Entangled futures: Digitalization’s Effects on Indonesia

Introduction

The volcanic island of Java, with its around 150 million citizens, is Indonesia’s most densely populated island and one of the most densely populated islands in the world\(^1\). Here digitalization plays an important role in facilitating smooth interaction among citizens. The majority of Indonesians owns a smart phone\(^2\). Online interaction adds a dynamic infrastructure on top of existing, but unreliable infrastructures. When it comes to people’s mobility, (e.g. commuting in Jakarta), or communication, (e.g. connecting with family members), digital tools play an essential role. Indonesian smart phone apps offer a site-specific, invisible, trustworthy and therefore crucial service. It helps orientate yourself even within a megacity’s seemingly chaotic and unpredictable setting. The influential effects of online services and social media platforms are ubiquitous. You use an app to fetch a motorcycle cab, contact a group of friends or arrange food supply. Most of the services are logistically improving informal, improvised (and otherwise lacking) services among citizens. During the lockdown on Java online shopping has increased tremendously. There is in particular one part of the population that highly benefits from accelerated digitalization: the artists and culture workers, who, with little to no resources, try to cultivate critical thinking and social change through art. These actors organize themselves through independent, horizontal, digital communities. As an artist and researcher, I was fascinated by the discrepancy in culture organization’s online and offline presence. I visited a variety of Javanese art collectives, galleries, maker spaces, workshops and studios, all of which were located on the periphery (e.g. HONF, Sapu Upcycle, Lifepatch, Bumi Langit, Needle and Bitch). These artists’ livelihoods are in fact deeply entangled with the micro public of village life.


The Artist in the village

In particular village people’s daily struggle on community level is something these culture initiatives share. For example the issue of drinking water supply, soil contamination or lack of access to land and health care. In 2012 the collective called HONF launched a large project on Indonesia’s energy and food independence. The artists were combining science, technology and arts to build alternative prototypes of sustainable, environmental friendly, open source, renewable energy sources.

The presentation—as a sustainable design prototype—consists of 3 core components: a) Installation of a fermentation/distillation machine to process hay (raw material) into ethanol (alternative energy to substitute fossil fuel); b) Satellite data grabber: to obtain data related to agricultural production (weather, climate, seasons); c) Super-Computer: to process data (weather, seasons as well as ethanol production capacity), which is also capable of predicting when Indonesia can reach energy and food independence if this MICRONATION/MACRONATION sustainable project design were to be implemented as a public strategy and policy to achieve the condition of energy and food independence in Indonesia. At the same time, the prototype of this design is being tested through the MICRONATION/MACRONATION project simulation land in several agricultural fields and villages around Cangkringan, Merapi, Yogyakarta, in cooperation with local residents.

Enin Supriyanto, 2012

Despite of the socio-economic-political character of this project, it was exhibited as a fine arts piece in a local gallery. In 2018, one of HONF’s founding members, Irene Agrivine, launched a project on how to build self-made water filters with local inhabitants. On the website this art project was

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documented for an European audience in English language. The target groups seem to be both, the immediate proximity of their neighborhood and the whole wide world⁶.

The art collective called *Lifepatch* describes itself as citizen initiative in art, science and technology. In 2014 *Lifepatch* initiated a series of interventions and workshops dedicated to restoring volcanic farmlands around the very active nearby volcano, Mount Merapi.

> “Scientists in the location had been collaborating with these neighborhood farmers to help accelerate the fertility of the dirt with bio-recovery techniques. We invited the participants to help with this work, and encouraged them to look into generic lab devices, and new methods as well as suggestions that could aid the researchers,”

Andreas Siagian, Co-Director of the 2014 HacketriaLab.

It is striking that these artists take a lot of responsibility for their environment and the society they live in. It almost seems like they do not expect anyone else to take care of interdisciplinary research on sustainability and social justice. Take for example the artist group *Needle and Bitch*. Their members give health workshops to women in farm villages. During the workshops they shake their knowledge on why and how to sew self-made menstruation pads. While sharing the skill of fabricating healthy, sustainable sanitary pads the artist groups tries to bring up difficult issues like sexual health and even sexual violence. This way, together with workshop participants, they instigate the debate of taboo topics around gender and gender health⁷.

