

Conference Paper

Virtual Assistance in The Pandemic Era for Residents of Gebang Putih to Process Household Organic Waste into Compost

Nur Aini Fauziyah^{1*}, Kusuma Wardhani Mas'udah², Dyah Suci Perwitasari¹

¹Department of Chemical Engineering, Faculty of Engineering, Universitas Pembangunan Nasional "Veteran" Jawa Timur, Surabaya 60294, Indonesia

²Department of Mechanical Engineering, Faculty of Engineering, Universitas Pembangunan Nasional "Veteran" Jawa Timur, Surabaya 60294, Indonesia

*Corresponding author:

E-mail: aini.zierra@gmail.com

ABSTRACT

The COVID-19 pandemic had become a situation that was enough to limit people's activities directly and avoid crowds as much as possible. Meanwhile, the need to continuously improve competence in managing waste was crucial to solving environmental problems. This paper aimed to describe the activities of assisting the making of compost for RW. 03 residents, Gebang Putih, Surabaya which was carried out virtually by using the WhatsApp group. This assisting activity was a follow-up activity from the previous offline training (Perwitasari, Fauziyah, & Mas'udah, 2021). To oversee the success of the Gebang Putih community's composting activities, the assistance was also carried out virtually. This WhatsApp group was a method that is quite effective in accommodating citizen questions and solutions provided based on discussions between group members. The satisfaction of using WhatsApp group as a means of assisting in composting was quite high, i.e., 81%. However, it was undeniable that several obstacles cannot be overcome through virtual assistance, including checking the ripe compost directly, not all training participants were willing to make compost independently at home. It was hoped that this mentoring activity will be one of the solutions for empowering residents in managing waste during the pandemic era.

Keywords: Pandemic, virtual assistance, compost

Introduction

Currently, the pandemic continues to grow. The government appeals for social distancing policies to reduce the spread. The "New Normal life" pattern, which essentially encourages new habits, (especially healthy living habits, i.e., diligently washing hands with soap and flowing water, wearing masks, and reducing mobility and interaction) must always be applied so that activities at home will be recommended at this time.

While several activities are carried out from home, the accumulation of waste due to human activities will continue to increase. The increase in waste that is not balanced with routine and good processing will result in environmental pollution. Moreover, this was shown by the trend of waste management in Indonesia (Lidwina, 2021). Only 7% of waste had been successfully recycled and most (69%) ended up in a landfill. Gebang Putih was one of the villages located in the center of Surabaya with a population of $\pm 7,771$ people (Badan Pusat Statistik, 2019). The location of Gebang Putih is very close to many universities, shops, markets, and other economic centers. Subsequently, Gebang Putih is one of the biggest contributors to the growth of waste in Surabaya. The household sector is the largest source of waste contributors in Surabaya.

How to cite:

Fauziah, N. A., Mas'udah, K. W., & Perwitasari, D. S. (2022). Virtual assistance in the pandemic era for residents of gebang putih to process household organic waste into compost. *International Seminar of Research Month 2021*. NST Proceedings. pages 281-285. doi: 10.11594/nstp.2022.2443

The conditions above are interesting to be discussed together, especially regarding how to apply the “New Normal” pattern in processing waste. One of the things that can be done is processing waste starting from the household. Therefore, the processing that can be done is with a composter (Perwitasari et al., 2021).

Previously, training on household organic composting was conducted offline at the RW.03 hall, Gebang Putih (Perwitasari et al., 2021). During the training, demonstrations of making compost using a very simple method were carried out. Used buckets, green waste (household organic waste, vegetables, fruit peels), brown waste (soil, dry leaves), and rice washing water were used to make compost. Brown waste was stacked with green waste in a used bucket until it was full then watered with rice washing water (“leri water”). Within 15 days, the organic compost was ready to use. By using this simple method, residents can make compost independently from their household organic waste. However, the assistance to residents is very necessary for the success of making organic compost. Previously, mentoring was usually done offline and it would trigger a fairly high and intensive crowd and mobility. Thus, One of the activities usually carried out during the “New Normal” period was virtual activities.

