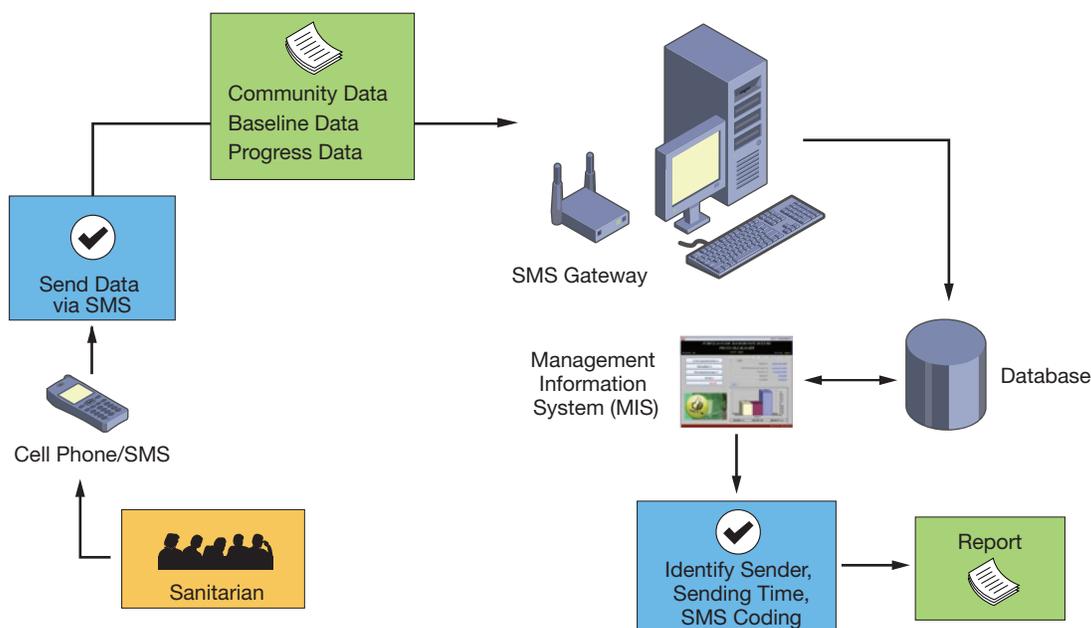
**FIGURE 7:** DATA COLLECTION SYSTEM USING COMPUTER-BASED GATEWAY AND SMS MESSAGING

Using this system, sanitarians attached to *puskesmas* are required to routinely collect data from the community level and upload the data via SMS, in real time, into a computer-based gateway system located at the district health office. The system automatically verifies newly reported progress against baseline and previous month's data, and generates reports—eliminating the need for manual data entry. Periodic, random checks are made at the community level and during ODF verification exercises to verify SMS-reported data.

By October 2010, WSP had introduced and operationalized the sytem in all 29 districts, with eleven districts providing the necessary hardware. Districts reported that the system (1) is easier to operate than manual systems, (2) improves regular data flow, (3) drastically reduces the time needed to process data at each level, and (4) improves data quality in real time through automatic consistency checks.

At present the system only captures progress on household access to improved sanitation. Plans are under way to extend it to tracking progress on sanitation marketing and hygiene behavior change. The national government has initiated discussions with WSP on expanding the system to other provinces and developing a national sector monitoring system.

During the course of the project, a need emerged to verify behavior changes reported by communities and the types of sanitation facilities (improved or unimproved) that were being acquired as access to sanitation increased. This has added a desirable check in the process through local governments' ODF verification exercises. But this also means that only the access gains that are verified as "improved sanitation" can be reported. At any given point of time there is always a backlog of communities that have declared themselves as ODF, but the local ODF verification system has not yet been able to cover them all. The extent of the backlog can be substantial. For example the July–December 2009 semi-annual MIS report for East Java states:

> *During July–December 2009, 289,500 people were reported to have moved from open defecation to using sanitation facilities. Of these, 107,237 had been verified as having acquired improved sanitation. 182,263 more people had also gained access to sanitation, but their facilities had not yet been checked because they had not received ODF verification.*

Apart from making it easier to report data through mobile phones, institutional incentives have emerged as a key requirement to motivate staff to conduct monitoring on a regular basis. As yet no authority or mechanism requires the districts to update district ODF data regularly on a time-bound schedule.

