Working Group B

The Ethics of Digitalization in the South Pacific

Projected Futures in South Tarawa, Kiribati

I. The Island

"There is no world, there are only islands."

—Paul Celan

Throughout history, islands have been seen as liminal, transgressive spaces where new relationalities and affordances may arise. Yet islands —in contrast to the modern and largely Western imaginary of the mainland—have also often been portrayed as backward, isolated, and vulnerable.* As a consequence, islands to a large extent have been left out of conversations of the smart city. If included, they are positioned only as beneficiaries of outside expertise, in need of saving by international organizations. For our project, we want to highlight this generative potential of what might be called "island thinking" to ask: what if we were to see island cities like South Tarawa as reserves of deep knowledge where alternative spatial and relational frameworks can inform new approaches to thinking about digitalization in cities? How does a city like South Tarawa implore us to question what a city truly is—and how might that change the conversation we are having around digital or "smart" cities?

*David Chandler and Jonathan Pugh, "Anthropocene islands: There are only islands after the end of the world," *Dialogues in Human Geography* (2021), 1-21.

THE
FIGURE OF
THE ISLAND

We wanted to focus on South Tarawa in Kiribati as a case study for the ethics of digitalization in the city because of its unique position as an urban settlement that is very different from traditional understandings of "the city." Not only does the case of South Tarawa highlight an area of the world and a population that is often left out of discussions around global connectivity and the digital economy; it also provides a space for us to reimagine what technological systems can be built and what new models of governance can grow out of it.

Kiribati has one of the world's lowest ICT Development Index rankings. The country's youth ranks among the least ICT-skilled, with one of the lowest percentages of school-aged children who have Internet access at home. While the government has outlined a development objective of 100% Internet penetration across the country by 2036, they also acknowledge that such a goal may not be achievable. The public sector lacks the capacity to push more strongly for digitization, but Kiribati is also often seen as too small and remote a market for private sector development. This opens up the question of which stakeholders should be involved or perhaps hold more agency in the process of charting Kiribati's digital future.

THE CASE OF KIRIBATI

II. THE GAME

OPTION I

1. Pick a card.
2. Reflect on the topic written on the front of the card. What physical and non-physical technologies may be related to this aspect of digitization? What are the benefits and drawbacks of those specific technologies? Who are the stakeholders involved? Who is being left out of the conversation? What would an ethical implementation of this look like to you?

OPTION II

1. Pick a card.
2. Read through the advantages and disadvantages of your chosen digitization project.
3. What are the invisible infrastructures that could be implemented around this technology (systems of governance, legislation, literacy and education) in order to encourage its positive potential and mitigate the possible harms?

WAYS TO PLAY

CLIMATE AND DATA

Advantages

Tech companies can enable locals in Tarawa to be easily connected to the rest of the digital world. They can make relevant information more accessible, spreading ideas about recycling and environmental sustainability. Above all, how best protect Kiribati from sea level rises, the most pressing climate change consequence for the country.*

Disadvantages

Through data collection, users in Tarawa would be left exposed to international corporations. The country would need to put in place regulations to preserve internet users' privacy, allocating part of its already very limited financial resources to a new problem that does not exist rather than focusing on issues that are more urgent.

*Tara Law, "The Climate Crisis Is Global, but These 6 Places Face the Most Severe Consequences," *TIME*, September 30, 2019.

ICT INFRASTRUCTURE

Advantages

Communications infrastructure could help improve Tarawa population's job opportunities. This would enable the access to smart jobs, allowing locals to earn salaries potentially higher than what they would earn in the city.

Disadvantages

The creation of such infrastructure would require a significant capital investment. Private companies have little incentives to create such a network given the small market found in Tarawa, or in the whole Kiribati. Lack of profitable ROI for foreign companies, in addition to the limited resources of the state make Kiribati one of the countries with the lowest ICT Development index.

PARTICIPATORY DATA COLLECTION

CLIMATE ADAPTION

DISASTER RECOVERY

Advantages

In case of natural disasters, residents must be engaged in immediate recovery, which is essential for communities to recover, and enables people to be actors instead of victims (Oliver-Smith, 2005). Residents in impacted neighborhoods are often immediately evacuated from the neighborhood, making it impossible for them to participate in rebuilding. If permanent relocation is necessary for the safety of the neighborhood, this relocation needs to organized by residents of the community.

