

Analysis of the Digital Recording Process for the Song “Ngemodhi Lalampa” By Kasokan

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Article Details	ABSTRACT
Article History Received February 1, 2026 Revised July 6, 2026 Accepted July 15, 2026	This study analyzes the digital recording process for the song “Ngemodhi Lalampa” by the Kasokan community, an arts group from Bangkalan that blends traditional Madurese and modern musical elements. The study employs a descriptive qualitative method with a phenomenological approach. Data were collected through observation, interviews, and documentation of the recording production process. The results show that the recording process was carried out systematically through the stages of <i>recording</i>, <i>editing</i>, <i>mixing</i>, and <i>mastering</i> using simple <i>Do-It-Yourself (DIY)</i>-based digital equipment, such as computers, microphones, <i>sound cards</i>, and <i>Digital Audio Workstation (DAW)</i> software. Limitations in facilities and acoustic conditions were overcome by applying alternative techniques, such as digital <i>plug-ins</i>, <i>MIDI-based</i> recording, and simple acoustic arrangements. These findings demonstrate that <i>DIY-based</i> digital recording is still capable of producing acceptable audio quality while serving as an effective means of supporting the preservation of Madurese culture through music production.
Keywords Recording Process Recording equipment Kasokan community Ngemodhi lalampa	
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1. INTRODUCTION

Music is often viewed as a form of entertainment capable of shaping the behavior of many individuals and resonating with various segments of society. Today, music has become an integral part of many people’s daily routines, even evolving into an irreplaceable personal necessity. Music was originally conceived as an artistic realm limited to the upper social strata or *the elite*, but its reach has now expanded so that it can be enjoyed by a broader spectrum of society or all segments of society (Mitasari, 2016, p. 139) in (Septian, W.T., Hendrastomo 2020:2) Currently, there are several well-known music genres, including pop. Pop music is one of the most popular genres. (Ardini 2015:368) . Pop music, an important part of pop culture (pop/popular culture), provides entertainment and brings its own satisfaction to those who consume it. (Ardini 2016) . Roy Shucker claims that while some define “popular” as something that captures the public’s attention, others define it as something that deviates from it. This supports the view of many experts, who argue that understanding popular music requires an understanding of commercialization (Shucker) in (Raditya 2013) . Meanwhile, modern music is music that emerged from modern culture—for example, bands, marching bands, symphony orchestras, and concerts—which are generally oriented toward it. (Subiyakto 2006) .

Amid ever-evolving technological advancements, the song recording process plays a vital role in the music industry. This is because the recording quality significantly influences the final quality of the musical work. In the past, songs were recorded on analog tape recorders; today, people use digital tape recorders or *hard drives*. The book “*Practical Recording Technique*” explains and details the song recording process before 1976. All music was recorded on *analog tape recorders* that captured *audio*

signals as rising and falling waveforms. In contrast, *digital tape recorders* capture and store *audio* signals as binary code consisting of ones and zeros, or numbers (Bartlett, 2009, p. 165).

Today, producing high-quality music recordings or songs is no longer the exclusive domain of professional studios. With technological advances, a large number of musicians can independently produce their work at home through *home recording*, without the need to rent professional studio facilities. The emergence of *home recording* has opened up vast opportunities for many musicians to record their creative works without the cost of renting a professional studio. (Restyawan 2014) . Music production in the digital age can be done at home—a practice known as home recording—one of the impacts of technology that offers convenience and practicality in music production. (Kharoris, Bintarto, and Satria 2024) . Digital recording offers convenience to every recording studio because this method does not require a large space to accommodate all the recording equipment, as most of these tools have been converted into virtual software known as VST (Virtual Studio Technology) (Richardson, Sanulita, and Silaban 2018) . *Computer-based DAWs* have now become the primary option for digital music recording, used in both professional studio and *home recording* environments. This approach requires an audio interface or sound card to convert analog signals to digital, as well as DAW software such as Logic Pro or Studio One to record and process audio on a computer or laptop. The book **Practical Recording Techniques** outlines and explains the increasingly diverse methods used in the recording process. There are six methods used in the process of recording music or *audio*, including *live stereo recording*, *live mixing recording*, *multitrack recorders/mixers*, *standalone workstations (DAW recorders-mixers)*, *computer-based DAWs*, and *MIDI sequencing*. (Bartlett 2009:6) .