In order to set up such a cross-district MIS reporting and review system managed by the provincial government, WSP has planned an action research initiative in East Java during the second half of 2010 to identify strategies to improve ODF achievement rates in CLTS-triggered communities, and using the findings, to recommend supportive actions to district and provincial governments. The recommendations will include ways of creating an internal institutional demand and incentives for regular reporting of ODF verification data from districts to the province (and then to the national) level, perhaps on a quarterly or six-monthly interval.

## Benchmarking Performance for Comparison Across Districts

A mechanism to compare program performance objectively across districts on an annual basis has recently been implemented. This system is based on a performance benchmarking system introduced by WSP in India in conjunction with the Global Scaling Up Rural Sanitation Project. In Indonesia, the benchmarking system measures progress against eight key performance outcomes and progress against additional indicators (Figure 8).

Institutional incentives for more regular ODF verification may also be generated through external means. In East Java, a powerful incentive is the link created in 2009 between the district government's sanitation program performance and the JPIP award, a high-profile district governance award that is coveted by districts and *Bupatis*. The JPIP award competition and evaluation is carried out by the *Jawa Pos Institut Pro-Otonomi* (JPIP) a foundation of East Java's largest media network. JPIP's evaluation indicators for sanitation are the same as the project's outcome and performance indicators. Community-access monitoring data, ODF-achievement data, and the cost-effectiveness analyses of these outcomes, are used to evaluate sanitation performance. JPIP obtains sanitation benchmarking and monitoring data from district health offices, and supplements it with independent observations and public opinion surveys.
