Increasing volunteer retention in West Java

Project Report

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THE
**BEHAVIOURAL
INSIGHTS
TEAM**

DLH
beyond clean & green

Contents

Executive summary

The Behavioural Insights Team (BIT) and the West Java Province Environmental Agency (Dinas Lingkungan Hidup, or DLH) formed a partnership in May 2018 to apply behavioural insights and rigorous evaluation to DLH's flagship 'Eco Village' volunteering programme. Eco Villages are community-based volunteer groups that are setup and initially supported by DLH to tackle local environmental issues. This report summarises the findings of our project.

Policy objective

As with many volunteering programmes around the world, motivation of Eco Village volunteers starts high and erodes over time, which can lead to volunteers leaving the programme. This high turnover can make it difficult for programmes to maintain a consistent number of volunteers, let alone increase it. Our objective was therefore to encourage volunteers to attend Eco Village activities, such as waste separation and tree planting, more often, and to stay active in the programme for longer.

Intervention

WhatsApp is one of the most common forms of written communication in Indonesia - far surpassing SMS due to the high cost of phone network fees. Individual and group WhatsApp messages are also used by Eco Villages to invite volunteers to activities and share success stories. It was therefore both logical and efficient to use WhatsApp to encourage volunteer attendance.

BIT and DLH tested the effectiveness of longer, monthly messages about environmental challenges (Treatment 1) compared to short, weekly messages that draw from behavioural insights (Treatment 2) over the course of three months. Treatment 1 drew on the idea that highlighting the negative consequences of environmental degradation can trigger positive environmental behaviours. Treatment 2 reflected the behavioural insights perspective that volunteering is motivated by a range of non-economic factors and that volunteers benefit from practical support to follow through on their intentions. The messages were sent to the lead volunteer in each Eco Village (Head Volunteer) and, where possible, dedicated WhatsApp groups independently set up by Eco Villages.

Table 1: Behavioural insights used in Treatment 2 WhatsApp messages

Behavioural insight	Application
Personal challenge	Remind volunteers that their hard work will pay off and they will grow as a person from attending more activities.
Eco Volunteer identity	Remind volunteers about their identity as a volunteer for ecological causes and their standing as a volunteer in the community.

Planning support	Help volunteers plan for how they will overcome any barriers to attending activities.

Head Volunteers were also trained and reminded to use a mobile data collection app (Epicollect5) to record attendance. This was a replacement for the paper and pen system used by most Eco Villages.

Results

We evaluated the impact of Treatment 2 compared to Treatment 1 messages on (i) whether or not an existing volunteer participated in at least one Eco Village activity over the four-month trial period; and (ii) the percentage of Eco Village activities an existing volunteer participated in during the trial period.

We found that the short, behaviourally-informed WhatsApp messages (Treatment 2) did not have a statistically significant impact on either volunteer retention or engagement as compared with the longer, more traditional messages related to environmental challenges (Treatment 1).

To complement the quantitative impact evaluation, we gathered additional qualitative evidence to understand how volunteers reacted to our interventions. The interviews revealed that some Head Volunteers did not forward or otherwise communicate our messages to volunteers. These findings suggest that simple, behaviourally-informed WhatsApp messages compared to lengthier WhatsApp messages may not be good value for money. However, we are unable to conclude whether sending any type of message is better than sending nothing. This question would benefit from testing, as would a trial which directly targets all volunteers.

It is important to keep in mind that the finding that WhatsApp messages are not read and shared may be limited to this context. There is always merit in running robust evaluations of similar interventions in other contexts. Where possible, these studies should use objective indicators of behaviour and not self-reported measures, as we were forced to rely on in this context.

Figure 1: Impact on volunteer attendance

N=7,961

Primary analysis

** p<0.01, * p<0.05, + p<0.1
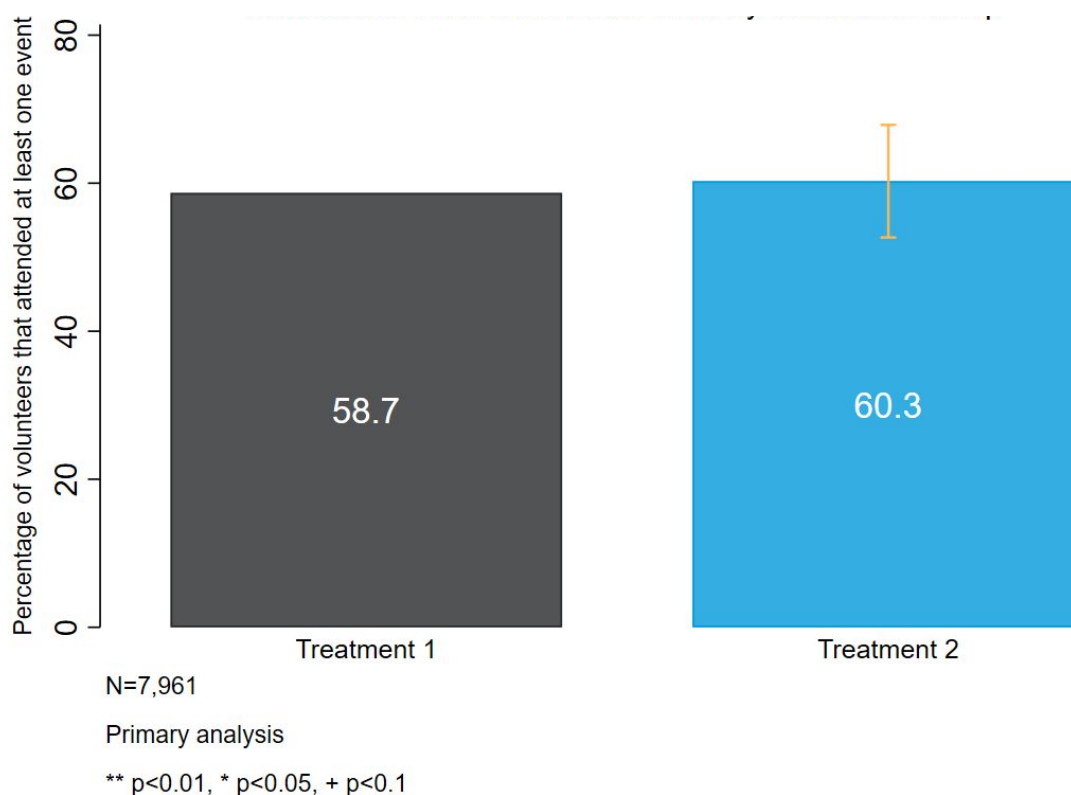
Recommendations

- **Test the impact of messages against no messages.** We were only able to test the impact of different messages against one another. It would be useful to know whether sending any type of message is better than sending nothing.
- **Contact volunteers directly.** By adapting the sign-up process to collect phone numbers from volunteers, DLH can communicate with them directly and test the effect of different/
- **Develop new messages for testing.** Feedback at the post-trial workshop revealed a common preference among attendees for messages that draw on religious lessons and obligations.
- **Instruct all Eco Villages to continue using mobile data collection app.** Many volunteers reported positive experiences with the new data collection process, and DLH has a clearer indication of volunteer behaviour as a result.

Moving forward, we will support DLH to adapt the data collection app, after which they can use it independently. Our hope is that this app can improve the availability and quality of DLH-held data which in turn can support additional behavioural insights projects.

01 / Introduction

In 2017, the Behavioural Insights Team (BIT) approached the Direktorat Jenderal Penegakan Hukum (Directorate General of Law Enforcement) at the Indonesian Kementerian Lingkungan Hidup dan Kehutanan (Ministry of Environment and Forestry, or KLHK) to discuss how behavioural insights could support environmental goals in Indonesia. Senior staff from KLHK advised that, due to government decentralisation, an intervention at the regional rather than the central government level would potentially be more impactful and recommended that we explore options with Environmental Management Unit (Dinas Lingkungan Hidup, DLH) in the province of West Java.

BIT and the DLH of West Java Province formed a partnership in May 2018 to apply behavioural insights and rigorous evaluation to their flagship 'Eco Village' programme. Eco Villages are groups of volunteers recruited and supported by DLH to tackle environmental issues in the local area. The purpose of the partnership, supported by the Global Innovation Fund, was to: (i) increase the capability of Eco Villages to undertake activities that tackle environmental degradation; and (2) increase volunteer retention.

This report summarises the findings of DLH and BIT's collaboration.

02 / Background

West Java's response to its environmental challenges

As Indonesia has advanced from a low- to a middle-income country, it has rapidly modernised its economy. Modernisation brings with it the potential for increased welfare, but also major environmental challenges. These environmental problems include industrial waste from factories which can be toxic to water supplies and agricultural land; household waste from plastic food and drink packaging which accumulates in landfill and, carried by wind and rain, escapes into oceans; and the loss of forest cover which increases erosion and the risk of flooding.

There is a high cost to government to both regulate these risks and provide services that make it easy for citizens and businesses to be environmentally conscious. While all levels of government in Indonesia are working hard to keep up with the pace of change, the West Java Provincial Government recognised the urgent need for community-based solutions to address severe pollution in the Citarum river basin and to ensure rural areas are not left behind.