The use of online media is currently very fast to establish intensive and interactive communication. The community must adapt to virtual activities such as webinars, web meetings, and web training. The effectiveness of mentoring with the internet or online media itself had previously been widely reviewed in several articles (Cheung et al., 2020; Fei et al., 2020; Lusianai et al., 2020; Wajdi et al., 2020). Considering that most of the residents of Gebang Putih village are housewives, choosing an easy and interactive online media is very important. WhatsApp is an online application that is well-known and widely used by residents of Gebang Putih. In several previous studies, the use of WhatsApp as a mentoring medium had been developed. According to Tandyonomanu et al. (2021) had used WhatsApp as a medium to empower the economy of communities affected by the COVID-19 pandemic. Furthermore, Suryanti et al. (2020) assisted the cultivation of vegetables using the Budikdamber hydrogenic model. In addition, Cheung et al. (2020) also used WhatsApp online group discussion for smoking relapse prevention (randomized controlled trial). Cheung et al. tried to control the group (n = 504) by sending similar reminders via short messages to their mobile phones via the WhatsApp group without interacting with other participants.

Based on the problems described above, the assistance in making simple organic compost for residents of Gebang Putih was carried out virtually by using WhatsApp media. In this paper, the methods and effectiveness of online mentoring using WhatsApp will be described. Thus, this virtual assistance can be one solution for empowering the community in managing organic waste during the COVID-19 pandemic.

Material and Methods

The method used in this assistance was virtual advanced training with Whatsapp media. The assistance provided to residents of Gebang Putih can be briefly described in Figure 1.

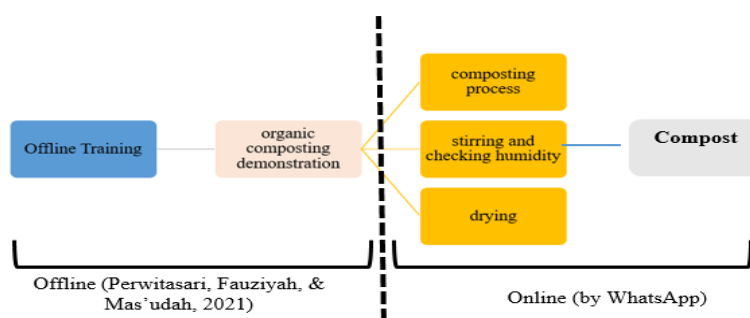


Figure 1. The schematic of offline training, online mentoring, to the formation of compost for residents of Gebang Putih, Surabaya

While optimizing the use of WhatsApp which includes assistance in the preparation of green and brown waste in buckets, stirring and checking for humidity, and drying was presented in Table 1.

Table 1. WhatsApp optimization methods and stages virtual mentoring groups

Achievement Indicator	Methods and stages
Several RW.03 residents participating in the preparation of green waste and brown waste in composter buckets have a sufficient ratio in the WhatsApp group of at least 70% of the citizens who are members of the WhatsApp group.	<ul style="list-style-type: none"> Informing about assistance activities for the preparation of organic waste in compost virtually via WhatsApp group
Continuous monitoring and control between WhatsApp group admins and residents regarding the mixing process and the humidity of the compost that has been formed	<ul style="list-style-type: none"> Assist in the preparation of organic waste in compost Virtual dialogue and chat between WhatsApp group admins about the development of humidity and compost mixing
Ready-to-use dry compost	<ul style="list-style-type: none"> Virtual dialogue and chat between the WhatsApp group admins about the compost drying process that the residents have successfully made

After the mentoring was carried out, a survey by filling out a questionnaire was also carried out. Fill out the questionnaire using the Whatsapp application.

In the future, interactive communication that is connected and coordinated through WhatsApp groups will be created so that residents can freely, easily, safely, and efficiently assist with composting with group admins by implementing the “New Normal” life.