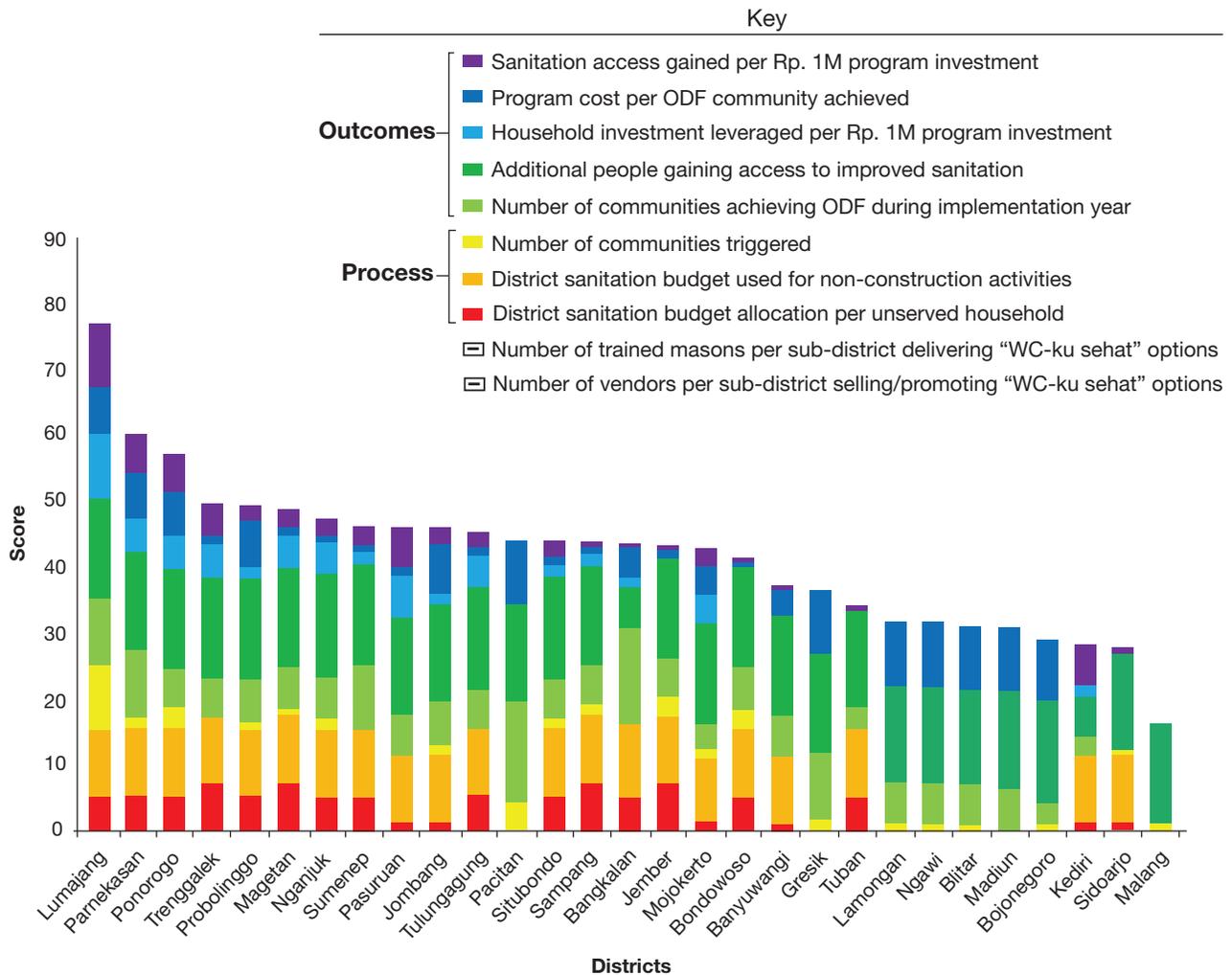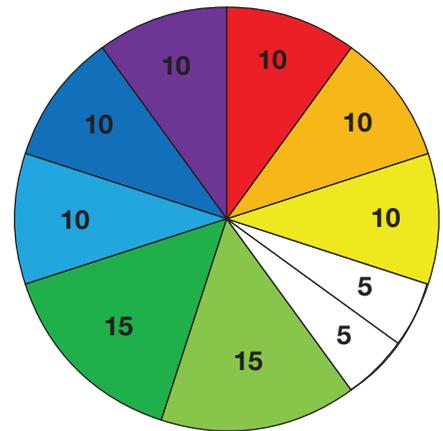
Based on the project experience to date, a national level monitoring system may be necessary to sustain the interest of East Java government institutions in this kind of monitoring and ensure the routine capture of behavioral data such as ODF achievement at the village level. In pursuit of this objective, WSP has conducted policy advocacy leading to the launch of a cutting edge national Community-Based Total Sanitation (CBTS) Strategy, which has sparked interest among other large scale programs in replicating approaches introduced through TSSM. The next challenge is to establish national level systems and mechanisms to strengthen local government's commitment to translate the CBTS strategy into concrete action. In Indonesia, the central government has expressed willingness to develop an SMS-based monitoring system for all five pillars of the CBTS (elimination of OD, hand washing with soap, safe food handling, safe drinking water handling, safe disposal of domestic solid and liquid waste), but mechanisms and capacity are not yet developed. The national government recognizes that capacity building for monitoring is essential and must be an integral part of a national rural sanitation capacity development plan.

A potential breakthrough has come in the form of an IN-PRES (Presidential Instruction) issued in 2010. Through the INPRES the President of Indonesia has asked all concerned Ministries to monitor progress towards the MDG targets, including those for sanitation. The progress achieved is to be used as a performance indicator for the relevant Ministries. The responsibility for sanitation targets lies with the Ministry of Health. The Health Minister has asked all provincial governors to submit bimonthly reports and consequently *Bupatis* are required to report monitoring data from their districts every two months. Such demand from the national level will help focus the *Bupatis'* attention on regular monitoring of access to improved sanitation.