Indonesians living in poverty are more likely to rely on the environment for their livelihoods (e.g. they are farmers or fishermen); to live in housing affected by flooding; and to be vulnerable to diseases from environmental toxins. An improvement in environmental

management will thus disproportionately benefit people in poverty, who make up 9 percent of West Java's population of 46 million.[1]

In 2014, DLH launched the Eco Village programme. The programme aims to create pockets of environmental action across West Java. In the beginning, members of the local community are recruited to become an Eco Village and, with the support of a DLH employee, to arrange pro-environmental activities in their area, which range from clearing rivers banks to waste separation. This support tails off over three years, with the ultimate goal being that each Eco Village becomes self-sufficient and able to independently tackle the environmental challenges their community faces. Head Volunteers are recruited to enable this through leadership within their Eco Village, although their commitment remains voluntary.

There are over 300 Eco Villages in the programme, with plans to increase this number in 2019. In rural areas, each Eco Village covers a population of approximately 4,000-5,000 people and in urban areas an average of 10,000 people. While West Java is the only province in Indonesia to have such a comprehensive Eco Village programme, other provinces have smaller initiatives, suggesting this model could be scaled nationally if successful.

> Eco Villages rely on volunteers to achieve their aims. An Eco Village is created when DLH approaches a group of residents and requests the following:
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> 1. a specific focus area to improve their village environment (e.g. waste bank, tree planting);
> 2. the details of at least 20 core volunteers;
> 3. the details of a designated 'Head Volunteer'; and
> 4. Attendance at a training programme run by DLH Facilitators (see immediately below).

Eco Village volunteers sometimes lose motivation over time

Volunteering can be tough. Eco Villages are supported by DLH for their first three years by DLH-paid Facilitators, but the intensity of support decreases over time. It is expected that during this three-year timeframe, Head Volunteers will become more knowledgeable and confident to run activities independently, and positive shifts in community attitudes and behaviour will lead to wider participation.

However, the volunteer drop-out rate is a concern for DLH. Whilst many villages have large numbers of volunteers in the beginning, this tends to decrease over time. Presumably as their motivation wanes. This is an issue because it threatens the viability of the programme in the long term, despite positive outcomes for those villages most actively involved.

The psychological literature suggests that motivation can often be divided into two areas: intrinsic and extrinsic. Intrinsic motivation refers to performing an action because of a

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[1] Antara News (2017). Four million people in West Java still below poverty line. Antara News. Viewed 6 August 2019.
<https://en.antaranews.com/news/113073/four-million-people-in-west-java-still-below-poverty-line>

personal desire or interest in doing something. A person who is intrinsically motivated is more likely to expend effort,[2] perform better,[3] less likely to drop out of a course/ programme[4] and experience greater psychological well-being.[5] Additionally, intrinsic motivation is associated with greater learning transfer and skill acquisition.[6]

Conversely, extrinsic motivation derives from external factors, such as a response to a reward or sanction. Interestingly, extrinsic motivation can undermine intrinsic motivation.[7] Those who feel that an action has been forced on them, or that they are doing it for an externally-offered reward, are less likely to feel internally motivated towards that action.[8]

While there are small rewards for attending DLH-run events, such as food, locally organised events tend not to be able to provide this. Attendance at the latter is therefore heavily reliant on the intrinsic motivation of volunteers. In other words, they have to want to volunteer on the Eco Village programme because it is satisfying to them. Our WhatsApp messages sought to foster this motivation in volunteers.

DLH has never rigorously evaluated the impact of messaging on volunteer behaviour

Communication related to the Eco Village programme can come indifferent forms from different individuals. WhatsApp is the preferred medium for Facilitators and Head Volunteers because it is easy to reach volunteers this way. DLH also has the capacity to organise in-person events, and disseminate leaflets and books, but these come at considerable expense.

There has never been an effort to rigorously evaluate the impact of messages targeted at volunteers. Working with BIT to conduct a randomised controlled trial (RCT) of volunteer communication presented an opportunity for DLH to:

1. Find out whether low-cost communication methods, such as WhatsApp, can achieve DLH's goals of increasing volunteer retention and engagement; and

2. Build their capacity to apply behavioural approaches to other areas of their work.

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[2] Skinner, E. A., Wellborn, J. G., & Connell, J. P. (1990). What it takes to do well in school and whether I've got it: A process model of perceived control and children's engagement and achievement in school. Journal of educational psychology, 82(1), 22.
[3] Miserandino, M. (1996). Children who do well in school: Individual differences in perceived competence and autonomy in above-average children. Journal of educational psychology, 88(2), 203.
[4] Vallerand, R. J., & Blssonnette, R. (1992). Intrinsic, extrinsic, and amotivational styles as predictors of behavior: A prospective study. Journal of personality, 60(3), 599-620.
[5] Sheldon, K. M., & Kasser, T. (1995). Coherence and congruence: two aspects of personality integration. Journal of personality and social psychology, 68(3), 531.
[6] Fishbach, A., & Trope, Y. (2005). The substitutability of external control and self-control. Journal of Experimental Social Psychology, 41(3), 256-270.
[7] Deci, E. L., Koestner, R., & Ryan, R. M. (1999). A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation.
[8] Deci, E. L., & Ryan, R. M. (2000). The " What " and " Why " of Goal Pursuits: Human Needs and the Self-Determination of Behavior. Psychological Inquiry, 11(4), 227–268.

03 / Intervention

We decided to use WhatsApp for our intervention because it is one of the most common forms of written communication in Indonesia and it is not associated with unsolicited advertising like SMS. Whilst it was impossible to obtain the phone numbers of all the volunteers, DLH maintained a database of mobile numbers for Head Volunteers which we used for this project.

BIT and DLH developed a series of messages to be sent over a three-month period. These messages were sent directly to Head Volunteers and, where possible, WhatsApp groups that had been independently setup by the Eco Villages.[9] over a three-month period (see Annex for the exact content in English and Bahasa Indonesia). We hypothesised that the messages would be forwarded on by Head Volunteers to volunteers or the content passed on directly through other means, e.g in-person. We also hypothesised the messages would be more impactful originating from Head Volunteers compared to the DLH.

We chose to test whether message content based on behavioural insights could improve volunteer attendance compared to environmental messages. We did not develop a 'pure' control arm (i.e. no messages) because we had to encourage all of the villages to use mobile data collection app (see Section 4) to record data. As this was a new process, excluding some villages could have made them suspect that they were part of an experiment.

The two treatment arms were:

1. Longer, monthly messages about environmental challenges

These messages were designed to highlight the negative consequences of environmental degradation (e.g. plastic waste and species extinction) can trigger positive environmental behaviour because people will prosocially seek to protect nature and other people, or selfishly seek to protect themselves.

Research has indeed shown that using negative emotional appeal can generate greater engagement.[10] In one study, participants were shown a variety of imagery ranging from negative to positive, all in the context of charitable donations. The researchers found that negative imagery, such as a sad face to denote suffering, significantly increased the amount of money a participant would donate when prompted. The hypothesis here is that negative imagery can help the audience feel the pain of the person depicted. That, in turn, stimulates sympathy and can lead to engagement, such as a donation of money or time.

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[9] We were informed that some WhatsApp groups may cover more than one Eco Village. To avoid sending the wrong messages to the wrong volunteers, we cross checked the members of each group against our database of Head Volunteers' mobile numbers. If any group was discovered to have more than one Head Volunteer as a member, we excluded it from the project.
[10] Burt, C.D., & Strongman, K. (2005).Use of Images in charity advertising. *International Journal of Organizational Behavior*, 8(8), 571–580

We chose to focus on text rather than imagery, for example: "...research suggests that by the year 2050, the ocean will contain more plastic by weight than fish." There was a concern that images would use up a large amount of mobile data, making them more difficult to receive in rural areas. We also described negative events that coastal and inland Eco Village communities could relate to, for example: "Loss of insect species – such as moths, bees, and butterflies – could have far-reaching consequences for the world's crop production and natural ecosystems."

2. Shorter, weekly motivational messages, using three behavioural insights

These messages reflect the behavioural-insights perspective that volunteering is motivated by a range of behavioural factors, and can be further encouraged through practical support to follow through on one's intentions.

- **Personal challenge.** A counterintuitive finding from BIT's work on teacher and police recruitment is that appealing to a person's prosocial motivations can be less effective than appealing to their personal growth motivations.[11] For example, BIT tested different messages on postcards to encourage registered voters in Hamilton County, in the US state of Tennessee, to join the local police force. The message which said "Are you up for the challenge?" tripled the number of applicants, while messages that focused on the opportunity to serve or make an impact on the community showed no significant difference as compared to not sending a postcard at all.[12]

  We applied this insight to our intervention by underlining that volunteers' hard work would pay off and that they would grow as a person from attending more activities. For example: "The best time to volunteer is when you are low on time and energy. Challenges are exciting and help you grow!"

- **Eco Village identity.** The concept of identity-based social action is well established in social psychology.[13] Priming identities that are associated with specific norms, such as one of generosity, can help to encourage certain behaviours because people seek to maintain a consistent sense of self. For example, priming an individual's identity as a previous donor to the American Red Cross or as a member of a local community increased donations by regular donors compared to those whose identities were not primed.[14]

  We incorporated this insight into the WhatsApp messages, such as: "Which of these values do you identify with most: (1) protecting nature; (2) making your community strong; or (3) being responsible for your actions. Now think about how volunteering in your Eco Village reflects your values. It's who you are!"

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[11] The Behavioral Insights Team (2015), *Behavioural Insights and the Somerset Challenge*, Available at: http://www.behaviouralinsights.co.uk/publications/behavioural-insights-and-the-somerset-challenge
[12] https://www.behaviouralinsights.co.uk/publications/behavioral-insights-for-making-cities-better/
[13] Grube, J. A., & Piliavin, J. A. (2000). Role identity, organizational experiences, and volunteer performance. *Personality and Social Psychology Bulletin*, 26(9), 1108-1119.
[14] Kessler, J. B., & Milkman, K. L. (2016). Identity in charitable giving. Management Science, 64(2), 845-859.