**Research Question and field Trips**

My main research question is, why the culture scene on Java is pioneering in digitalization and aligns with the avant garde in an international culture scene, yet operates from a deterritorialized

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⁶ HONE, Micro Macro Nation

location\textsuperscript{8}. My husband was born in Central Java and we have got two kids who speak Javanese, which makes it quite difficult for me to keep the required emotional distance to the research subject.

Between 2013 and 2019, I undertook 2-3 months field trips to Central Java. I participated in and was invited to hold media art workshops at HONF and Lifepatch. In 2015 I collaborated with Lifepatch and Cindy Lin Kaiying on an art-based research project called The NENEK project, meaning “the Grandmother project”. It was presented in an exhibition in Yogyakarta, Basel and Vienna\textsuperscript{9}. I kept in touch and took interviews with members of HONF, Lifepatch, Needle and Bitch, Sapu Upcycle and other Indonesian experts, artists and scholars. We, curator and researcher Nilu Ignatia, translator/author “Dhalia” (name changed) and myself conducted twelve interviews with Gerwani members and one with Gerwani expert Prof. Saskia Wieringa between March and December 2020.

**Online presence**

In juxtaposition to inhabiting a peripheral position in physical space and sharing the concerns of local people, the websites these culture initiatives host are massive, by all standards impressive, international hubs. Their interaction online occurs mainly in English, not in local languages. Their well-designed websites are tied to busy social media accounts, that reach out to like-minded people around the world. It is not so much the *Global Village* the way Marshal McLuhan once put it, but rather globally active artists who are based in a village\textsuperscript{10}.

**From Micro Public to Digital Public**


There is a discrepancy between being active on a micro public level, staying invisible on national level and investing a lot of resources into a spectacular online presence on a digital level. The discrepancy perhaps could be explained through a dark secret: before the New Order Regime of dictator Suharto banned it, a million strong movement had emerged and pushed for autonomy: Gerwani\(^{11}\). After establishing Indonesia’s independence against colonial powers it got informed by the experience of collective nation-building\(^{12}\). This movement demanded social justice for farmers, workers, disenfranchised through constructive international exchange as much as grass root, village and community centered mutual help. These activist groups facilitated themselves through a rhizomatic organizational structure\(^{13}\). They were not communist, but rather democratically minded socialists, most members however did not belong to one particular party (ibid).

**Culture-centered Knowledges**

These groups and collectives, although consisting of untrained amateurs, entertained sophisticated art forms. Theater, folk plays, puppetry, music, street dance and other performances served as means to negotiate complex issues from different angles. It was not only applied by members of this movement, but applied by all groups in society, Christian, Islamic, Nationalist, Communist used these formats to transfer their knowledge\(^{14}\).

Leftist and in particular leftist feminist groups wanted to encourage democratization and participation, so they extensively used these established artistic formats to reach out to villagers. For example one could get a better idea of how politics, economy and living conditions are interconnected through watching a dance, listen to a song or improvised comedy at the village square, like the ones held by the culture institute “LEKRA’. The culture activities in this area were

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sometimes also amplified through student organizations like the Indonesian Student Youth Organisation “IPPI”\(^\text{15}\).

**Deeper Roots**

In these early years of Indonesian independence, culture work was the major vehicle for knowledge transfer. It was not exactly an innovation, instead based on traditional Indonesian storytelling formats. Out of many different formats I here want to mention the Javanese “Ludruk” from the 13\(^{\text{th}}\) century or the “Ketoprak” from the 1920s\(^\text{16}\)\(^\text{17}\)\(^\text{18}\). Both entertaining and sometimes also improvised theatre genres.

Although back then nobody could have foreseen the dominance of new media in our contemporary societies, this movement had already embraced visual culture as participatory, powerful, tactical media. I believe that the seeds planted back then explain why today’s networks of culture initiatives are so resilient and rightfully gain more and more international attention. At the same time it could give an explanation to why they choose so wisely, where and when to be visible, as I will mention later.