**FIGURE 8:** BENCHMARKING DISTRICT PROGRAM PERFORMANCE IN EAST JAVA (2009)

District sanitation programs are scored on ten process indicators in an annual benchmarking assessment. Five indicators assess outcomes, while the other five assess process. This visualization clarifies, at a glance, areas of high and low performance. WSP and the provincial government compiled and presented these results at annual Stakeholder Learning Reviews in 2009 and 2010, sparking a sense of competition, rich learning exchanges, and fruitful discussions on the way forward among stakeholders from all districts.

At right, the comparative weightage for each of the 10 indicators. Note: Two process indicators (related to Supply Improvement) could not be measured in 2009. Thus, the top chart shows scores for eight out of possible 10 indicators.



Key

**Outcomes**
- ■ Sanitation access gained per Rp. 1M program investment
- ■ Program cost per ODF community achieved
- ■ Household investment leveraged per Rp. 1M program investment
- ■ Additional people gaining access to improved sanitation
- ■ Number of communities achieving ODF during implementation year

**Process**
- ■ Number of communities triggered
- ■ District sanitation budget used for non-construction activities
- ■ District sanitation budget allocation per unserved household
- ⊟ Number of trained masons per sub-district delivering "WC-ku sehat" options
- ⊟ Number of vendors per sub-district selling/promoting "WC-ku sehat" options

# VII. Summary of Key Learning

**Measurement and monitoring of outcomes by all levels of stakeholders is the key to achieving goals**. Implementing agencies have traditionally monitored only inputs and outputs, while leaving outcome measurement to post-project external evaluation studies. This has proven to be a costly way of finding out too late that outcomes were often not achieved. TSSM has chosen, therefore, to combine program implementation with progress monitoring towards desired outcomes by: a) defining desired outcomes in easily measurable ways (e.g., elimination of open defecation in a community, or 100% household access to improved sanitation through self-financing) and b) involving key stakeholder groups (participating communities, local government staff, sanitation service providers) in monitoring progress towards them.

**Making monitoring fully public and transparent catalyzes community action for time-bound collective change.** Participatory monitoring using social maps that are drawn and regularly updated by community members can be used to track monthly changes in community-wide sanitation behavior and access to improved sanitation. Using a public, visual approach, everyone in the village can see and check progress by individual household, street, neighborhood, or hamlet. The community is motivated to achieve ODF as soon as possible, which brings immediate rewards such as greater self-worth and prestigious recognition from local governments and neighboring villages. Government databases need only pick up and consolidate community data periodically from social maps, and use it to manage and improve sanitation program implementation

**Communities are able to generate high quality monitoring data aligned with Joint Monitoring Program indicators.** In East Java, the project's implementation team uses local terminology and descriptions for "improved" and "unimproved" sanitation that are aligned with the indicators of the global Joint Monitoring Program. This is helping to spread public awareness of what differentiates an improved sanitation facility from an unimproved one. The social mapping legends differentiate between the two, and drive people's aspirations to upgrade existing facilities to safer, healthier, "improved" versions.

**Manual data transfer from community maps to local government databases becomes burdensome when programs scale up.** To monitor progress, local government staff visits communities on a monthly basis to collect data and observe progress. In East Java, however, the number of triggered communities needing monthly monitoring reached into thousands within two years. Manual data transfer became difficult. Since November 2009, progress reporting to sub-district and higher levels has been made through mobile phones into a computerized database. This has greatly improved data flow from the community to sub-district and higher levels. All districts are scheduled to receive training to operationalize the text message-based monthly reporting. Field visits and observation-based ODF verification by local government teams are used to cross-check phone-reported data.