- **Planning support.** Even when we are highly motivated to do something, we can still fail to follow through without proper planning. When we commit to a future action, it is easy to forget or become tempted by more appealing or pressing options when the time to carry out the action actually comes around. In an email trial in Indonesia, BIT showed that giving taxpayers support to plan their tax return (laying on the specifics of how, when, and where) increased rates of early and overall filing.[15]

  We sent WhatsApp messages to help Eco Village volunteers plan how they would overcome any barriers to attending activities. For example: "Prepare for the next Eco Village activity. Ask yourself: What do I need to bring? What time do I have to be there? Who can help me with responsibilities at home while I am volunteering?".

Both treatment arms also applied the following behavioural insights:

- **Messenger effects.** The weight we give to messages can depend on how we feel about the source of that information, including whether we like them, trust them and our social distance from them. This makes it important to choose the messenger carefully depending on the specific target group, considering demographic and behavioural similarities between them and the intended messenger.[16] For example by ensuring that those who are likely to be the most influential or credible communicators are enlisted to advocate for behaviour change.

  For this trial, we signed off the messages from a local government employee - Ibu Dewi - who is familiar to many Head Volunteers. Furthermore, we encouraged the Head Volunteers to share the messages with their volunteers. This is important because Head Volunteers are well known and respected in their local communities, making them an influential messenger.

- **Timely reminders.** The effectiveness of a message can depend on when the message is delivered. Timely prompts -- those that are delivered around the time when an individual needs to make a decision or engage in a particular behaviour -- have proven effective in a number of different contexts. At their most basic level, timely prompts decrease the probability that an individual will simply forget to carry out an activity they had planned on doing.[17] For example, BIT found that just sending a reminder SMS message ten days before a bailiff was scheduled to seek out individuals with unpaid court fines increased payment rates of such fines.[18]

  We took this into account when scheduling our messages. The Head Volunteers we interviewed explained how they often found the time to plan activities after work, in

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[15] The Behavioural Insights Team, "Encouraging earlier tax returns in Indonesia" https://www.bi.team/wp-content/uploads/2018/10/Report_Indonesia_EarlyFiling-3.pdf

[16] Durantini et al. (2006) Conceptualizing the influence of social agents of behavior change: A meta–analysis of the effectiveness of HIV–prevention interventions for different groups. Psychological Bulletin 132: 212–248.

[17] Rogers, T., Milkman, K. L., John, L. K., & Norton, M. I. (2015). Beyond good intentions: Prompting people to make plans improves follow-through on important tasks. Behavioral Science & Policy, 1(2), 33-41.

[18] Haynes, L., Green, D. P., Gallagher, R., John., O. & Torgerson, D.J. (2013). Collection of delinquent fines: An adaptive randomized trial to assess the effectiveness of alternative text messages

the late afternoon and early evening. They also revealed that activities did not require too much planning and were more likely to take place towards the end of the week. We therefore sent our messages mid-week, between 17:00 and 19:00 hours.

> **A note on language**
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> BIT and DLH agreed to use Bahasa Indonesian, the national language, when designing the interventions. The alternative was Sundanese, which is spoken by approximately 36 million people in West Java and the second most widely spoken regional language in Indonesia. Ultimately, Bahasa was chosen because government officials - one of whom would be signing off the intervention messaging - are expected to use it. Added to this, there were practical considerations such as the speed of available translation services and our ability to express nuanced messages.

04 / Trial design and implementation

We conducted a randomised controlled trial (RCT) to evaluate the impact on volunteering of behaviourally-informed WhatsApp messages compared to messages about environmental challenges.

Outcome measures

We were interested in two outcome measures:

1. **Volunteer retention:** whether a volunteer in the sample attended at least one activity over the trial period; and
2. **Intensity of volunteer engagement:** the percentage of activities during the trial period (both DLH-facilitated and non-DLH) that a volunteer in the sample attended.

Sample

The sample included all known Eco Village Head Volunteers. This list was manually compiled by DLH and BIT at local training events in July and August 2018.

Data collection

To evaluate the impact of the messages, we required volunteer attendance data. Since we could not monitor actual attendance, Head Volunteers were instructed to use a phone-based data collection app, Epicollect5[19] (see Figure 2). This replaced the pen and paper method previously used for activities organised by DLH.

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[19] Epicollect5 is a mobile and web application for free and easy data collection. More information: https://five.epicollect.net/

Reported attendance was therefore a proxy for actual attendance. BIT provided training on how to use Epicollect5 in July/ August 2018, before the launch of the trial. In cases where Head Volunteers did not have a phone that allowed for installation of Epicollect5, we asked Eco Villages to select another volunteer in the village to install the app and record the data on behalf of the Head Volunteer.

While the trial did not launch until September 2018, Head Volunteers were encouraged to start using Epicollect5 from the beginning of August 2018. We incentivised Head Volunteers to submit data through a lottery: Head Volunteers could qualify their Eco Village for a cash prize if they uploaded at least one activity before the end of the trial.

Shortly before the trial launched, we uploaded all known volunteer names to Epicollect5 to make it easier for Head Volunteers to record attendance. We estimate that the manually compiled lists captured between 50-100 percent of volunteers, with the more complete lists coming from the newest villages. Any additional names added by Head Volunteers during the pretrial period were also included in the sample.

Randomisation

Randomisation took place at the Head Volunteer level rather than at the village level. This decision was taken because there were 26 villages which we suspected were covered by the same Head Volunteer as another village (i.e. 13 'pairs') and we wanted to minimise the risk of spillover. The final sample consisted of every Eco Village deemed appropriate for inclusion by DLH,[20] which comprised of 335 villages and 12,121 volunteers.

We stratified randomisation by two variables: (i) whether the Eco Village had used Epicollect5 before the launch of the trial, which we expected to be an indicator of higher engagement and to be correlated with the likelihood of using it in the future and thus providing us with outcome data; and (ii) whether we would be able to send messages to the Eco Village WhatsApp group - which would change the intensity of messaging received by volunteers. We also confirmed that the following characteristics were balanced across trial arms: (i) the year the Eco Village started; (ii) the data collection training session the Head Volunteer attended; (iii) which of the three watershed areas the village belonged to; and (iv) which DLH Facilitator supported the Eco Village.

A note on data quality

There was a risk of two types of measurement error due to Head Volunteer's being responsible for reporting attendance.

Firstly, Head Volunteers in both treatment arms might have over-reported attendance. This was because the processes we introduced may have led them to believe that DLH were assessing their performance. These two processes were: (i) electronic data collection (instead of paper and pen) with the Epicollect5 app; and (ii) regular WhatsApp messages

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[20] DLH deemed two Eco Villages not appropriate for inclusion.

from DLH to support volunteer motivation.

Secondly, there was a risk that the different messages caused differences in reporting between the two treatment arms. This would bias the estimate of our impact and thus severely limit our ability to reliably measure the treatment effect. Indeed, when we compared the level of reporting between the pretrial and trial periods, we identified a 10 percentage point drop reduction in reporting in Eco Villages that received the Treatment 1 messages.

Figure 2: Mobile screenshots of Epicollect5
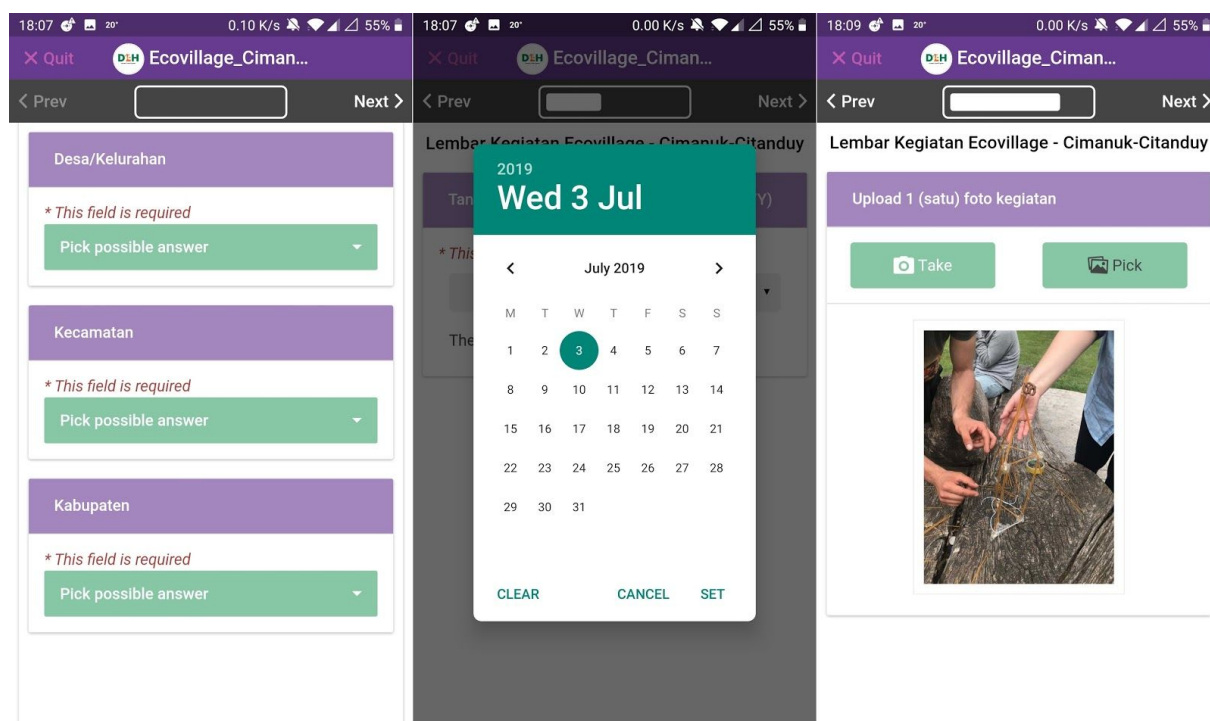
Implementation

The WhatsApp messages were sent to Head Volunteers (or nominated replacements) in all but one of the participating Eco Villages. They were also sent to any WhatsApp groups we had been invited to by Head Volunteers and Facilitators.