Software provides significant support during the music recording process. The software in question includes *DAWs (Digital Audio Workstations)* and the *VSTs (Virtual Studio Technology)* integrated within them. A *DAW*, or *Digital Audio Workstation*, is an application that serves as a *platform* or container to facilitate *audio* recording—a process previously done analog that has now shifted to a digital format. This type of recording is considered modern. Advances in music are occurring at a rapid pace, particularly in music production. Various audio tools have been developed, including what is known as a *Digital Audio Workstation (DAW)* (Indra 2020:70) . Using a DAW, users can perform activities such as recording, editing, mixing, and finalizing—all of which are done digitally—simplifying the song recording process. By using a DAW, music production becomes more efficient and productive; recording can be completed quickly, and editing, sequencing, mixing, transferring, and organizing audio projects among sound engineers are more practical, while the costs of producing and distributing music are more economical. (Andriyanto 2020) . Some popular *DAWs* among today's musicians include FL Studio, Ableton, and Logic Pro. Therefore, this recording method is highly sought after and widely used by musicians today.

Indonesia's rich cultural heritage is an invaluable asset to its people and society (Dewi 2019). Indonesia, as the world's largest archipelago, possesses a wealth of natural resources and cultural arts. (Dewi 2020). *Kasokan* is an arts group that promotes the gentle culture of Madura through elements of music, poetry, and attire imbued with religious values, aligning with Madura's identity, which is renowned for its religiosity. This community originates from Bangkalan, Madura, and was founded in 2021 as a legacy of Maduran ancestors. Its membership is not limited to Bangkalan alone but also includes individuals from Sampang, Pamekasan, and Sumenep. *Kasokan* is grounded in the principle of "*Estoh Lana*," which signifies deep love and solidarity. According to a report in the daily newspaper **Kabar Madura** written by (Fresky 2022) titled "Community Education: *Kasokan* Vigorously Promotes Madurese Culture." According to this source, the *Kasokan* community has been actively involved in music, culture, and the refined Madurese language since its inception. They have produced various songs, most of which are inspired by elderly figures in Bangkalan and the surrounding areas. Regional music is an evolution of ethnic music, distinguished by the use of the diatonic scale, a blend of traditional and Western instruments, and local languages and dialects (Simatupang, 2013, p. 48) as cited in (Rangga Sonata Weri, Asril 2019) . Traditional music is also a cultural heritage that must be passed down, as stated by (Darusman 2021:1) , who notes that cultural transmission is a learning process carried out by older generations to younger ones, aimed at preserving the culture of their ancestors. Traditional music is a type of music that originates from and develops within a specific regional culture and is passed down from generation to generation. (Lombu, Y. F. W., Zebua, T. B., Simarankir, A., Telaumbua, E. H., & Pardede 2023:401) . Meanwhile, modern music is music that emerged from modern culture—for example, bands, marching bands, symphony orchestras, and concerts—which are generally oriented toward it (Subiyakto 2006). The *Kasokan* community aims to continuously educate the public, particularly Madurese youth, to preserve and strengthen their identity as Madurese people. This is because, in recent years, Madurese art has been considered less appealing to the younger generation living in Madura.

One key phenomenon discussed in this study is the growing popularity of *home recording* among musicians during the song-recording process. Lower costs drive this trend, making home recording a more affordable option than renting a professional studio, leading many musicians to switch to it as their primary recording space. The main reason for choosing *home recording* over a professional studio is cost efficiency, which allows musicians to produce their work at a lower cost (Homer, 2009; Restyawan, 2014). This includes the approach the Kasokan community took when recording the song “*Ngemodhi Lalampa*.” The researcher selected this song because its production process was more organized, systematic, and detailed than those of *Kasokan*’s previous songs or works.