Results and Discussion

The implementation of activities to realize the assistance of residents of Gabang Putih, Surabaya began with follow-up actions on offline counseling that had been carried out previously (Perwitasari et al., 2021). Previously, residents had their handphone numbers recorded and the admin created a WhatsApp group. Therefore, Figure 2 presents a WhatsApp group that has been formed by the admin. Approximately 20 residents joined this virtual group.

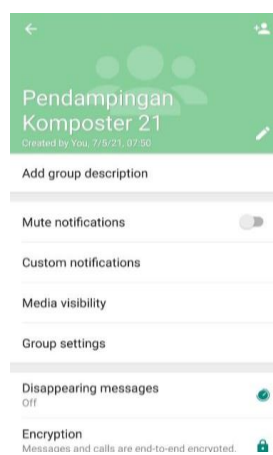


Figure 2. WhatsApp group of the online mentoring in the formation of compost for residents of Gebang Putih, Surabaya

Before carrying out this virtual assistance, initial coordination with the village head of Gebang Putih and the head of the PKK as the person in charge of RW.03 Gebang Putih had been carried out. They in general welcome the idea of the program implementer. The virtual program is considered to be a solution to two problems, namely reducing physical meetings between implementers and residents as an effort to support preventing the spread of COVID-19 and maintaining intensive communication to assist in composting. This process takes a very short time because the activities are virtual so they don't trigger crowds.

Community participation in this mentoring activity is divided into three stages (see Table 1). The first stage is informing about assistance activities for the preparation of organic waste in compost virtually via WhatsApp group. A total of 15 residents participated and responded to chats and discussions that had been made by the group admin. Residents also reported that composting had been carried out by stacking brown waste and green waste in succession in used buckets until they were full. Rice washing water was added as the bio activator liquid. Based on the achievement indicators in Table 1, the number of participants who are active in making compost has met, which is 75% of all participants.

After a week had passed, the admin made an announcement in the group regarding assistance for the mixing process and checking the humidity of the compost that had been made. The second phase of mentoring was carried out on Sundays because some residents had free time and were not accompanying online school children so their cellphones could be used for mentoring. Some residents reported via chat or virtual dialogue that their compost tends to be moist. Admin and implementers also gave their responses that the prepared compost contains too much water for washing rice. So, the admin suggested to residents add brown waste (which can be in the form of soil or dry leaves). The admin also explained that no compost doesn't work, it's just that we have to make the compost we make to be balanced in terms of humidity. While the stirring process will homogenize the oxygen in the compost so that it will activate the microorganisms in it.

The third stage of this assistance is drying. The third stage is carried out two weeks after the second mentoring. As before, the admin chatted on the WhatsApp group regarding this third mentoring activity. Some residents (13 residents) participated in responding to the chat that had been shared by the admin. Residents reported that on the 16th day on average, the prepared compost can be dried. Compost that is formed before drying has a characteristic odorless, and the texture resembles soil. This indicator shows the maturity of the compost. This indicator of compost maturity had been studied previously (Surahman et al., 2017; Wahyono et al., 2012). So it can be concluded that the residents of Gebang Putih have succeeded in preparing compost.

At the end of this assistance, questionnaires were distributed to residents regarding their satisfaction with virtual assistance via WhatsApp. Citizen satisfaction reached 81%. This percentage is quite high considering that virtual assistance has many limitations, for example not being able to see directly the compost that has been made by residents, as well as signal factors or community quotas so that they tend to respond slowly.

The use of WhatsApp media can be one of the solutions for community empowerment in the current COVID-19 pandemic era.

Conclusion

The assistance for strengthening simple compost for residents of Gebang Putih has been successfully carried out with WhatsApp group media. The mentoring includes three stages, namely composting, mixing and checking humidity, and drying. The use of WhatsApp media is quite efficient in this compost assistance. However, signal constraints, quotas, and the activities of residents who are mostly housewives sometimes cause slow responses. We must adapt to new habits to control the spread of COVID-19.