Messages were sent according to a pre-specified schedule (see Annex). While messages allocated to Treatment 2 were sent weekly, messages to those villages in Treatment 1 were sent every 2-3 weeks.

05 / Main findings

Result 1: The shorter, weekly motivational WhatsApp messages using three behavioural insights (Treatment 2) had no impact on volunteer retention and engagement compared to longer, monthly WhatsApp messages about environmental challenges (Treatment 1).

Compared to longer, monthly messages about environmental challenges, the shorter, weekly messages using three behavioural insights did not increase the likelihood that a volunteer would attend at least one activity over the course of the project. The behaviourally-informed messages also did not increase the number of activities attended by volunteers (both DLH and non-DLH facilitated).

We find that there was almost a 60 percent chance that volunteers from either group would attend at least one activity. When we look at the attendance data in more detail, we found that the majority of volunteers attended only one event (45.46 percent) whilst very few volunteers attended more than ten (8.83 percent). We cannot know for sure why this is the case. Volunteers may attend activities highly infrequently (e.g. once every 6 months) or have chosen to leave the programme after their first activity.

The ability of Head Volunteers to record attendees manually may also have contributed towards the low attendance. During the pre-trial period, we worked with DLH to ensure that each Eco Vilage's list of volunteer names was correct. This process revealed that some volunteers would use different names to refer to themselves. We would not have been able to spot this. For example, one volunteer who attended three activities may be recorded in the data as having attended one activity, with each under a different name.

Figure 3: Impact on volunteer attendance

Attendance Rate Over Trial Period by Treatment Group

N=7,961

Primary analysis

** p<0.01, * p<0.05, + p<0.1
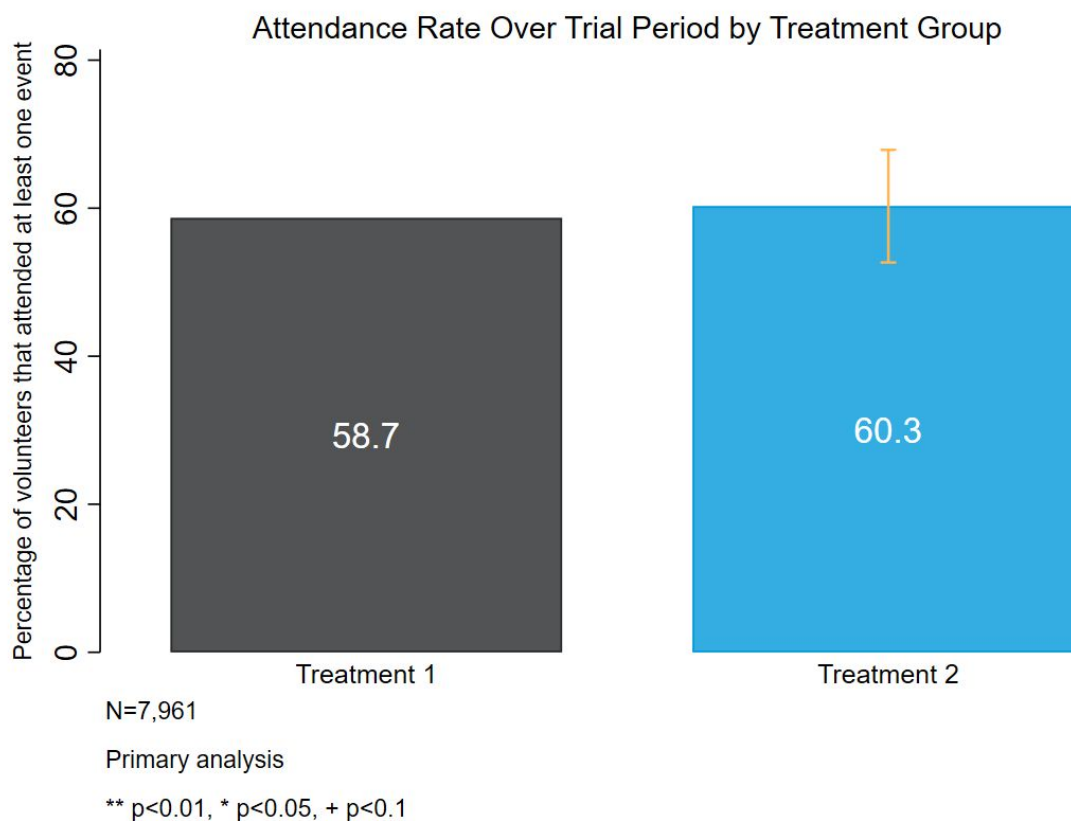
06 / Additional findings

We conducted additional descriptive analyses looking at aspects of the reported activities. As such, these findings only cover those Eco Villages that reported activities.

Result 2: Treatment 2 messages increased the quantity of data reported.

Villages in the Treatment 2 group were significantly more likely to report activities over the course of the project. This suggests that Treatment 2 improved reporting, although DLH should conduct additional checks to confirm whether the quality of data also improved.[21]

Prior to the introduction of the Epicollect5 data collection app, volunteers only had to sign in for activities organised by DLH using a paper and pen. Therefore, Head Volunteers in both treatment groups were trained on the use of the app and were incentivised to record events. The incentive for recording events was the same for both treatments, as were the number of

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[21] This was the only statistically significant difference we observed and should be interpreted cautiously. When looking at several different outcome measures, as was the case in this trial, the likelihood of detecting at least one significant difference in the sample is relatively high -- even when the true underlying difference is zero.

reports received pre-trial, suggesting that any differential reporting can be attributed to the messages the Head Volunteers received.

Result 3: The majority of reported activities related to indirect activities such as mentoring and award ceremonies.

We categorised activities into groups using words that appeared a number of times in activity descriptions and then analysed the average proportion of attendees at events for each category.

We found that Eco Village assistance/mentoring, award ceremonies, eco-activity training, and planting events were most popular, while core activities such as cleaning, community service and rubbish events were least popular. This is likely because social events/ activities are often arranged by DLH, with free food provided as an incentive.

Figure 4: Proportion of attendees by category
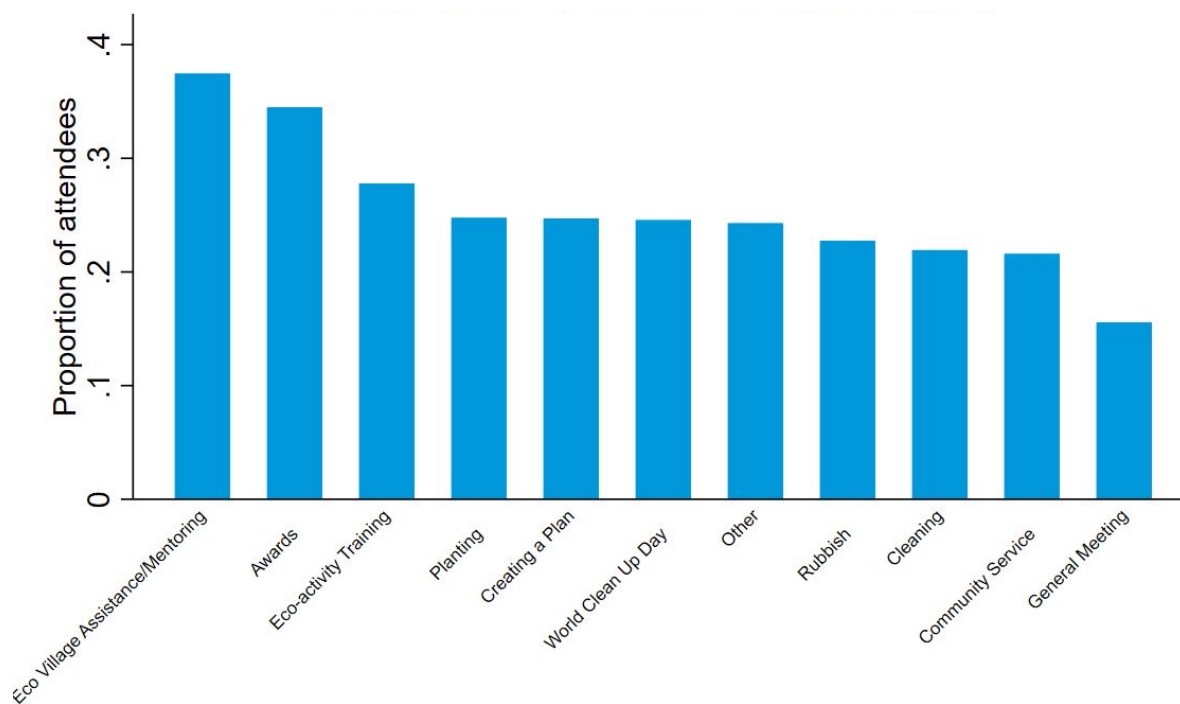
Number of events = 3,438