In this song, *Kasokan* does not merely present a simple, repetitive melody but also combines traditional and contemporary elements that serve as a bridge between local Madurese cultural heritage and the present day. An in-depth study of the recording stages of the song “*Ngemodhi Lalampa*” is worth analyzing to understand the impact of technology on the music-making process. The song “*Ngemodhi Lalampa*” demonstrates a strong influence from local Maduran culture and the integration of modern technology.

Based on the background description above, it can be concluded that the song “*Ngemodhi Lalampa*” holds unique appeal for analysis, particularly regarding the *digital* recording process carried out independently through a *home-recording* approach. Their success in recording this song in an organized, systematic manner, despite limited equipment and facilities, demonstrates creativity and the application of alternative techniques worth exploring. Therefore, the author is interested in addressing this topic as the focus of this research. This study focuses on the recording stages of the song “*Ngemodhi Lalampa*” by *Kasokan* to understand how recording techniques were applied in a simple yet effective manner within the context of *home-based digital recording*. Additionally, this study can serve as a reference providing relevant information and data regarding independent recording in the production of such musical works.

2. METHOD

According to Danandjaja, in social research methods, data collection and analysis involve the use of “individual experiential data,” referred to as “human documents” or, in psychological anthropology, more commonly known as “individual life histories” (Amtai Alaslan, Ade Putra Ode Amane, Bangun Suharti, Laxmi, Nanang Rustandi, Eko Sutrisno, Rustandi, Siti Rahmi, Darmadi 2023). This study uses a phenomenological qualitative approach to explain a person’s experience during the process of recording a specific song—namely, “*Ngemodhi Lalampa*”—in a narrative easily understood by people. According to Sukmadinata (2005) in the book “Social Research Methods”, the foundation of qualitative research is constructivism, which assumes that reality is multidimensional and interactive, shaped by the exchange of social experiences and interpreted by each individual (Ismail Suardi Wekke 2019). According to Research using a phenomenological approach seeks to understand the meaning of events and interactions among ordinary people in specific situations. This approach requires a set of assumptions that differ from those typically used to analyze human behavior, to discover “facts” or “causes.”

The study is conducted at Studio Home *Kasokan*. This research site is located in Bangkalan Regency, Madura, East Java Province. It is the location where the researcher collected all the necessary data. In this study, the recording process for the song “*Ngemodhi Lalampa*” had been completed, and the song had been officially released; therefore, the researcher conducted the research activities at Studio *Kasokan*.

Researchers collect data through observation, interviews, and documentation. (Sugiyono 2013:145) states that “The data collection technique of observation is used when the research concerns human behavior, work processes, natural phenomena, and when the number of respondents being observed is not too large”. Data collection through observation is a methodical and focused approach to monitoring the events and interactions under study (Asra, Abuzar, Irawan, Puguh Bodro, Purwoto 2014: 105). Arikunto defines the observational approach as an activity that uses all five senses—sight, smell, hearing, touch, and taste—to direct attention toward an object (Arikunto 1998). The researcher conducted the observation by examining the recording techniques used in the song “*Ngemodhi Lalampa*” by *Kasokan*. According to (Sugiyono 2013: 138) interviews can be conducted in a structured or unstructured manner and can take place face-to-face or by phone. Two people engage in a conversation to gather information: the interviewee, who answers the questions, is usually referred to as the informant, and the interviewer is the person who asks the questions. Researchers use structured interview techniques to conduct interviews. One way to ensure the interview goes smoothly and the information obtained is more valid and accurate is to create an interview guide for the interviewer to use. The researcher conducted interviews with *engineers* and two members of *Kasokan*—Abdurrahman and Mohammad Dafa—regarding the recording process for the

song “*Ngemodhi Lalampa*.” The researcher collected documentation using photographs taken during the interviews and utilized videos sourced from social media (*YouTube*) as supporting materials.