Disadvantages

The area may be too unsafe for residents, especially the most vulnerable, such as children or people with compromised physical or mental health. Removing people from their environments separates them from the material and cultural resource base on which they have depended for life as individuals and as communities (Oliver-Smith, 2005). Vulnerable people thus need to be engaged in other ways to ensure they are not excluded from the community recovery processes.

MINIMIZED SURVEILLANCE

DATA PROTECTION

INTELLECTUAL PROPERTY

Advantages

Adoption of surveillance methods and increasing digitalisation of the city will require stronger protection for residents who have IP rights around the city: street artists, sculptors, architects... Strong copyright protection will allow such artists to earn royalties from their work and will, in the long term, also foster creativity in society. Solid IP protection will also attract investors as they will be sure their patent rights will not be infringed if they provide technology to the island.

Disadvantages

Kiribati adopted a comprehensive Copyright Act in 2018. As it is a very recent legislation, the residents of Tarawa need time to have a good understanding of what the law brings. Enforcement of the Copyright Act will require allocation of resources for raising awareness on the issue, policing copyright infringements and ensuring right to a fair trial. Kiribati does not have its own patent legislation yet and needs to implement one through a participatory process.

SOCIAL POLARIZATION

MEDIA NARRATIVES

DIGITAL TRACING

Advantages

As stated in Kiribati National ICT Policy document, the mobile subscribers has surged to 46% of total population and the construction of 4G base station, have made digital contact tracing of spatiotemporal reporting over cell phone tower networks and GPS possible. The deterioration of the climate crisis that citizens moving to the centre islands brings necessity for a social network and digital tracking system. As the study of social network structure can identify local and global patterns and examine the network dynamics, therefore, the system can be used for studying the migration patterns of the coastal Kiribati community based on big data and the analysis of climate change, and predict the livable places on the island in the future. On the other hand, the data can be anonymized and submitted to the court as digital evidence to cater the growing immigration needs.

Disadvantages

The voluntary adoption of digital tracing sometimes can not reach the thresholds for efficacy as the "trust-gap". Currently there is no independent oversight organization in Kiribati on behalf of the traced populace to look after their best interests. Technical feasibility is another concern as the efficacy of using Bluetooth to determine proximity will report false positives cases due to inaccuracy. Lastly, ethical concerns have been raised about privacy, surveillance, and data ownership.

PHYSICAL ACCESIBILITY

DIGITAL ACCESIBILITY

EDUCATION AND MOBILITY

Advantages

Kiribati has a strong emphasis on disability inclusion with the Kiribati National Disability Policy And Action Plan highlighting access to digital information as key. There is a strong disabled people's organization to drive such change, namely Te Toa Matoa. Kiribati has signed and ratified the UN Convention on the Rights for Persons with Disabilities in 2013.

Disadvantages

Provision of access to digital infrastructure is not mandated by law, even while it is encouraged. Such provision of access requires fundamental changes in mindset; in many other countries, it is still a pipe dream and not a reality.

DIGITAL ECONOMY

DIGITAL LITERACY

DIGITAL IDENTITIES

Advantages

Digital identities are an important way to check and ensure that any attempt at digitalisation is conducted in an inclusive manner. In many Pacific Islands like Kiribati, such as Fiji and Vanuatu, a high percentage of the population does not have access to identity documents such as birth certificates. Digital identities provide an alternative way to create reliable and unique identities, that can then be leveraged by government and private sector to grant services to the inhabitants of Kiribati. Digital identities can also help smoothen migration, which may be important as the people of Kiribati become increasingly exposed to climate crises.

Disadvantages

Digital identities may worsen digital divides in society, for instance if it is only granted to those with the privilege of reliable internet access in a country like Kiribati, where internet access is still limited and unevenly distributed. They can also be used as part of broader surveillance that may undermine democratic governments such as that of Kiribati. And if citizens do not have reliable access to internet and their digital identities, there is also a significant risk that they will not have control over how their identities are used.