**Avoiding Attention**

The culture initiatives’ ownership over digital tools originates in pre-Suharto times (Suharto was the first president of Indonesia). Most Javanese artist collectives I have met engage in both, tight-knit kinship for mutual aid with villagers on the one hand and far reaching collaborations with friends around the world on the other. The culture initiatives I visited were hard to find in urban public. A


\(^{17}\) Clifford Geertz 1976, p. 289


member of *Needle and Bitch* even had to pick me up with her motorcycle to show me the way to their studio. Yet, it is these hard-to-find, small-scale, commons-based communities that develop the most influential content and eventually generate a fertile ground for Indonesia’s avant garde scene to emerge.

**Don’t make a scene on national level**

What happens to the zone in between? Why do these groups maintain a low-key presence on the national level? Why is the national digital public not addressed prior to the international community? While I lived in Indonesia I learned that to most artists and culture workers those nationalist and nation wide initiatives are suspicious, alien and a threat. Culture centers are alarmed of the possible attacks of the mob, of radicalized people or the interior squad crackdown on their spaces, interrupting their events. They are systematically intimidated by the criminals blackmailing or threatening them, silencing them, bribing the police to persecute them. To be invisible, small and on the periphery is often the only way to protect yourself from intolerant, aggressive groups, who operate outside the law. The struggle for free speech in Indonesia must get translated into free speech online.

**Free Speech and Tech**

Is freedom of art, free speech and free self expression articulated through technology? In my opinion, the two fields, art and technology, are two sides of the same coin. By merging art and tech, culture work becomes dynamic, democratizing and ephemeral, therefore allowing culture workers to carve out densely populated, autonomous online spaces, that are impossible to obtain in physical space\(^20\). The physical space needs to be grounded in a community in order to transform into a place. Through shared care and maintenance this community can help to keep resources available, stable, alive\(^21\).


While artists in France or England might precariously crowd in urban centers and the US’s avant garde might rub shoulders in Manhattan and L.A., Indonesia’s contemporary art and culture scene is currently operating in a distributed way, in a rhizomatic, horizontal, strategically invisible and ever transforming periphery. Digitalization enhanced this existing pattern. Some groups punctually harness the possibilities allowed for by social media giants. But the persons I talked to avoided the limitations of big tech’s corset. The Indonesian tech and art avant garde is primarily exploring open source technologies, as they offer richer possibilities for self-driven development - resulting in more accessible tools of self-expression. For example, a group might host their own server, which opens new possibilities for interactive websites, but also fosters skills on server hosting within the community. This way the server turns into a matter of commons, commons taken care of by volunteers.

**Commons**

I believe this to be an answer to the question of why culture initiatives on Java are both invisible in physical space and highly visible in cyber space: you can maintain common land for culture production by going for land far away from the hot spots, land that is not contested in terms of skyrocketing real estate prices. Concurrently you can only maintain virtual commons, if they are regularly debugged by a community of committed developers and taken care of by people who find it relevant, because its declared as digital commons.

**Learned Skepticism**

At the bottom of all this lies a healthy skepticism towards big tech and centralized digital media as well as land grabbing. The skepticism is a meaningful reaction to the propaganda that helped dictator Suharto grab and stay in power (officially from 1967 until 1998). Its impact prolonged colonial influence on Indonesian mines, factories and natural resources like forests and water springs.

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for long after the independence war against the Dutch. Suharto’s propaganda machine relied on
centralized media production.

**Propaganda and New Media**

On that dark September 30th 1965, all the pretty, newly imported radios started to only transmit one
single channel – broadcasting and perpetuating Suharto’s version of the coup d’Etat. The
propaganda triggered mass murder on feminist, social-democrat, intellectual, critical, marginalized
or leftist citizens and Indonesians with Chinese ancestry. In the years after, this newly
established regime continued to commit ruthless victim blaming. The regime’s propaganda machine
successfully covered up how Suharto sympathizers within the military had orchestrated the genocide.