According to Bogdan in data analysis is the process of systematically searching for and organizing data from interviews, field notes, and other sources so that it can be easily understood and the findings communicated to others. The data obtained is organized into several categories, and conclusions are drawn to help the researcher understand the information and its data sources. In this study, three components are used in the data analysis technique: data reduction, data presentation, and conclusion.

According to William Wiersma in data verification is the process of verifying data obtained from various sources at different times and in different ways. To ensure the validity of the results, the collected data is combined and rechecked.

3. RESULT

This study classifies its discussion into three main stages: recording equipment and techniques; the recording process; and, finally, the challenges and solutions encountered in recording the song “*Ngemodhi Lalampa*” by Kasokan.

A. Recording Equipment for the Song “*Ngemodhi Lalampa*”

The recording equipment used by the *Kasokan* Community reflects the distinctive characteristics of *DIY (Do-It-Yourself)* production, relying on simple yet functional devices. Although the equipment is limited, the tools are selected selectively for each recording stage. According to (Sudibyo 2019:4-14) in his book titled “Audio Recording Techniques in the Studio,” he states that the equipment used in the recording process includes *monitor speakers*, *headphones*, *microphones*, *mic preamps*, *audio mixers*, *equalizers*, *audio reverbs*, *audio compressors*, *audio multigates*, connecting cables and connectors, *audio converters*, *sound cards*, *MIDI controllers*, *software*, and computers (*PCs*).

The equipment they use is an important part of their recording process, as it determines the quality of the *audio* data that serves as the foundation for the *editing*, *mixing*, and *mastering* stages. Here are some of the pieces of equipment they use in the recording process:

1. Computer (PC)

Kasokan uses a MacBook Pro as his primary device for running the *DAW* and managing all *audio* data. The choice of this device is not based on ideal technical considerations, but rather on the availability of the most stable and reliable *DIY (Do It Yourself)*-based equipment.

Kasokan’s use of the MacBook Pro reflects an adaptation to the technology available to them rather than a preference for a specific device. The use of this laptop demonstrates that a *DIY (Do-It-Yourself)* recording process can still proceed effectively with simple yet functional equipment.

2. Microphones

As for microphones, *Kasokan* uses three during recording: a Shure SM57 *dynamic* microphone, a Samson *condenser* microphone, and an AKG *cardioid dynamic microphone*.

3. Monitor Speakers

They rely on *headphones* as the primary means of monitoring the recording. Using *headphones* is considered more practical in a recording space with minimal soundproofing, as the sound heard does not mix with room reflections.

Kasokan used AKG K-52 headphones because they were readily available, and after testing, they provided clear enough sound for monitoring each instrumental element. The frequency response characteristics of these *headphones* help them hear necessary details—such as vocal balance, traditional instrument playing, and the dynamics of the electric drums—without interference from ambient noise.

Using *headphones* also helps reduce the risk of playback sound leaking into the microphone during tracking. This is important given that the entire recording process took place in a room not designed as a studio.

4. Sound Card

During the recording of the song “*Ngemodhi Lalampa*,” *Kasokan* used a Steinberg UR22 MK II *sound card* as the primary device to connect signals from instruments and microphones to the recording software on his MacBook. Using this *sound card* helped *Kasokan* maintain a structured recording workflow. All sound sources—from traditional and modern instruments to vocals—were routed through the two available input channels, enabling the recording process to be carried out sequentially and with greater control. Overall, the use of the Steinberg UR22 MK II *sound card* reflects how *Kasokan* adapted the production process to the available equipment, while also demonstrating how the *sound card* serves as the central signal processing hub in the context of *DIY (Do It Yourself)* digital recording.