**Institutional incentives are necessary to make monitoring data flow smoothly and regularly.** While the desire to become ODF drives community monitoring, local government agencies involved in monitoring need to be motivated by other means. Institutional incentives for regular and reliable monitoring are needed, but run the risks of being corrupted if they are entirely internally operated. External, third-party, evaluation-based incentives may be more effective than internal ones. With this intent, in 2008 WSP supported a collaboration with The Java Post, East Java's biggest media network, to incorporate sanitation program performance as a criterion for evaluation of district self-governance. The *Jawa Pos Institut Pro-Otonomi* (JPIP) is a foundation of the media network that conducts annual evaluations involving public surveys, program data analysis, and observations. JPIP's evaluation indicators are the same as the Global Scaling Up Rural Sanitation Project's outcome and performance indicators. The prestigious JPIP award has awakened interest and accountability for sanitation program performance among political leaders and administrative heads in East Java districts.

**Long term sustainability of sanitation MIS requires demand for such data from national systems.** The institutionalization of a national sanitation MIS that regularly and unequivocally demands district-level data on both access to improved sanitation (JMP definitions ), and numbers and proportions of ODF communities out of the total communities in the district is an essential prerequisite to sustained monitoring. The August 2010 Presidential Instruction (see section 8, last para) could open the doors to the establishment of such an MS.

# VIII.　Next Steps

- **The reliability of mobile phone-based data reporting at scale has yet to be evaluated.** The data comes into a computerized gateway at the district level and can be immediately used for consolidating and presenting data summaries in graphic form. In principle, consolidations upward to province and national levels are possible. These developments would be worth pursuing based on an evaluation of the quality of data during the community to district transfer.

- **East Java provincial government and several district governments are keen to test linking the data from SMS monitoring to district government websites in real time.** This capability would be strategic, since, if it can be accomplished, it would attract the attention of decision makers (*Bupati*).

- The provincial scale model of an institutional incentive system developed through the JPIP award scheme seems more manageable than national level award schemes (e.g., India's *Nirmal Gram Puraskar Yojana*). It remains to be seen if other Indonesian provinces are willing to adopt such schemes or similar opportunities.

- **It remains to be seen if the JPIP award will suffice to keep sanitation monitoring systems working after the end of this phase of the Global Scaling Up Rural Sanitation Project.** Communities that achieve ODF status and are verified may discontinue further monitoring activities unless district governments expand their rural sanitation programs beyond elimination of open defecation toward Total Sanitation, espousing other key hygiene behavior changes of the strategy such as handwashing with soap, food and drinking water hygiene, and safe disposal of domestic solid and liquid waste.

- **Indonesia's 2008 *National Strategy for Community-based Total Sanitation* has provided a policy foundation for a holistic approach to sanitation and hygiene behavior improvements in the Indonesian population.** But there is no national level action plan or roadmap yet available about how this national strategy will translate into action. In order to mobilize political commitment and continued district government financing for what WSP and partners have set in motion, WSP and partners are focusing on helping all East Java districts develop Strategic Plans for Total Sanitation for 2010–2014. If these plans produce desired clarity about the way forward for districts, the process will be picked up for replication by other provinces. In the highly decentralized Indonesian system, this route may prove more feasible for scaling up than a national roadmap.

# Appendix 1: Sample Monthly Progress Report

**FORM LB−1: Monthly Progress Report**
District: JOMBANG  Sub-district: Peterongan
Month of Reporting: October  Year: 2009

| # | Name of village | Name of hamlet/ communities | # of people | Baseline data of community's access (HHs) | | | | | | | | | | | | | | | Cumulative count of community's access till this month | | | | | | | | | | | | | Remarks |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Total # of Households | | | Improved latrine | | | Unimproved latrine | | | Shared latrine | | | Still open defecation (OD) | | | Improved latrine | | | Unimproved latrine | | | Shared latrine | | | Still open defecation (OD) | | |
| | | | | R | M | P | R | M | P | R | M | P | R | M | P | R | M | P | R | M | P | R | M | P | R | M | P | R | M | P | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 |
| 1 | Senden | Nglawan | 686 | 4 | 111 | 41 | 2 | 50 | 6 | 0 | 0 | 0 | 0 | 2 | 2 | 2 | 59 | 33 | 2 | 51 | 10 | 0 | 0 | 0 | 0 | 3 | 3 | 2 | 57 | 28 | |