Figure 4: Rate of attendance by category
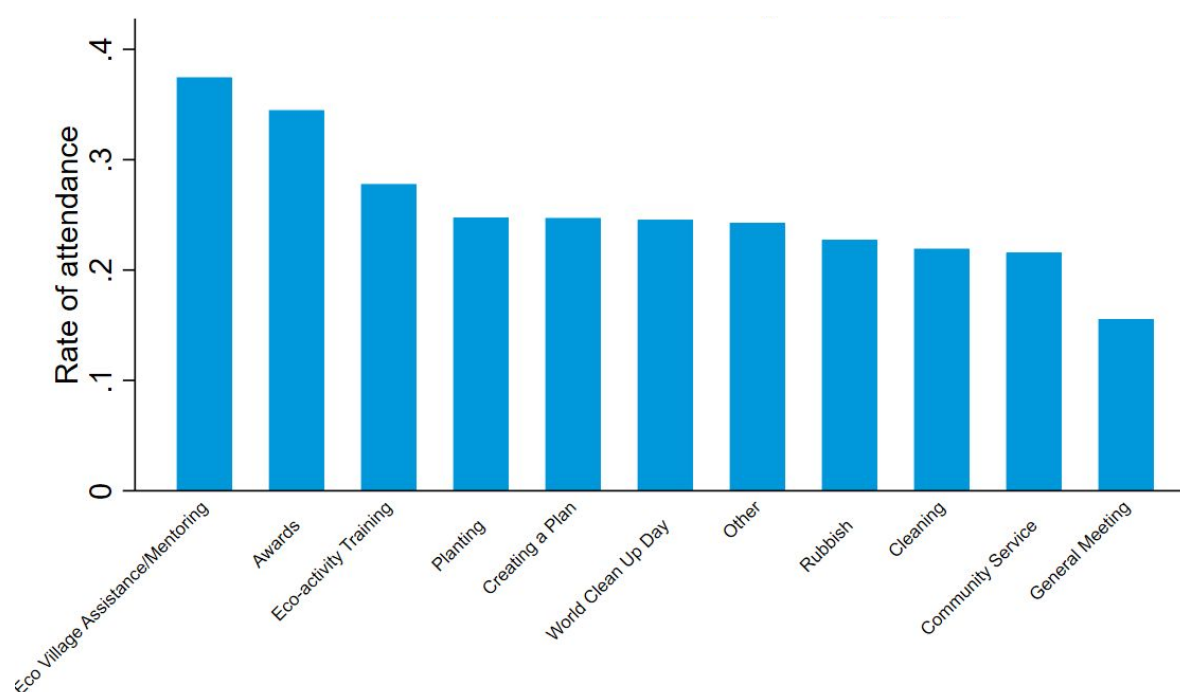
Number of events = 3,438
The rate is calculated by comparing the total number of actual attendees to the potential total number

Additional findings from the process evaluation

In October 2019, BIT and DLH conducted a process evaluation of the trial. The aim of the evaluation was to understand how the messages were being received and whether there were any implementation issues that we had not been made aware of.

A total of 12 Head Volunteers and volunteers were interviewed across both treatment groups. The key findings were:

- **Head Volunteers often failed to forward or communicate the messages to volunteers directly.** They would often acknowledge messages with a reply but they rarely felt compelled to pass the message on.

- **Head Volunteers could not remember the content of many of the messages.** The most memorable messages were those that prompted Head Volunteers to use the data collection app and lottery incentive. However, this may also be because they attended the data collection training, which was more likely to be remembered than the messages.

- **There was no evidence of spillover between the treatment groups.** No one has discussed or shared the messages with volunteers from other Eco Villages.

- **Many of the volunteers believed they were already dedicating enough time to Eco Village activities.** This may not be representative of the wider volunteer base, as the majority of volunteers interviewed by us were particularly active in their community.

07 / Recommendations

The results of this trial show that behaviourally-informed WhatsApp messages (Treatment 2) were no better than more traditional, infrequent messages (Treatment 1) at changing volunteering behaviour. However, our sample was relatively small and we had to rely on volunteers to report their own behaviour, rather than observe it directly. This means we cannot conclusively say whether either of the sets of messages definitely did not work.

It is important to note that a crucial issue appears to have been the unwillingness of Head Volunteers to communicate our messages to other volunteers. We cannot say whether this problem was confined to Head Volunteers in one or both treatment groups because we did not have a 'pure' control group that did not receive any messages. The inclusion of a pure control group would have enabled us to understand whether WhatsApp may have been the incorrect choice, rather than the content of the messages themselves.

Based on this, we propose that DLH:

- Instruct all Eco Villages to continue using Epicollect5. Many volunteers reported positive experiences with the new data collection process, and DLH has a clearer indication of volunteer behaviour as a result. The process should be managed internally by a designated staff member of DLH.

- Collect phone numbers of volunteers. During the process evaluation we discovered that not all Head Volunteers were sharing the intervention messages with the volunteers. By adapting the sign-up process to collect phone numbers from volunteers, DLH can communicate with them directly and test the effect of the intervention messaging at the individual level.

- Develop new messages for testing. For example, feedback at the post-trial workshop revealed a common preference among attendees for messages that draw on religious lessons and obligations. A religious leader could also be used as a messenger.

08 / DLH project team

Nita Nilawati

Head of Section, Environmental Conservation and Biodiversity

"I believe that an app like Epicollect5 could help us accurately track the progress of the Eco Village programme in the field. Our resources are limited, so it's impossible for us to visit all of the villages."

Nita Nilawati was introduced to behavioural insights after receiving a recommendation from KLHK. DLH West Java were highlighted by KLHK as one particular government agency that was working hard to combat the effects of environmental damage and thus as a suitable partner for BIT

As Head of Section, Nita oversees a number of teams and programmes, with the Eco Village programme the most prominent and important to DLH. After being briefed, Bu Nita saw how behavioural insights could be applied to change the behaviour of Eco Village volunteers across West Java.

During her time at university, Nita implemented a number of survey-based evaluations. This experience was applied to the Eco Village programme, with independent surveys of volunteer satisfaction and experience taking place in 2015 and 2017. Nita was not familiar with RCTs before the collaboration with BIT began, but she was open to our suggested trial design.

Whilst the project did not achieve its intended outcome of showing what type of messages is more effective at increasing volunteer retention and attendance, Nita believes the real success is the creation of what she hopes will be their new data collection app. Data quality has always been a problem but this project highlighted the extent to which data was not being captured, and how simple the solution might be. The goal for the future is to understand how Epicollect5 (or a similar app) can be used in other areas of DLH's work on environmental challenges.

Jaka Maulana

Technical staff, Eco Village programme

"Now we have the data, we need a validation process. This is our next challenge. But the fact we have some level of overview of the activities taking place is a great start."

Jaka Maulana has been an employee at DLH since 2014, during which he has primarily supported the Eco Village programme. His role combines a mixture of hands-on support, such as training and monitoring in the field, and administrative functions which he performs at DLH's headquarters.

With no knowledge of behavioural insights prior to this project, Jaka swiftly picked up the basics as he was enlisted to support the trial. Specifically, he coordinated the baseline data collection and visited Eco Villages directly to explain how Epicollect5 should be used.

As a self-reported outcome measure, Jaka is fully aware that any data received via Epicollect5 must be treated as tentative. His original goal was to conduct regular random spot checks during the trial period. Whilst they more infrequent than planned, those he did conduct led to a range of volunteers (with various ages, jobs, and roles in the community) approaching him with questions about Epicollect5.

On reflection, Jaka believes we were wrong to use Bahasa instead of the local Sudanese language and that it might have undermined the potential effectiveness of the interventions. Further upstream, Jaka also has ideas for how the training of volunteers could utilise behavioural insights. As he explains, *"I recognise the Eco Village programme is not perfect so we should build on this experience with BIT and expand its application."*

09 / Conclusion

The citizens of West Java face major environmental challenges. Whilst the pollution of the Citarum river is a critical aspect of this, there are a litany of areas that require action from the population, such as deforestation, over-exploitation of marine resources and poor air quality. The Eco Village programme has the potential to play a critical role in addressing these issues because DLH is committed to supporting the programme for the foreseeable future.

Citizens who choose to engage in the programme are motivated for the right reasons, but, as happens with all of us, this motivation erodes over time. Behavioural insights tells us that

volunteering is motivated by a range of decision-making biases, as well as practical support to follow through on one's intentions. Despite drawing from these insights, our messages were not more successful at encouraging citizens to volunteer for longer and more often than volunteers in villages that were sent messages on environmental challenges.

Neither of the treatments were communicated as we had hoped. Additional qualitative evidence gathered halfway through the trial revealed that some Head Volunteers did not forward or otherwise communicate our messages to volunteers. These findings suggest a simple WhatsApp intervention, at least when targeted at Head Volunteers, may not be suitable to increase Eco Village volunteering.

Of course, the finding that WhatsApp messages are not read and shared may be limited to this context. There is always merit in running robust evaluations of similar interventions in other contexts. Where possible, these studies should use objective indicators of behaviour and not self-reported measures, as collected using the data collection app.

We thank DLH for accepting KLHK's recommendation and giving us the opportunity to test the impact of behavioural insights in a logistically-challenging setting. We look forward to supporting the adaptation of the data collection app to develop a more rigorous approach to monitoring which in time, we hope, will enable robust testing of further behavioural insights interventions.