5. Software

Kasokan uses the Digital Audio Workstation (DAW) software Logic Pro as its primary workspace for audio processing. Logic Pro serves as the central hub for organizing all recording data, from instrument and vocal recordings through to the editing and advanced processing stages. In practice, this DAW enables *Kasokan* to save, separate, and organize each recording track in a structured manner, making it easier for them to refine instruments or vocals.

In addition to serving as a recording platform, Logic Pro is also used to access virtual instruments and basic plug-ins already available within the software. These features are primarily used for instruments recorded via MIDI, such as electronic drums and pads/synthesizers. By utilizing the available virtual instruments, *Kasokan* can customize the sound character without requiring additional physical equipment.

The use of Logic Pro in the recording process for this song demonstrates how *Kasokan* adapts his creative process to the available equipment, as well as how the DAW helps integrate all recording stages into a single, systematic workflow within the context of home recording.

B. Recording Techniques and Stages for the Song “Ngemodhi Lalampa”

1. Recording Techniques for the Song “Ngemodhi Lalampa”

In general, *Kasokan*’s recording sessions were conducted in a DIY (Do It Yourself) home recording environment. The recording system used multitrack recording, with each sound source recorded on a separate track. Based on interview findings, some modern instruments were recorded via MIDI and Direct Input (DI), depending on equipment availability. In contrast, traditional instruments were generally recorded using a single microphone per instrument. Thus, Bartlett’s theory is relevant to this study because it provides a conceptual foundation that aligns with *Kasokan*’s recording techniques. The alignment between the theory and field findings demonstrates that home-based recording processes can still adhere to the principles of recording techniques commonly used in professional recording practices.

2. Stages of Recording the Song “Ngemodi Lalampa”

The stages of the recording process consist of activities or a series of steps carried out systematically to produce a high-quality song recording. According to (Purwacandra 2007: 21–24) The book titled “Home Recording with Adobe Audition 1.5” explains that there are several stages in the recording process for producing a song, consisting of recording/tracking, editing, mixing, and mastering. Based on the interview results, the recording process for the song “Ngemodhi Lalampa” carried out by *Kasokan* took approximately 15 days. The entire process was divided into four stages: recording, editing, mixing, and finally mastering. These four stages were carried out sequentially and systematically, forming a structured workflow. These four stages demonstrate that *Kasokan* carried out the recording process with a coherent, systematic approach, from capturing the audio material to preparing the final product for release.

The recording process was carried out in a DIY (Do-It-Yourself) home recording context, using available equipment. Although the recording space and the technical equipment used were not on par with professional studio facilities, *Kasokan* still demonstrated a well-planned approach to their work. Each stage is carried out with consideration for musical needs, the character of the instruments, and *Kasokan*’s technical capabilities. This demonstrates that *Kasokan*’s process is adaptive.

Nevertheless, the findings also reveal that *Kasokan* makes several adjustments due to the limitations inherent in the home-recording context. These adjustments include making do with whatever equipment is available, recording in a space without professional acoustic treatment, and replacing some acoustic instruments with digital ones. These adaptations indicate that *Kasokan* still follows recording stages consistent with the theory. The differences that arise are primarily due to technical variations resulting from equipment limitations, rather than deviations from the stages themselves. For example, the use of electronic drums and MIDI-based pads is not mentioned in P. Purwacandra’s theory, which focuses on recording acoustic instruments; however, this is a reasonable adaptation in modern digital recording.

Thus, the recording process for *Kasokan*’s song “Ngemodhi Lalampa” aligns with P. Purwacandra’s theory, which is flexible and can be effectively applied across various situations. The adaptations made by *Kasokan* actually demonstrate how a recording can be carried out without relying on professional studio facilities, as long as the workflow and functions of each stage are executed systematically and sequentially. This reinforces the idea that DIY (Do It Yourself)-based “home recording” does not eliminate the essence of the recording process but merely adapts its technical execution to the actual conditions on the ground. The following are the stages of the recording process carried out by the *Kasokan* community:

The *recording* phase was the first step Kasokan took to record the song “Ngemodhi Lalampa.” According to an interview with Abdurrahman, *the sound engineer*, Kasokan’s recording process took place in *a home studio using available equipment, including an audio interface, microphones, digital instruments, and MIDI devices*. The entire *recording* process was completed in 4 days and organized into stages based on the song’s musical requirements. Overall, the *recording* process was purposeful and adaptive.