III. REFLECTIONS

By designing this project as a play on tarot and card games, we are choosing to highlight how issues of participation and futures thinking are linked. The future of a city exists in a collective imagination, but who is in that collective, and who gets to shape it? In our own reflections on the ethics of this project, we realized that a cornerstone to our approach was a belief that the most important ethical question in discussions around digitalization was the question of autonomy and the right to self-determination.

The question of a game raises the question of *players*. The tone of this project changes dramatically based on who is playing: for external consultants with no experience on the ground to be "playing" such a "game" feels too much like "helicoptering" or gamifying the incredibly consequential issues of digital development. Yet we can also imagine these cards being given to the people of Kiribati, and this game transforms into an important participatory design tool.

Using the format of a game to export
a more ethical methodology

The complete set of cards

CLIMATE ADAPTION

Advantages

The strategies and tactics that people in vulnerable neighborhoods have developed to reduce the everyday impacts need to be mapped in collaboration with the residents, and these tactics need to be supported in any climate action. Bottom-up climate adaptation strategies have helped people deal with many daily impacts of climate change. Examples are community-managed public spaces for information sharing and neighborhood solidarity, adapted building techniques, planting mangroves, collectivizing land ownership, etc.

Disadvantages

Bottom-up climate adaptation strategies may not be sufficient as the climate emergency worsens. It may be complex to convince residents in informal settlements that their strategies that have helped them survive climate disasters for several centuries are no longer adequate. They must be combined with government-led climate actions, which may involve relocation. This will lead to a disconnection from the resource base on which many of the residents' livelihoods have depended.

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DATA PROTECTION

Advantages

Privacy of the people of Tarawa will be protected amid digitisation of the city. A participatory design process will be conducted for the drafting of the Data Protection legislation (a committee involving all stakeholders in Tarawa will be set up). Instead of a professional Data Protection Officer (as envisioned by GDPR), a local leader will be appointed as the officer responsible for ensuring the enforcement of data protection regime. A local figure will be able to efficiently raise awareness on data protection.

Disadvantages

The ongoing preparations for the new data protection law of Kiribati (as stated in the Digital Governance Master Plan) will need to be stopped and a new master plan needs to be adopted.