Each year - until the dictator stepped down - every Indonesian school kid had to watch
Suharto’s master narration *Pengkhianatan G30S/PKI*. It was an expensive, brutal propaganda movie
on the events of 1965. Among other things it falsely pictured members of the feminist movement
“Gerwani” as sexually perverted prostitutes and murderers of military generals. The movie

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Studies, 1988)
32 Pohlman, Women, Sexual Violence
33 Wieringa; Melvin; Pohlman, (Ed.). *The International People’s Tribunal for 1965 and the Indonesian Genocide*. (London: Routledge, 2019).
claimed that Gerwani had been central to the Coup d’Etat against the first president, a figure that was in fact always supportive towards Gerwani. In previous years Gerwani had publicly condemned attacks against the first president, so Suharto’s claim that Gerwani would have done this to the first president, sounded fishy, but there was no way to get oppositional voices heard.

Today we have got evidence that the Coup d’Etat was the result of the first president wanting to reduce influence of the right wing of the military by starting an army consisting of citizens, instead of professional soldiers. The government then was overthrown by the right-wing part of the military, that had been trained by the US military. All actors behind the Coup agreed upon the one fact that they don’t like feminism, specially the kind that is struggling against polygyny like Gerwani did. So the military accused members of the feminist movement of playing a central role in the Coup. Thousands were brutally murdered. The Gerwani members who survived were persecuted, got imprisoned, abused and for decades completely ostracized. Suharto’s New Order Government implemented a mass organization for women called PKK (“Guidance for Family Welfare”) that aimed to delete and overwrite Gerwani’s accomplishments through spreading very conservative and submissive gender roles in top down women groups. This despotic over-coding completed the feminist movement’s erasure.

Dark times

34 Melvin. *The Army and the Indonesian Genocide.*


40 Holland, Eugene W. ‘Deterritorializing ‘Deterritorialization’
The propaganda narration that Gerwani members were crazy, perverted, sex-manic criminals still sticks. Next, Indonesia’s centralized, state-funded media industry became a such perfidious tool of manipulation and control, that even up until today there are no public memorials to commemorate the dead nor apologies for their horrible death. Neither for Gerwani members nor for the almost one million victims from all sections of society. Even the Gerwani members’ grandchildren still believe today that their grandmothers were perverted and dangerous prostitutes. Up until today, survivors cannot contradict the master narration, cannot talk about the massacres and atrocities done by Suharto’s military regime. Therefore the country has not at all healed from the trauma. It was breaking apart through genocide, but there never was a form of public mourning. When in 1965, this young, vibrant, liberal and promising Indonesian democracy was lost, the next generations grew deeply skeptical and careful.

**World Fame**

Experienced trauma, suppressed family secrets and collective grief cannot be silenced forever – it needs an outlet. Digital communities have substituted the muted, petrified national publics with loud digital publics. They have used the online world to get their voice out. Very successfully so, as we see, Indonesian artists and culture workers are playing an increasingly important role on the international art scene. They are being listened to. Indonesian artists are winning important media art awards such as Transmediale or Ars Electronica prize. Indonesian authors got into in the spotlight of the largest literature fair, the Frankfurter Buchmesse 2015. The Indonesian collective Ruangrupa will be curating the most prestigious art show in the world, the Documenta in Kassel 2022. All of this is not a coincidence. The glocal strategy of Indonesia’s digital avant garde: Low profile in the national public, large visibility in the international arena. and Taking care of commons online and offline to foster autonomous resources is showing effect. Digitalization supports these liberal critical minds in self expression, intensives their networking efforts and empowers original thinkers to be heard.