Columns (1), (2), (3), (4), (32) are self-explanatory

Columns (5), (6), (7) are numbers of households, by welfare classification: R=rich, M=middle/In between, P=poor

Columns (8), (9), (10) are numbers of households owning and using improved latrines for defecating (baseline), by welfare classification: R=rich, M=middle/In between, P=poor

Columns (11), (12), (13) are numbers of households owning and using unimproved latrines for defecating (baseline), by welfare classification: R=rich, M=middle/In between, P=poor

Columns (14), (15), (16) are numbers of households having and using shared latrines for defecating (baseline), by welfare classification: R=rich, M=middle/In between, P=poor

Columns (17), (18), (19) are numbers of households that still practice open defecation (baseline), by welfare classification: R=rich, M=middle/In between, P=poor

Columns (20), (21), (22) are increased numbers of households owning and using improved latrines for defecating (since the baseline count), by welfare classification: R=rich, M=middle/In between, P=poor

Columns (23), (24), (25) are changed (increased or decreased since the baseline count) numbers of households owning and using unimproved latrine for defecating, by welfare classification: R=rich, M=middle /In between, P=poor

Columns (26), (27), (28) are changed (increased or decreased, since the baseline count) numbers of households having and using shared latrine for defecating (baseline), by welfare classification: R=rich, M=middle/In between, P=poor

Columns (29), (30), (31) are changed numbers of households that are still practicing open defecation (to be compared to the baseline count), by welfare classification: R=rich, M=middle/In between, P=poor

# Appendix 2: Guidelines for ODF Verification of Hamlet/Village

## Who Should Use This Format?

- This format is for an independent verification. Therefore, it should not be used by members of any community to verify their own community.
- The verification team should consist of health center staff, a sub-district/district cadre, a villager from another hamlet/village, and members of other community development agencies.
- External facilitators who worked with the community, should NOT do the verification.
- Members of the community that is being verified can accompany verification teams to help them find the households to visit, but MUST NOT participate in verification process in any way.

**A. Definitions**

1) A community has achieved ODF status if:
   1. All households defecate only in latrines and dispose of babies' feces only into latrines.
   2. No human waste is seen around the environment.
   3. There are sanctions, rules or other safeguards imposed by the community to prevent open defecation.
   4. There is a monitoring mechanism established by the community to track progress towards 100% households' ownership of improved latrines.

   5. Efforts are under way to convert all existing latrines to improved latrines and to popularize other key behavior changes towards total sanitation.
2) Total sanitation is achieved if all households in a community:
   1. Have access to and use improved latrines for all excreta disposal.
   2. Wash hands with soap properly before eating, after defecating, after cleaning up babies' excrement, and before touching food.
   3. Use safe practices for handling and storing drinking water and food.
   4. Use safe practices for disposing of household waste ( liquid and solid).
3) Improved latrines are facilities to dispose of feces in such ways that :
   1. They do not contaminate water bodies;
   2. Prevent contact between excreta and human beings;
   3. Prevent access to excreta by flies or other insect vectors and animals;
   4. Prevent foul smell;
   5. Are easy to keep clean and safe to use.

**TW 1** Construction Quality, O&M, and Use of Household Latrines and Facilities (Observed by Facilitator)

| Score: 1 = yes, 0 = no | # of latrines observed[1] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1. Well functioning latrine, used for defecation | | | | | | | | | | |
| 2. Latrines used to dispose of baby excrement | | | | | | | | | | |
| 3. Well constructed closet and platform/slab | | | | | | | | | | |
| 4. Pit at a safe distance of >10m away and downstream from water bodies | | | | | | | | | | |
| 5. There is lid for the dry pit hole or water seal in the closet | | | | | | | | | | |
| 6. Feces cannot be accessed by flies or other vectors including rats or other animals | | | | | | | | | | |
| 7. No feces visible on floor/wall/seat | | | | | | | | | | |
| 8. There is water and soap in or near latrines (see if you can wash hands there) | | | | | | | | | | |
| 9. There is facility for hand washing before eating | | | | | | | | | | |
| 10. No human excrement (particularly child excrement) seen in the yard, garbage, drains | | | | | | | | | | |
| **Total score** | | | | | | | | | | |

Note: the description of each latrine observed can be put in a separate sheet of paper.