Annex - WhatsApp messages

| Date sent	Recipient	English	Bahasa Indonesian
20/08/18	Treatments 1 & 2 - Head Volunteers only	This is Dinas Lingkungan Hidup (DLH) Jawa Barat. Thank you for being an Eco Village volunteer! Next month we will start sending regular WA messages to all Head Volunteers and Eco Village WA groups. These messages will contain tips to help you. If you are a Head Volunteer, please add this number to your phone contact list so you don't miss out. Thank you for your support. We protect nature, nature protects us. Yours, Dewi 🙏	Ini adalah Dinas Lingkungan Hidup (DLH) Jawa Barat. Terima kasih telah menjadi relawan Ecovillage! Bulan depan kami akan mulai mengirim pesan WA secara reguler kepada seluruh Ketua Kelompok dan grup WA yang ada di setiap desa/kelurahan Ecovillage. Pesan-pesan ini akan berisi berbagai tips untuk membantu Anda. Jika Anda Ketua Kelompok, harap simpan nomor ini dalam kontak HP Anda, sehingga tidak akan ketinggalan informasi. Terima kasih atas dukungannya. Kita jaga alam, alam jaga kita. Salam, Dewi 🙏
24/08/18	Treatments 1 & 2 - Head Volunteers only	This is Dinas Lingkungan Hidup (DLH) Jawa Barat. We hope someone from your Eco Village attended training by the Behavioural Insights Team (BIT) in July 2018 at our office. As BIT explained, from now until 31 December, please record attendance for all Eco Village activities (DLH and non-DLH) using the Epicollect5 app. This is important because accurate data will help BIT recommend activities for new Eco Villages. To thank you, we have ALREADY entered your Eco Village in BIT prize draw for IDR 5 million. However, your Eco Village will lose this money if volunteer attendance isn't recorded in the app. If you have any questions about Epicollect5, please contact Rifki	Ini adalah Dinas Lingkungan Hidup (DLH) Jawa Barat. Kami harap ada perwakilan dari desa/kelurahan Ecovillage Anda yang ikut hadir dalam pelatihan oleh Behavioural Insights Team (BIT) pada Juli 2018 lalu di kantor kami. Sebagaimana dijelaskan BIT, mulai saat ini hingga 31 Desember 2018, mohon catat dan laporkan kehadiran untuk semua kegiatan Ecovillage (DLH dan non-DLH) menggunakan aplikasi Epicollect5. Hal ini penting karena data yang akurat akan membantu BIT dalam merekomendasikan kegiatan Ecovillage untuk lokasi-lokasi yang baru. Sebagai tanda terima kasih, kami TELAH memasukkan nama desa/kelurahan Ecovillage Anda dalam undian BIT berhadiah sebesar Rp 5 juta. Namun, desa/kelurahan Anda akan

		(WA: 0877-8105-9832). Yours, Dewi 🙏	kehilangan uang ini jika kehadiran kader/relawan tidak dicatat dalam Epicollect5. Jika ada pertanyaan terkait Epicollect5, silakan hubungi Rifki (WA: 0877-8105-9832). Salam, Dewi 🙏
06/09/18	Treatments 1 & 2 - Facilitators of villages that haven't used Epicollect5 yet (n=49)	This is Dinas Lingkungan Hidup (DLH) Jawa Barat. The collaboration with the Behavioural Insights Team (BIT) for Eco Village programme started on 1 August 2018 but some villages have still not used the attendance record app, Epicollect5. As a Facilitator, we need your help. It is important for every village to use the app. Unfortunately, villages under your supervision have not done this: villagename1, villagename2. Please ask the/ each village to upload attendance for their last activity. They should continue to submit attendance for all DLH and non-DLH activities until 31 December 2018. If they are experiencing problems, please ask them to contact Rifki (WA: 0877-8105-9832). Yours, Dewi 🙏	Ini adalah Dinas Lingkungan Hidup (DLH) Jawa Barat. Kerjasama dengan Behavioural Insights Team (BIT) untuk program Ecovillage telah dimulai pada 1 Agustus 2018, tetapi beberapa desa/kelurahan masih belum menggunakan aplikasi untuk mencatat kehadiran, Epicollect5. Sebagai seorang Fasilitator, kami membutuhkan bantuan Anda. Penting bagi setiap desa/kelurahan untuk menggunakan aplikasi tersebut. Namun, desa/kelurahan di bawah pengawasan Anda belum melakukan ini: villagename1, villagename2. Harap minta setiap desa/kelurahan melaporkan kehadiran untuk kegiatan terakhir Ecovillage mereka dengan menggunakan aplikasi Epicollect5. Seluruh desa/kelurahan harus terus mengirimkan (upload) data kehadiran untuk semua kegiatan DLH dan non-DLH hingga 31 Desember 2018. Jika terdapat masalah, informasikan Ketua Kelompok/ kader untuk menghubungi Rifki (WA: 0877-8105-9832). Salam, Dewi 🙏
20/09/18	Treatment 1	**Tip for volunteer:** Drinking water is good for your health, but throwing plastic bottles away can lead to many problems. Plastic cannot decay like wood or food. If left outside, plastic will not break down into the ground and will remain wherever we leave it. Globally only around 15% of plastic waste is collected for recycling, and 25% is incinerated.	**Tips untuk kader/relawan:** Minum air putih baik untuk kesehatan Anda, tapi membuang botol plastik dapat menimbulkan banyak masalah. Plastik tidak dapat membusuk seperti kayu atau makanan. Jika dibiarkan di luar, plastik tidak akan terurai ke tanah dan akan tetap utuh dimanapun kita buang. Di seluruh dunia, hanya sekitar 15% sampah plastik

		The rest ends up in landfill, is burnt in the open air – releasing pollutants and greenhouse gases – or dumped in nature. A lot ends up in oceans. Don't forget to record volunteer attendance using Epicollect5. 😇✍	dikumpulkan untuk daur ulang, dan 25% dibakar dalam mesin pembakar sampah (insinerator). Sisanya berakhir di tempat pembuangan sampah, dibakar di udara terbuka sehingga melepaskan polutan dan gas rumah kaca, atau dibuang di alam. Banyak yang berakhir di lautan. Jangan lupa catat kehadiran kader/relawan dengan menggunakan aplikasi Epicollect5. 😇✍
20/09/18	Treatment 2	**Tip for volunteer:** If you find volunteering challenging, it's a sign that your effort will have a big impact. Attend more activities to achieve fantastic results! 🤩🤩🤩🤩 Don't forget to record volunteer attendance using Epicollect5. 😇✍	**Tips untuk kader/relawan:** Jika Anda merasa menjadi kader/relawan itu menantang, ini pertanda bahwa upaya Anda akan memberikan dampak besar. Hadiri lebih banyak kegiatan untuk mencapai hasil yang luar biasa! 🤩🤩🤩🤩 Jangan lupa catat kehadiran kader/relawan dengan menggunakan aplikasi Epicollect5. 😇✍
27/09/18	Treatment 2	**Tip for volunteer:** Prepare for the next Eco Village activity. Ask yourself: What do I need to bring? What time do I have to be there? Who can help me with responsibilities at home while I am volunteering? ⏰😇👩👨‍👩‍👧👨🌾👌	**Tips untuk kader/relawan:** Bersiaplah untuk kegiatan Ecovillage selanjutnya. Tanyakan pada diri Anda: Apa yang harus saya bawa? Jam berapa saya harus berada di sana? Siapa yang dapat membantu saya dengan tanggung jawab di rumah, sementara saya menjadi relawan? ⏰😇👩👨‍👩‍👧👨🌾👌
01/10/18	Treatment 2	**Tip for volunteer:** Make a pledge to volunteer at least once a month. If you tell a friend about your pledge, they can remind you to attend Eco Village activities. 🧍🧍	**Tips untuk kader/relawan:** Buat janji untuk menjadi relawan setidaknya satu kali dalam sebulan. Jika Anda memberi tahu seorang teman tentang janji Anda ini, dia dapat mengingatkan Anda untuk menghadiri kegiatan Ecovillage. 🧍🧍
04/10/18	Treatment 2	**Tip for volunteer:** Do you agree with this statement? "Volunteering in my Eco Village is an important part of who I am." It's people like YOU who make West Java a beautiful place to live	**Tips untuk kader/relawan:** Apakah Anda setuju dengan pernyataan ini? "Menjadi kader/relawan di desa/kelurahan Ecovillage saya adalah bagian penting dari siapa