In practice, *Kasokan* made several technical adjustments due to limitations in the recording space and the non-studio equipment. Some instruments, such as drums, were recorded using *MIDI-based* electronic drums to replace acoustic drums, which require a soundproof room and multiple microphones. In addition to the electronic drums, they also used *MIDI-based* synthesizers to replace instruments they did not have. The final result of this stage was a collection of *clean, organized audio data ready for processing* during the *editing* stage.

The *editing* process is a crucial stage, especially when recordings from the recording stage have not yet reached optimal quality. However, if the initial recordings were done well and meet both technical and artistic requirements, the *editing* process is not a top priority; in certain circumstances, it can even be minimized. *Kasokan* completed this *editing* process in one day.

During the *editing* phase, *Kasokan* begins by organizing all previously recorded material, from vocal tracks to all the instruments used. The initial stage of *editing* involves grouping the recordings by instrument type to facilitate processing in subsequent stages, while keeping the *tracks* separate. Once the grouping process is complete, they review each section of the recording to ensure optimal sound quality.

For the vocals, Abdurrahman tuned or corrected the vocal tracks—except for the Madurese “*kejhung*” vocals, for which he used the *pitch correction* feature in the *DAW*. Abdurrahman also corrected the slightly erratic tempo—a process known as *quantization*—using the *DAW*’s tools.

For the instrumental tracks, several sections had subpar recording quality, so they decided to re-record or retake the traditional instruments, such as the peking, saron, demung, and bonang. Abdurrahman took this step to ensure that the sound of each traditional instrument would be clearer and more organized in the final recording. They also added gong samples to the recording of the song “Ngemodhi Lalampa” after all the vocals and instruments had gone through the editing phase. The gong was included solely as a complementary element.

During the *mixing* phase, the *Kasokan* community processed all the recorded instrumental and vocal tracks over one week, or 9 days. According to interviews, this process began by adding a *preamp simulator* to nearly all *audio tracks*, except for instruments recorded via MIDI, such as electronic drums, pads, or synthesizers. *The preamp simulator* was applied to add character to the recorded sound and tailor its quality to the song’s aesthetic requirements.

After adding a preamp simulator to all *tracks*, *Kasokan* added a limiter *plug-in* to each *track* to control the volume threshold. This step was taken to ensure that the volume levels of each instrument remained stable and did not exceed the predetermined limits. The entire *mixing* process was carried out using their own digital equipment, with adjustments tailored to the conditions of the original recordings.

The application of *preamp simulators* in the early stages of *mixing* demonstrates *Kasokan*’s effort to achieve a warmer and fuller sound character, as an adaptation to the limitations of *DIY (Do It Yourself)* recording equipment. The use of *limiters* on each *track* also aligns with the fundamental principles of *mixing*, which emphasize *audio* level stability. However, this technique differs from professional studio standards that rely on *hardware preamps* during recording. *Kasokan*’s decision remains consistent with modern digital music production practices, which allow for the achievement of specific sound characteristics through software.



Figure 1: *Preamp simulator* (source: Hamim)



Figure 2: Limiter (source: Hamim)

After all *tracks* received initial processing through the addition of *preamp simulators* and *limiters*, the *Kasokan* community rendered each *track* within *the DAW*. Based on interview results, this step was taken to reduce the workload on the equipment used, given that the entire *mixing* process was run on a laptop with limited specifications. All rendered *tracks* were then saved in *WAV* format, which serves as the basis for further processing.