1. based on the numbers indicated on the social map
For analysis:
No. 1, 2, 5, 6, 7 and 10 → as indicators of behavior change of defecating to latrine; No. 3, 4, 5, 6 and 7 → as indicators that the latrine which used is categorized as improved latrine; No. 8 and 9 → as indicators of other hygiene and sanitation behavior, such as handwashing

**B. Latrine observation sheet for household:**
1. Name of Community/Village:
2. Name of Kecamatan/District/Province:
3. Name of Puskesmas (Health centre in sub-district):
4. Activity date:
5. Name of verifier:

## Process Steps

1. Before starting the verification, discuss each of the 10 questions, one by one, with the team, to ensure common understanding.
2. Use Social Map to divide responsibility for observation and verification among team members. Make sure that they have the correct house number / name of the family head of the household to be visited.
3. Let all team members complete home visit observations and interviews.
4. Create a summary of the results together using 'checklist form' in G2 section (for ODF and Improved latrine).

5. Report the result to community, as follows:
   - Explain the ODF criteria one by one, including the score and what it means.
   - Explain criteria of "improved latrine" and "unimproved latrines," give examples of latrines "not improved" still found in community. Explain that the unimproved toilet can be easily damaged and does not last long, which causes the ODF village to lose its ODF status, and the community should strive to upgrade them to "improved latrines" as soon as possible.
   - Explain to community whether they can now declare their ODF status. If not, explain what improvements need to be made and where in the community or at the school.
   - Communicate to community that the verification team will be back to check whether the changes/improvements have been are made, so that ODF status can be declared.

## Notes

1. The 10 questions must be adapted to field situations and 'read between the lines' like a question in the checklist.
2. Notes from each of the latrines observed and the results of interviews with owners and users are needed like separate formats in section C.
3. If the owner/user of the latrine were not at home, try to find out and search for information from the nearest neighbors.

### Process notes

| | |
|---|---|
| 1 | Observe the latrine (find the indication that latrine was used). Interview the owner, how many times a day is it used? Are they defecating in the latrine consistently? Is anyone still going to the paddy field, river or yard? |
| 2 | If they have babies, ask the parents. What about the baby's diaper, washed where? (If washed in toilet, look for evidence.) |
| 3 | By observation: Is the slab tilting or cracked? Ask the user how they feel about the safety of that facility. |
| 4 | Ask about the source of drinking water used by community. If using a dugwell or borehole, ask where is the position of the water source, and which are the nearest latrines. |
| 5 | Observe: for dry pit latrine if the cover is not fully covering the hole, or there is no water seal in a pour flush latrine, score can be 0. |
| 6 | Observe: Check if you can see any insects or other animals able to reach the feces in the pit, on the slab or the ventilation pipe. |
| 7 | If you see feces on the floor/slab/wall, score is 0, and make a note based on user comment about it. |
| 8 | See indicator (availability of water and soap and trace of soap use). During interview, ask member of household to show how they wash hands. If soap is not found inside the latrine, see if it is brought in and used. |
| 9 | Find out where they usually eat. Ask where they wash their hands. (See if hand washing facility is conveniently close to eating place. Check actual practice if close to meal time.) |
| 10 | Do by observing the surrounding of their house (bushes, gutter, field, river, trash bin, or other places). |

## C. Additional recording sheet for result of household latrine observation

| No. of Household and Name of Household Head | Explanatory Notes/Remarks |
|---|---|
| 1. | |
| 2. | |
| 3. | |
| 4. | |
| 5. | |