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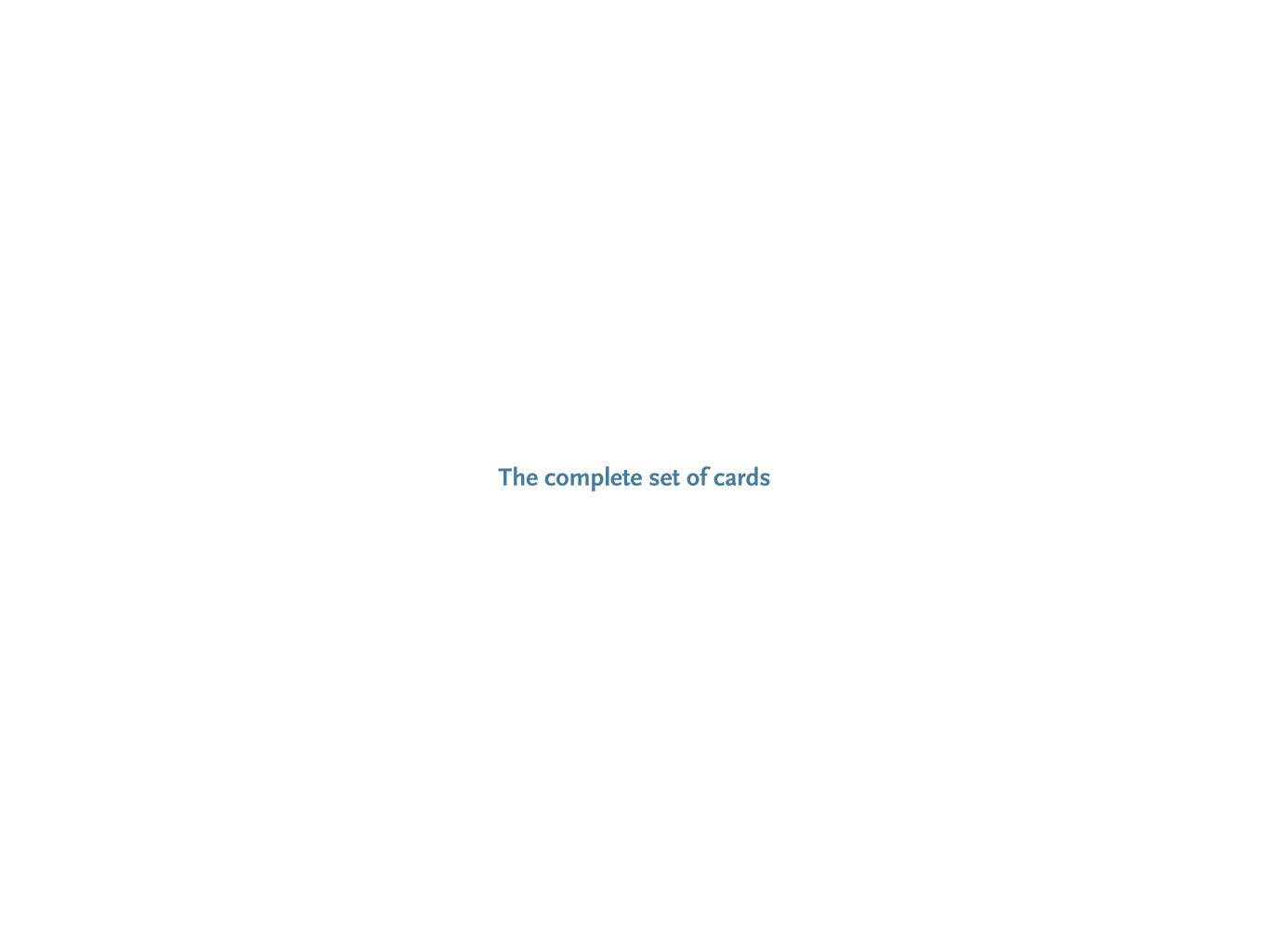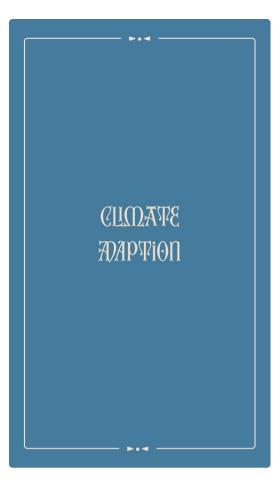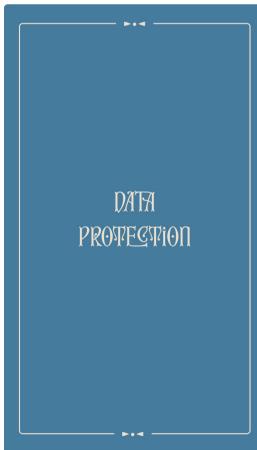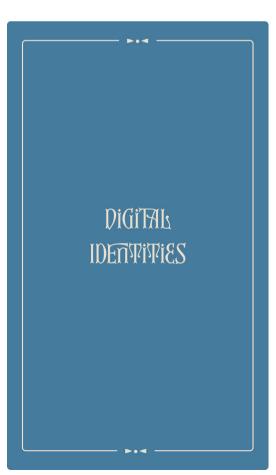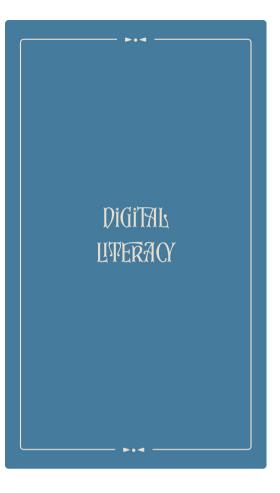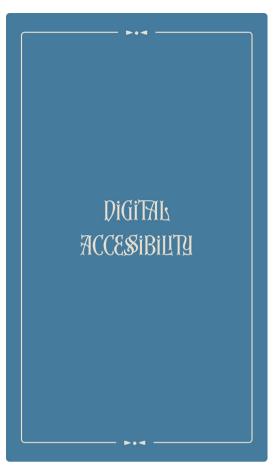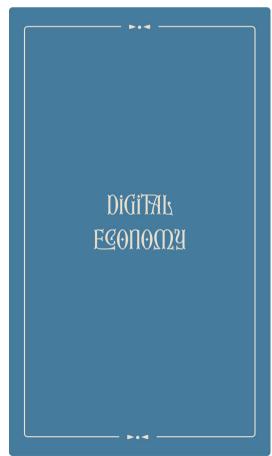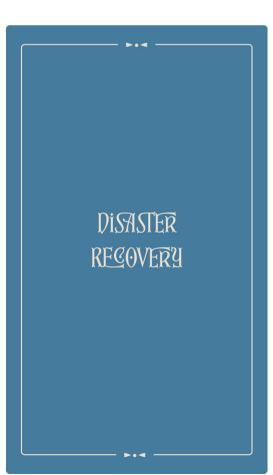
DIGITAL LITERACY