References

- Badan Pusat Statistik. (2019). Retrieved May 15, 2021, from <https://surabayakota.bps.go.id/statictable/2020/06/22/755/banyaknya-penduduk-menurut-kewarganegaraan-dan-jenis-kelamin-kecamatan-sukolilo-tahun-2019.html>
- Cheung, Y. T. D., Chan, C. H. H., Ho, K. S., Fok, W.-Y. P., Conway, M., Wong, C. K. H., Li, W. H. C., et al. (2020). Effectiveness of WhatsApp online group discussion for smoking relapse prevention: Protocol for a pragmatic randomized controlled trial. *Addiction*, *115*(9), 1777–1785. <https://doi.org/10.1111/add.15027>
- Fei, J., Hotard, M., Ingham, H., Khanna, S., Lawrence, D., Tesfaye, B., Weinstein, J., et al. (2020). *Automated chat application surveys using WhatsApp*.
- Lidwina, A. (2021). *Banjir sampah plastik selama pandemiâ analisis data Katadata.co.id*. Retrieved May 15, 2021, from <https://katadata.co.id/timredaksikatadata/analisisdata/5fc719de77307/banjir-sampah-plastik-selama-pandemi>
- Lusianai, W. O., Surimi, L., Nurfikria, I., Jabar, A. S., Idrus, S. H., & Amin, H. (2020). Pelatihan dan pendampingan pengisian konten kelas virtual berbasis Web Blog. *JPPM (Jurnal Pengabdian dan Pemberdayaan Masyarakat)*, *4*(2), 221–230. Doi: 10.30595/jppm.v4i2.6009
- Perwitasari, D. S., Fauziyah, N. A., & Mas'udah, K. W. (2021). Pemberdayaan masyarakat kelurahan gebang putih-surabaya dalam mengelola sampah rumah tangga menggunakan komposter sederhana. *SELAPARANG Jurnal Pengabdian Masyarakat Berkemajuan*, *4*(3), 581–585.
- Surahman, E., Ali, M., & Fitriani, R. (2017). Pengaruh konsentrasi M-Bio terhadap kecepatan pengomposan sampah organik pasar. *Bioedusiana: Jurnal Pendidikan Biologi*, *2*(1). Retrieved June 14, 2021, from <http://jurnal.unsil.ac.id/index.php/bioed/article/view/229>
- Suryanti, S., Umami, A., Firmansyah, R., & Widyasaputra, R. (2020). pemberdayaan pertanian organik dengan model hidroganik budikdamber di era pandemi covid - 19. *Jurnal Agro Dedikasi Masyarakat (JADM)*, *1*(2), 44–50.
- Tandyonomanu, D., Aji, G. G., Sukardani, P. S., Tsuroyya, T., & Mutiah, M. (2021). Optimalisasi Grup Whatsapp pasar virtual untuk pemberdayaan ekonomi masyarakat terdampak pandemi covid-19. *Dedication: Jurnal Pengabdian Masyarakat*, 127–136.
- Wahyono, S., Widanarko, S., Moersidik, S. S., & Djajadiningrat, S. T. (2012). Metabolisme pengelolaan sampah organik melalui teknologi komposting di wilayah internal Perkotaan. *Jurnal Teknologi Lingkungan*, *13*(2), 179–192.
- Wajdi, M. B. N., Ubaidillah, M. B., Mulyani, S., Anwar, K., Istiqomah, L., Rahmawati, F., Hikmawati, S. A., et al. (2020). Pendampingan redesign pembelajaran masa pandemi covid-19 bagi tenaga pendidik di lembaga pendidikan berbasis pesantren di Jawa Timur. *Engagement: Jurnal Pengabdian Kepada Masyarakat*, *4*(1), 266–277. <https://doi.org/10.29062/engagement.v4i1.193>