		by attending Eco Village activities. 🤩🙌🌄	diri saya." Orang-orang seperti ANDA lah yang menjadikan Jawa Barat tempat yang indah untuk hidup dengan menghadiri kegiatan Ecovillage. 🤩🙌🌄
11/10/18	Treatment 1	**Tip for volunteer:** The ocean is filling up with plastic waste. In fact, research suggests that by the year 2050, the ocean will contain more plastic by weight than fish. Not only can animals like dolphins and turtles become entangled in pieces of plastic, but they can also mistake it for food. Studies have shown up to 90% of seabirds have plastic in their digestive systems. Plastic has crept into every part of our lives – it's a major source of pollution. Don't forget to record volunteer attendance using Epicollect5. 😇✍	**Tips untuk kader/relawan:** Lautan dipenuhi dengan sampah plastik. Bahkan, penelitian memperkirakan bahwa pada tahun 2050, lautan akan mengandung lebih banyak plastik berdasarkan berat dibandingkan ikan. Tidak hanya binatang seperti lumba-lumba dan kura-kura menjadi terjerat dalam plastik, tetapi mereka juga bisa salah mengiranya sebagai makanan. Studi menunjukkan terdapat plastik dalam sistem pencernaan burung laut hingga telah mencapai 90% dari populasi mereka. Plastik telah menyusup ke setiap bagian kehidupan kita - ini adalah sumber utama polusi. Jangan lupa catat kehadiran kader/relawan dengan menggunakan aplikasi Epicollect5. 😇✍
11/10/18	Treatment 2	**Tip for volunteer:** This month in West Java, thousands of people like you are volunteering to improve the environment. You don't need special skills – just be a person who takes real action! 💪💪 Don't forget to record volunteer attendance using Epicollect5. 😇✍	**Tips untuk kader/relawan:** Bulan ini di Jawa Barat, ribuan orang seperti Anda secara sukarela berkontribusi untuk membuat lingkungan hidup menjadi lebih baik. Anda tidak membutuhkan keahlian khusus, cukup menjadi orang yang melakukan aksi nyata! 💪💪 Jangan lupa catat kehadiran kader/relawan dengan menggunakan aplikasi Epicollect5. 😇✍
17/10/18	Head Volunteers that have not used Epicollect5	This is Dinas Lingkungan Hidup (DLH) Jawa Barat. Thank you to the majority of Eco Villages, which consist of 214 villages, that have recorded activity data using the Epicollect5 app! We know that your village is yet to record an activity using the Epicollect5 app. We remind you	Ini adalah Dinas Lingkungan Hidup (DLH) Jawa Barat. Terima kasih kepada sebagian besar desa/kelurahan Ecovillage, yaitu sebanyak 214 desa/kelurahan, yang telah mencatat data kegiatan Ecovillage menggunakan aplikasi Epicollect5. Kami mengetahui bahwa

| | | that your data serves an important purpose. With it, we can identify activities for new Eco Villages as the programme grows.

Finally, remember that your Eco Village has been entered into a prize draw for IDR 5 million. However, your Eco Village will lose this money if volunteer attendance isn't recorded in the app.

If you have any questions about Epicollect5, please contact Rifki (WA: 0877-8105-9832).

Yours, Dewi 🙏 | desa/kelurahan Anda belum menggunakan aplikasi Epicollect5 untuk mencatat kegiatan Ecovillage. Dengan ini, kami mengingatkan Anda bahwa data Anda memiliki peranan penting. Dengan data tersebut, kita dapat melakukan identifikasi kegiatan-kegiatan untuk desa/kelurahan Ecovillage yang baru seiring dengan perluasan program.

Akhir kata, ingat bahwa nama desa/kelurahan Anda telah dimasukkan dalam undian berhadiah sebesar Rp 5 juta. Namun, desa/kelurahan Anda akan kehilangan uang ini jika kehadiran kader/relawan tidak dicatat dalam Epicollect5.

Jika ada pertanyaan terkait Epicollect5, silakan hubungi Rifki (WA: 0877-8105-9832).

Salam, Dewi 🙏 |
|---|---|---|---|
| 17/10/18 | Head Volunteers that have not used Epicollect5 since trial launch | This is Dinas Lingkungan Hidup (DLH) Jawa Barat. Thank you to the majority of Eco Villages, which consist of 214 villages, that have recorded activity data using the Epicollect5 app!

We have noticed that you haven't recorded any activity in a while. We remind you that your data serves an important purpose. With it, we can identify activities for new Eco Villages as the programme grows.

Finally, remember that your Eco Village has been entered into a prize draw for IDR 5 million. However, your Eco Village will lose this money if volunteer attendance isn't recorded in the app.

If you have any questions about Epicollect5, please contact Rifki (WA: 0877-8105-9832).

Yours, Dewi 🙏 | Ini adalah Dinas Lingkungan Hidup (DLH) Jawa Barat. Terima kasih kepada sebagian besar desa/kelurahan Ecovillage, yaitu sebanyak 214 desa/kelurahan, yang telah mencatat data kegiatan Ecovillage menggunakan aplikasi Epicollect5.

Kami telah memperhatikan bahwa Anda belum mencatat kegiatan Ecovillage apapun untuk sementara waktu ini. Dengan ini, kami mengingatkan Anda bahwa data Anda memiliki peranan penting. Dengan data tersebut, kita dapat melakukan identifikasi kegiatan-kegiatan untuk desa/kelurahan Ecovillage yang baru seiring dengan perluasan program.

Akhir kata, ingat bahwa nama desa/kelurahan Anda telah dimasukkan dalam undian berhadiah sebesar Rp 5 juta. Namun, desa/kelurahan Anda akan kehilangan uang ini jika kehadiran kader/relawan tidak dicatat dalam |

			Epicollect5. Jika ada pertanyaan terkait Epicollect5, silakan hubungi Rifki (WA: 0877-8105-9832). Salam, Dewi 🙏
17/10/18	Head Volunteers that have used Epicollect5	This is Dinas Lingkungan Hidup (DLH) Jawa Barat. We wanted to thank your village for recording activity data using the Epicollect5 app! Your data serves an important purpose. With it, we can identify activities for new Eco Villages as the programme grows Finally, remember that your Eco Village has been entered into a prize draw for IDR 5 million. However, your Eco Village will lose this money if volunteer attendance isn't recorded in the app. If you have any questions about Epicollect5, please contact Rifki (WA: 0877-8105-9832). Yours, Dewi 🙏	Ini adalah Dinas Lingkungan Hidup (DLH) Jawa Barat. Kami ingin mengucapkan terima kasih karena desa/kelurahan Anda telah mencatat data kegiatan Ecovillage dengan menggunakan aplikasi Epicollect5. Data Anda memiliki peranan penting. Dengan data tersebut, kita dapat melakukan identifikasi kegiatan-kegiatan untuk desa/kelurahan Ecovillage yang baru seiring dengan perluasan program. Akhir kata, ingat bahwa nama desa/kelurahan Anda telah dimasukkan dalam undian berhadiah sebesar Rp 5 juta. Namun, desa/kelurahan Anda akan kehilangan uang ini jika kehadiran kader/relawan tidak dicatat dalam Epicollect5. Jika ada pertanyaan terkait Epicollect5, silakan hubungi Rifki (WA: 0877-8105-9832). Salam, Dewi 🙏
18/10/18	Treatment 2	**Tip for volunteer:** Because of you, your Eco Village has made progress. Keep going – attend as many activities as you can. Imagine how proud you will feel afterwards! 😁😁	**Tips untuk kader/relawan:** Karena Anda, desa/kelurahan Ecovillage Anda telah membuat progres. Teruskan, hadiri sebanyak mungkin kegiatan yang Anda bisa. Bayangkan betapa bangga perasaan Anda sesudahnya! 😁😁
25/10/18	Treatment 2	**Tip for volunteer:** Which statement applies to you? (1) I will attend the next Eco Village activity because the last time I volunteered it was a good decision. 😍 (2) I won't attend the next Eco Village activity even though I may	**Tips untuk kader/relawan:** Pernyataan mana yang berlaku untuk Anda? (1) Saya akan menghadiri kegiatan Ecovillage berikutnya karena terakhir kali saya menjadi relawan adalah keputusan yang baik. 😍 (2) Saya tidak akan menghadiri kegiatan Ecovillage berikutnya

		regret it. Make a plan to attend the next Eco Village activity – be the change you want to see! 📅+✏️=💪	meskipun saya mungkin menyesal. Buat rencana untuk menghadiri kegiatan Ecovillage berikutnya. Jadilah perubahan yang ingin Anda lihat! 📅 + ✏️ = 💪
01/11/18	Treatment 2	**Tip for volunteer:** Do you remember your last Eco Village activity? Your friends and neighbours do because you improved the environment. Make time for the next activity! 🌴🌴🌴	**Tips untuk kader/relawan:** Apakah Anda ingat kegiatan Ecovillage terakhir Anda? Teman dan tetangga Anda mengingatnya karena Anda telah membuat lingkungan lebih baik. Luangkan waktu Anda untuk kegiatan selanjutnya! 🌴🌴🌴
07/11/18	Treatments 1 & 2	Dear environmental fighter, I hope you have found the tips I sent helpful. Please share these important tips with the volunteers in your Eco Village, because: Motivated volunteers 🙌 = Higher attendance 💥 Think about the goals for your Eco Village. Now imagine how much progress you will make with higher volunteer attendance! I suggest you forward the next tip I send to volunteers who haven't participated for a while. It might encourage them to attend the next activity. Best wishes, Dewi - West Java Province EPA 🌍🙏☀️	Pejuang lingkungan yang terhormat, Kami harap berbagai tips yang telah kami kirimkan bermanfaat bagi Anda. Kami mohon Anda menyampaikan tips-tips penting tersebut kepada para kader/relawan Ecovillage di desa/kelurahan Anda, karena: Relawan yang termotivasi 🙌 = Tingkat kehadiran lebih tinggi 💥 Pikirkan tujuan-tujuan yang hendak dicapai untuk desa/kelurahan Ecovillage Anda. Sekarang bayangkan berapa banyak kemajuan yang akan Anda buat dengan tingkat kehadiran relawan yang lebih tinggi! Kami himbau Anda untuk meneruskan (forward) tips dari kami selanjutnya kepada para kader/relawan yang belum ikut berpartisipasi dalam beberapa waktu lalu. Hal ini dapat mendorong mereka untuk hadir pada kegiatan berikutnya. Salam, Dewi - Dinas Lingkungan Hidup Provinsi Jawa Barat 🌍🙏☀️
08/11/18	Treatment 1	**Tip for volunteer:** Compost improves soil fertility and stimulates healthy root development in plants. The organic matter in compost provides food for microorganisms living in soil, which keeps the soil	**Tips untuk kader/relawan:** Kompos meningkatkan kesuburan tanah dan menstimulasi pertumbuhan akar yang sehat pada tanaman. Bahan organik dalam kompos menyediakan makanan bagi mikroorganisme yang hidup di