## D. Observation sheet for school latrine

**TW 2** Construction Quality, O&M, and Use of School latrines Lnd Hand-Washing Facilities at Certain Hamlet/Village

| | Numbers of latrines observed[1] | | | | | | | |
| | School 1 | | | | School 2 | | | |
| Score: 1 = yes, 0 = no | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|---|---|---|
| 1. Well functioning latrine | | | | | | | | |
| 2. Latrine used by students | | | | | | | | |
| 3. Well constructed closets/seats/squatting slab | | | | | | | | |
| 4. Feces storage (underground pit) at a safe distance of >10m away from, and not contaminating water bodies | | | | | | | | |
| 5. There is fully covering lid for slab hole or water seal in closet | | | | | | | | |
| 6. safe disposal of human feces preventing exposure to flies or other vectors including rats or other animals | | | | | | | | |
| 11. No feces on floor/wall/seat | | | | | | | | |
| 12. There is water and soap in or near latrines (prove this by washing hands) | | | | | | | | |
| 13. There is facility for hand washing before eating | | | | | | | | |
| 14. No human excrement (particularly child excrement) in the yard, garbage, sewage system | | | | | | | | |
| **Total Score** | | | | | | | | |

Note: The description of each latrine observed can be put in a separate sheet of paper. Filling principle same with household observation.

## E. Notes for each question item

It should be identified how many latrines in one school. All latrines have to be observed.

| No. of questions | Process notes |
|---|---|
| 1 | |
| 2 | Score is 0 if latrine only used by teacher (restricted for student). Do confirm by talking to students—if they want to defecate during school time, where do they go? If not using school latrine, why? |
| 3–10 | Similar to household checklist |

## F. Additional recording sheet for result of school latrine observation

| No. of latrines in each school | Notes |
|---|---|
| 1. | |
| 2. | |
| 3. | |
| 4. | |

## G. Recapitulation sheet for ODF Hamlet/Village level

This process can be done through joint meetings between sanitarian, chief of Village, triggering committee, health volunteers, or other officer concerned in the village level, after the observation process, the B–F part in above section has been filled in, and all households have been observed. The purpose of this meeting is to ascertain whether the data and information gathered proves that the community can be declared ODF.

### G.1. Recapitulation of community access to latrine

[Use LB-1 form for recap purpose]

### G.2. Checklist and final notes (ODF and Healthy latrine)

1) ODF status

| ODF criteria | Marking ( ✓ ) | Explanatory notes/remarks |
|---|---|---|
| 1. All households defecate only in latrines and dispose of babies' feces only into latrines *(Checklist items 1, 2, 5 & 6).* | | |
| 2. No human waste is seen in the environment. *(Checklist items 7 & 10).* | | |
| 3. There are sanctions, rules or other safeguards imposed by the community to prevent open defecation. | | |
| 4. There is a monitoring mechanism made by the community to achieve 100% household ownership of improved latrines. | | |
| 5. Efforts are under way to upgrade existing latrines to improved latrines and popularizing other key behavior change towards total sanitation. | | |

Notes: No. 3: Find out what kind of rules/sanction and note it down. Make sure that this is real by doing a cross check with some members of the community
No.4: Check by asking to meet the monitoring team and find out how the monitoring mechanism works. Note down the mechanism..

2) Hygienic/Safe/Healthy latrine

| Healthy latrine criteria | Marking ( ✓ ) | Remarks |
|---|---|---|
| 1. Not contaminating water bodies.<br>*Checklist no-4.* | | |
| 2. No contact between feces and humans.<br>*Checklist no-5, 6 & 7.* | | |
| 3. Safe disposal of human feces, preventing access to feces by flies or other vectors including animals.<br>*Checklist no-5, 6.* | | |
| 4. No unpleasant smells from latrines.<br>*Checklist no-5.* | | |
| 5. Toilets easy to clean and safe for users.<br>*Checklist no-3.* | | |

Date: …………………………, …........,

Known by: ………………………    Prepared by (team names): …………………………….

Chief of village …….………………………………………………………………………………………..

Sanitarian …….……………………………………………………………………………………………...