The next step is adjusting *the gain* on each *track* to a range of -10 dB to maintain the initial balance between *tracks* before proceeding to the advanced *mixing* process. Once *the gain* structure is considered stable, *Kasokan* begins adding supporting *plug-ins* such as an *equalizer*, *compressor*, *noise gate*, *de-esser*, and several specialized effects for the vocals. All of this processing is done gradually, one *track* at a time. In practice, *Kasokan* starts with the lead vocals, then moves on to the *backing* vocals, and finishes with the Madurese “*kejhung*” vocals.

The addition of *EQ*, *compressor*, and vocal effect *plug-ins* also demonstrates the application of standard mixing practices, even with simple digital equipment. Thus, the process carried out by *Kasokan* reflects the contextual application of *mixing* theory to non-studio production conditions.



Figure 3 Equalizer (source: Hamim)



Figure 4: Compressor (source: Hamim)



Figure 5: Noise gate (source: Hamim)

The *mixing* sequence used in the *Kasokan* project shows that they began with the electronic drums as the primary rhythmic layer. Once that section was arranged, the mixing process continued with the kentongan and kendang.

The processing of other traditional instruments, such as the peking, saron, demung, and bonang, was done in a single group rather than individually. According to the interviewee, this grouping was chosen so that the sonic characteristics of the traditional instruments would remain interconnected and exist within the same sonic space. In this way, *Kasokan* could adjust the balance among the traditional instruments simultaneously.

After the traditional instruments were finished, *the mixing process* continued with other melodic and harmonic instruments, such as the acoustic and electric guitars. The processing then moved on to the synthesizer pads and finally to the bass instrument, which supports the low frequencies in the arrangement.

Overall, this processing sequence demonstrates that *Kasokan* structures *the mix* according to the function and role of each instrument within the arrangement, rather than simply following a specific technical sequence.

The *mastering* process, the final stage of production for the song “*Ngemodhi Lalampa*,” shows that *Kasokan* employs a processing approach focused on balancing the entire sound spectrum after all musical elements have been combined into a single master *track*. The frequency shaping process appears to have been carried out by emphasizing the *high-frequency* range, particularly around 10,000 Hz, so that the clarity and final detail of the song stand out more without altering the original character of *the mix*.

Other findings reveal the use of *multiband dynamics* to maintain the stability of specific frequency spectra. This process is used not to create a new tonal character, but to ensure that the signal does not exceed decibel limits that could cause distortion, making the song’s overall dynamics sound more balanced. Additionally, the use of the *mastering assistant* feature indicates that *Kasokan* relies on algorithmic assistance in determining *loudness* and stereo parameters. The *LUFS* range— —is maintained between -12 and -14 , which aligns with digital distribution standards for non-commercial music while preserving dynamic headroom.

In the final stage, *the audio file* is re-rendered with a *sample rate* adjustment from 48,000 Hz to 44,100 Hz. This adjustment marks the final technical step before the track is declared complete as a single WAV recording. Overall, the workflow during the *mastering* stage reflects an effort to preserve the *DIY (Do It Yourself)* character of *Kasokan*’s recordings while prioritizing sound clarity and dynamic stability.



Figure 6 Mastering Equalizer (source: Hamim)



Figure 7: *LUFS* (source: Hamim)



Figure 8: *Multiband* (source: Hamim)



Figure 9: *WAV* (source: Hamim)



Figure 10: *Bit Rate* (source: Hamim)

C. Challenges and Solutions in Recording the Song “Ngemodhi Lalampa”

Challenges Faced by Kasokan During the Recording Process of the Song “Ngemodhi Lalampa”

1. Challenges due to inadequate acoustic space

The space used was not a professional studio but rather an ordinary room in a house that was not designed for recording. This resulted in noticeable sound reflections, including slight echoes and a “boomy” low-frequency sound.