		in a healthy, balanced condition. A compost heap will also provide a habitat for beneficial insects which, in turn, are food for animals and birds. And composting in your village reduces biodegradable waste sent to landfill, where it rots down producing the powerful greenhouse gas, methane. Methane is 21 times more potent than carbon dioxide as a greenhouse gas – which contributes to climate change. Don't forget to record volunteer attendance using Epicollect5. 😇✍	tanah, menjaga tanah dalam kondisi yang sehat dan seimbang. Tumpukan kompos juga akan menyediakan habitat bagi serangga yang menguntungkan, yang pada gilirannya, menjadi makanan untuk hewan dan burung-burung. Pembuatan kompos di desa/kelurahan Anda dapat mengurangi sampah yang dapat diurai (biodegradable) yang dikirim ke TPA, di mana hasil pembusukannya akan memproduksi gas rumah kaca yang kuat, metana. Gas metana 21 kali lebih kuat daripada karbon dioksida sebagai gas rumah kaca yang berkontribusi terhadap perubahan iklim. Jangan lupa catat kehadiran kader/relawan dengan menggunakan aplikasi Epicollect5. 😇✍
08/11/18	Treatment 2	**Tip for volunteer:** The best time to volunteer is when you are low on time and energy. Challenges are exciting and make life more meaningful! ❤❤❤ Don't forget to record volunteer attendance using Epicollect5. 😇✍	**Tips untuk kader/relawan:** Waktu terbaik untuk menjadi kader/relawan adalah ketika Anda kekurangan waktu dan tenaga. Tantangan itu mengasyikkan dan membuat hidup lebih bermakna! ❤❤❤ Jangan lupa catat kehadiran kader/relawan dengan menggunakan aplikasi Epicollect5. 😇✍
15/11/18	Treatment 2	**Tip for volunteer:** Why do you ❤ volunteering? Now imagine that you are talking to a friend. How would you convince them to become an Eco Village volunteer? 😉😎	**Tips untuk kader/relawan:** Mengapa Anda ❤ menjadi kader/relawan? Sekarang bayangkan Anda sedang berbicara dengan seorang teman. Bagaimana Anda dapat meyakinkan mereka untuk menjadi relawan Ecovillage? 😉😎
22/11/18	Treatment 2	**Tip for volunteer:** Which of these values do you identify with most: (1) protecting nature?; (2) making your community strong?; or (3) being responsible for your actions? Now think about how volunteering in your Eco Village reflects your values. It's who you are! 😊😊😊	**Tips untuk kader/relawan:** Manakah dari nilai-nilai ini yang menurut Anda paling sesuai dengan Anda: (1) melindungi alam?; (2) mempererat komunitas?; atau (3) bertanggung jawab atas tindakan Anda? Sekarang pikirkan tentang bagaimana menjadi kader/relawan

			di desa/kelurahan Ecovillage Anda mencerminkan nilai-nilai yang Anda yakini. Itulah diri Anda! 😄😄😄
26/11/18	Treatments 1 & 2	Dear environmental fighter, As a Head Volunteer, you can inspire other volunteers in your Eco Village. I send you helpful tips to support you. These tips work best if you share them with volunteers (in your Eco Village) who need motivating. The next time you receive a message from me how will you share it with those volunteers who missed a recent activity? 🤝 Best wishes, Dewi – West Java Province EPA 🙏	Pejuang lingkungan yang terhormat, Sebagai Ketua Kelompok Ecovillage, Anda dapat memberi inspirasi bagi para kader/relawan di desa/kelurahan Anda. Kami mengirimkan berbagai tips (kiat) yang berguna untuk membantu Anda. Tips-tips ini akan menjadi efektif jika Anda menyampaikannya kepada para kader/relawan yang perlu diberikan motivasi. Untuk selanjutnya, ketika Anda menerima pesan dari kami, bagaimana Anda akan membagikannya kepada para relawan yang tidak mengikuti kegiatan Ecovillage yang baru saja diadakan? 🤝 Salam, Dewi - Dinas Lingkungan Hidup Provinsi Jawa Barat 🙏
29/11/18	Treatment 2	**Tip for volunteer:** As an Eco Village volunteer, you are opening yourself to new experiences and skills you might never have discovered. Feel invigorated by joining the next activity! 💪💪🙏🙏	**Tips untuk kader/relawan:** Sebagai kader/relawan Ecovillage, Anda membuka diri terhadap pengalaman dan keterampilan baru yang mungkin belum pernah Anda temukan. Rasakan semangat baru dengan bergabung dalam aktivitas selanjutnya!* 💪💪🙏🙏
06/12/18	Treatment 1	**Tip for volunteer:** Animal species are becoming extinct 1,000 times faster than the natural rate because of humans. Animals aren't just valuable for their own sake, they're also part of a wider natural environment that humans depend on for survival. Insects are vital plant-pollinators and although most of our grain crops are pollinated by the wind, most of our fruit crops are insect-pollinated, as are the vast majority of our wild plants. Loss of insect species – such as moths, bees, and butterflies – could have far-reaching consequences for the world's crop production and	**Tips untuk kader/relawan:** Spesies hewan menjadi punah 1.000 kali lebih cepat dibandingkan laju alamiahnya karena ulah manusia. Hewan tidak hanya berharga untuk kepentingan mereka sendiri, namun juga bagian dari lingkungan alami yang lebih luas di mana manusia bergantung untuk bertahan hidup. Serangga berperan penting dalam penyerbukan tanaman dan meskipun sebagian besar tanaman biji-bijian kita diserbuki oleh angin, sebagian besar tanaman buah kita diserbuki serangga, seperti juga sebagian besar tanaman liar kita. Hilangnya spesies serangga, seperti ngengat, lebah, dan

		natural ecosystems. Don't forget to record volunteer attendance using Epicollect5. 😇✍	kupu-kupu, dapat memiliki konsekuensi yang besar terhadap produksi tanaman pangan dunia dan ekosistem alami. Jangan lupa catat kehadiran kader/relawan dengan menggunakan aplikasi Epicollect5. 😇✍
06/12/18	Treatment 2	**Tip for volunteer:** Volunteering can grow your confidence and creativity! Research shows that people who volunteer are happier than those who don't. 😍😍😍 Don't forget to record volunteer attendance using Epicollect5. 😇✍	**Tips untuk kader/relawan:** Menjadi relawan dapat meningkatkan kepercayaan diri dan kreativitas Anda! Penelitian menunjukkan bahwa orang yang menjadi relawan lebih bahagia daripada mereka yang tidak. 😍😍😍 Jangan lupa catat kehadiran kader/relawan dengan menggunakan aplikasi Epicollect5. 😇✍
13/12/18	Treatment 2	**Tip for volunteer:** Volunteering in your Eco Village allows you to connect to your community and make it a better place. 😇 Make a promise to another volunteer to attend the next Eco Village activity together. 🤞🤞🤞	**Tips untuk kader/relawan:** Menjadi kader/relawan Ecovillage memungkinkan Anda untuk terhubung dengan komunitas dan menjadikan lingkungan Anda tempat yang lebih baik. 😇 Buat janji dengan kader/relawan lain untuk menghadiri kegiatan Ecovillage berikutnya bersama-sama. 🤞🤞🤞
20/12/18	Treatment 2	**Tip for volunteer:** Environmental damage has a high cost for Indonesia. But you are making a huge difference to improve the situation. Keep up the good work! 👍	**Tips untuk kader/relawan:** Kerusakan lingkungan memiliki biaya tinggi bagi Indonesia. Tetapi Anda membuat perbedaan besar untuk memperbaiki keadaan. Terus semangat lanjutkan kerja positif Anda! 👍
27/12/18	Treatments 1 & 2	**Thank you:** Our cooperation with the Behavioural Insights Team (BIT) for Eco Village programme is almost finished. Please make sure someone in your Eco Village has uploaded all volunteer attendance data in the Epicollect5 app before 31 December 2018. To thank you, we have ALREADY entered your Eco Village in BIT prize draw for IDR 5 million. If we draw your name but you haven't uploaded your data you will lose	**Terima kasih:** Kerjasama kami dengan Behavioural Insights Team (BIT) untuk program Ecovillage hampir selesai. Harap pastikan seseorang di desa/kelurahan Ecovillage Anda telah mengunggah (upload) semua data kehadiran kader/relawan di aplikasi Epicollect5 sebelum 31 Desember 2018. Sebagai tanda terima kasih, kami TELAH memasukkan nama desa/kelurahan Ecovillage Anda

		this money! If you have any questions, please contact Rifki (WA: 0877-8105-9832).	dalam undian BIT berhadiah sebesar Rp 5 juta. Jika dalam undian nama Anda terpilih, tetapi Anda belum mengunggah data Anda, Anda akan kehilangan uang ini! Jika Anda memiliki pertanyaan, silakan hubungi Rifki (WA: 0877-8105-9832).
		We protect nature, nature protects us!	Kita jaga alam, alam jaga kita!
		Yours, Dewi 🙏	Hormat saya, Dewi 🙏