**The Downside**

There is a downside to this digitalized “progress” on Java. Digitalization does not come out of nowhere, rather it is facilitated through real world computers made from tangible materials. Our beloved smart phones and embedded devices consist of hardware, one that gets manufactured somewhere by someone out of certain electrical components. Most of the hardware we use consists among other parts of a so called PCB (Printed Circuit Board), which functions as a kind of reactive “brain” in each device, a PCB is coordinating incoming and outgoing signals. And almost all smart phones we use have built-in PCBs that are gold-plated. The layers of gold that get applied to PCBs stem to a high percentage from Indonesia. It is Indonesia’s gold and copper mines that are being brutally exploited for global digitalization. Gold, copper, silver and rare earth elements are highly contested materials on the global market. Gold is so valuable on PCBs, because it is highly conductive to electricity and does not erode over time.

**The world’s largest gold mine**

The largest gold mine in the world, (and the second largest copper reserve) is located in the east of Indonesia, in Papua. It is called the Grasberg mine. It is owned by a leading international mining company based in Phoenix, Arizona. The name of this international company is Freeport McMoRan. Right after Suharto got into power Freeport received permission to enter Indonesia and take over this mine. Even today the Government of Indonesia owns only 9.3% of the mine.

**The Gold Mine**

Three entangled issues began to unfold: The mercury used in small-scale mining leads to birth defects in children of miners and miners themselves, among a variety of other horrifying symptoms.


44 Mining Technology, 2021
caused by mercury. Additionally, 200,000 tonnes of mine waste are dumped into the delta system each day. The mine is destroying the environment for good. Local people cannot support themselves with fishery any longer. Many women are forced into sex-work to support their families, leading to skyrocketing HIV infections. Locals who try to protest against the destruction are tortured by security forces. Through all these dynamics the mining activity causes a slow genocide on the indigenous population of Papua. Papuans feel that Javanese Indonesians are indirectly colonizing Papua’s resources through allowing Freeport McMoRan to threaten their livelihood. Separatist movements among Papuans, who believe that only independence from Indonesia could stop the mining industry’s destructive impact on their land are getting more popular. But even if Freeport McMoRan would stop mining in Papua, the global high demand for gold would cause a higher amount of small-scale mining and a continued contamination through mercury.

“Millions of people in 70 countries across Asia, Africa, and South America have been exposed to high levels of mercury as small-scale mining has proliferated over the past decade. The United Nations Environment Programme estimates that at least 10 million miners, including at least four million women and children, are working in small “artisanal” gold mines, which produce as much as 15 percent of the world’s gold.”

45 Susan Schulman, ‘The $100bn gold mine and the West Papuans who say they are counting the cost’, The Guardian (2 Nov 2016).
46 Schulman, ‘The $100bn gold mine’
47 ‘Indonesian rights body notes rampant rights abuses in Papua’, RNZ Pacific West Papua (11 April 2016)
50 Derrick Mbatha, ‘“Slow genocide” happening in West Papua, says indigenous person’ UN News (23 May 2014)
Feminist politics

While innocently touching our smart phones we should not gloss over this petrifying violence, the deadly contamination that manufacturing hardware entails and how it is connected to our consumption. And while digitalization has given some parts of the population a voice and a channel for free speech, it has simultaneously silenced another part of the same countries population. Did Indonesians just passively watch all this through history? Not at all. Indonesia’s independence fight against the Dutch was directed against exactly this exploitation of land and people inhabiting the land. Land that in many parts of Indonesia had traditionally been maintained as commons, commons for subsistence economy (e.g. Minangkabau culture).

And although Suharto did all in his power to banish and erase the democratic Indonesian movements before September 1965, he could not stop the resistance, that is older than the Indonesian nation state in itself. Indeed, all political parties active before the Suharto era were criticizing how ex-colonial powers attempted to keep their hands on Indonesia’s riches. And they had to invent an infrastructure upon the colonial infrastructure, to stop the oppression.