These challenges arose due to the room’s natural characteristics—hard walls and surfaces that reflect sound. There were no adequate sound-absorbing materials, such as acoustic panels or specialized dampers, so the recorded sound was reflected into the microphone. This situation

required extra care during recording, as even slight changes in the instruments' or microphones' positions could produce different reflections.

2. Vibration Challenges in Recording Traditional Musical Instruments

To address acoustic challenges, *Kasokan* implemented several simple steps that can be done in a *DIY* recording setup. One solution they used was placing mattresses, pillows, and thick curtains on several sides of the room to reduce sound reflections. These materials act as temporary absorbers, damping echoes and minimizing direct sound reflections into the microphone. This approach was chosen because it is easy to implement and requires no additional costs.

Solutions they implemented while recording the song “Ngemodhi Lalampa”

1. Solutions to the challenge of inadequate acoustic space

Kasokan also faced the challenge of vibrations that occurred during the recording of traditional musical instruments, particularly the gamelan. These vibrations originated not only from the instruments' sound but also from mechanical transmission through the floor and room surfaces. This caused the microphones to pick up unwanted sounds, including a subtle hum or low-frequency *noise*. (explains that mechanical vibrations traveling through building structures, such as floors or walls, can be converted back into sound (*reradiated noise*) and picked up by the microphone.

This issue arises because the gamelan instruments are placed directly on the floor without any damping pads, so every time they are struck, the vibrations travel through the room's surface. The microphones used are quite sensitive, so these structural vibrations are recorded even though they do not originate from the primary sound source. This means the recording process must be carried out with great care, as even a slight change in the instrument or microphone's position can increase or decrease the intensity of the vibrations captured.

2. Solutions to Challenges: Vibration Issues in Recording Traditional Musical Instruments

To address vibration challenges during recording, *Kasokan* implemented several practical steps tailored to *DIY* recording conditions. One solution was to add padding to the microphone stand, such as a thick foam cushion on its legs. This material helps minimize vibration transmission from the instrument to the floor, preventing mechanical vibrations from easily being transmitted back to the microphone.

4. CONCLUSION

Based on the results of the study on the recording process of the song “Ngemodhi Lalampa” conducted by the *Kasokan* community, it can be concluded that the stages of the song recording process they followed are consistent with the recording workflow described by P. Purwa Candra, namely through the sequential stages of *recording*, *editing*, *mixing*, and *mastering*. Although the recording was done in a *home studio with limited equipment*, *Kasokan* was able to maximize each stage, resulting in a recording that remained stable and suitable for release.

During the *recording* stage, *Kasokan* applied recording techniques tailored to the characteristics of both modern and traditional instruments. This approach aligns with theories emphasizing the importance of matching recording techniques to the nature of the sound source. Next, the *editing* process ensures consistent performance and clear sound. The *mixing* stage demonstrates how *Kasokan* blends various sound elements using digital tools, while the *mastering* stage serves as the final step to standardize dynamics and ensure *audio* quality meets distribution standards.

In terms of equipment, the research findings indicate that the devices used by *Kasokan* fall into the category of digital recording equipment, as described by Sudibyo, namely a *DAW*, *audio interface*, microphones, *headphones*, and *plug-ins* as substitutes for *outboard* gear. Although they do not use a full suite of equipment like a professional studio, the available devices are utilized effectively and creatively.

In practice, several challenges arose, including limited equipment, inadequate acoustic spaces, and the placement of microphones on traditional instruments, all of which required special adjustments. However, the various technical solutions implemented—ranging from additional plug-ins to mattresses to dampen sound to pillow pads to reduce vibration *noise*—demonstrate strong adaptability and a creative approach within the context of *DIY* recording.

Overall, the recording process carried out by the *Kasokan* community demonstrates that high production quality can still be achieved even under limited conditions, as long as the recording techniques align with theory and are supported by creativity and an understanding of the equipment. These findings show that *DIY* recording practices can still produce competitive *audio* quality when approached in a structured manner.

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