Gerwani, the feminist organization Suharto falsely blamed for the coup d’Etat, had (before they were officially banned) developed high expertise in learning strategies and sophisticated knowledge sharing methodology. Gerwani leaders had been very outspoken about the importance of the Indonesian Government owning Indonesian resources. In their microcredit groups women used to talk about what this would imply. Their pedagogy always started with the here and now, helping the learner to understand her own position in the economic dilemma that the post WWII world presented to them. Gerwani’s methods helped the learner to analyze the given environment and at the same time gain literacy. It was grass-root political self-education. For example, when academic Gerwani members went to the villages to do literacy workshops, every letter in the alphabet was connected to a term. These terms were not the usual “A” like Apple or “E” like Elephant, but socio-


political terms that stood for concepts. Concepts that again explained why the prices for rice went up and the learner’s income had gone down. Essential in this form of literacy that Gerwani had promoted was also a sense of community-building or “socializing”. A lot of time was dedicated to bringing women and children together to talk about their challenges and struggles, but also to sing and dance and play together. A survivor of the massacre on Gerwani members told me, that when she worked in the villages, she did not get paid for teaching, she was fed by the villagers who knew that this knowledge was crucial.\

**Gerwani’s Legacy**

Today, digitalization helps to transfer Gerwani’s legacy: all social change has to be centered around people, grounded in places of learning and socializing, engaged in commons and practices of care, dedicated to creativity and artistic expression. All learning content has to help the learner understand her world, orientate herself in it and articulate her standpoint. Take for example Aleta Baun from Timor, an Indonesian island located roughly between Java and Papua.

> “For years, mining companies had taken the marble without consent, polluting rivers, destroying forests, and eroding the very identity of the community. Finally, when they tried to plunder Mutis Mountain, which lies at the intersection of the island’s major rivers, which supply water to the indigenous Mollo people, Mama Aleta decided enough was enough.”

*(Marlene Cimons 2016)*

Aleta Baun summoned together all female members of the tribes in her region to inform them about the mines and how they would become a threat to their livelihood. The women started to protest: they sat on the mine’s premises and kept teaching each other how to weave and dye with natural color with traditional technologies. The women continued to weave every day for a whole

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55 Interview with R.H., 2020

56 Marlene Cimons & Mariya Pylayev, ‘Women Are The Ones Fighting The Tough Environmental Battles Around The World’ (May 6, 2016)
year. While around 150 women were quietly sitting with their looms and weaving at the mine in protest, their husbands took over all their tasks and care work at home.

“Mama Aleta’s work made her a target for the mining interests and local authorities, who put a price on her head. After surviving a particularly close assassination attempt, she went into hiding in the forest with her baby. Several other villagers were repeatedly arrested and badly beaten.”

(Goldman Prize, 2013).  

The peaceful protesters received more and more public attention.

“By 2010, the mining companies, reacting to the pressure, halted mining at all four sites within the Mollo territories and abandoned their operations.”

(ibid)

Another example of the legacy is a network of young feminists who teach each other on digital technologies, in tech literacy workshops. While educating themselves about technologies they also encourage each other to debate and question their situation and the tools they use. This gives hope, but it is not a happy ending yet, it is not satisfying.

Conclusion

I think that digitalization helped to inform end consumers about production chains. Online videos gave evidence on labour conditions, social media groups document environmental disaster, spread the word, enable new international alliances. Yet the trauma that the Indonesian citizens are still processing leaves traces on digital publics and counter publics. The merely embodied collective memory shapes structures and relations within local and digital culture. Artists take on a lot of responsibility by exploring participatory, emancipatory, sustainable forms for socio-political practice in their art practice and work closely with local actors and universities. HONF’s and Lifepatch’s


58 Interview Lisa, 2020
interdisciplinary approach, for example, lays the ground work for the next generation of scholars and artists. Not only does the digitalization accelerate knowledge transmission, but hopefully also the range and the intelligence of our immediate reaction. After all, we are aware of the dilemma of digitalization. You might have an idea on how to change it, how to live our lives less hypocritically, in less contradiction. Maybe you, dear reader, can influence the production of hardware to become more sustainable and democratic.

REFERENCED GROUPS:

**HONF**

https://honf.org/honf-house-of-natural-fiber/

**Lifepatch**

https://lifepatch.org/

**Sapu Upcycle**

https://sapu-upcycle.com/

**Bumi Langit**

https://www.bumilangit.org/

**Needle and Bitch**

https://www.facebook.com/needle.nbiotch/