Advantages

Improving digital literacy will reduce the risk of cybersecurity threats and improve the adoption rate of digital technologies in the communities of Kiribati. Broader digital literacy will also help bridge any digital divides that may be widened through projects of uneven digitalisation. It may also increase participation in projects such as a digital economy and will increase the capability of businesses in remote geographic locations, like Kiribati, to more easily engage in e-commerce with customers and partners in other markets around the world.

Disadvantages

Digital literacies require pre-existing digital systems for people to interact with. Setting up these digital systems can be expensive, especially as Kiribati currently has limited digital infrastructure e.g. low mobile and internet penetration. Furthermore, if not done carefully, developing digital literacy can widen digital divides (based on educational privilege) and may also lead to an erosion of cultural identity and values as the majority of content available online is developed with a non-Pasifika audience in mind.
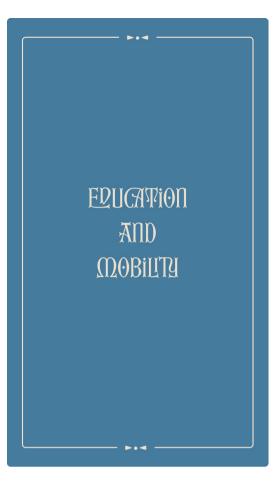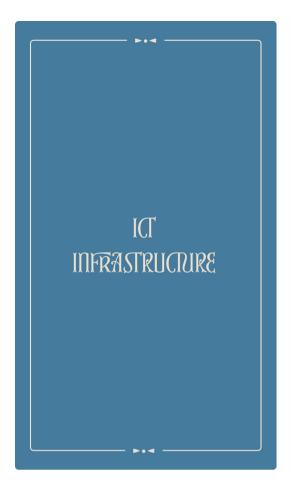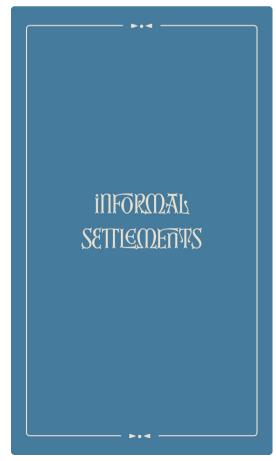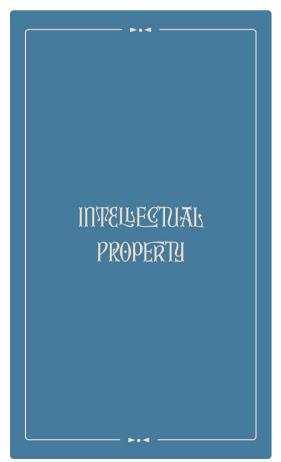

DIGITAL ACCESSIBILITY

Advantages

The digital is never neutral, and hence greater work is needed to rethink how disabled peoples' access to digital infrastructure. Kiribati has a strong emphasis on disability inclusion with the Kiribati National Disability Policy And Action Plan highlighting access to digital information as key. There is a strong disabled people's organization to drive such change, namely Te Toa Matoa. Kiribati has signed and ratified the UN Convention on the Rights for Persons with Disabilities in 2013.

Disadvantages

However, provision of access to digital infrastructure is not mandated by law, even while it is encouraged. Such provision of access requires fundamental change in mindset; in many other countries, it is still a pipe dream and not a reality.

DIGITAL ECONOMY

Advantages

Cryptocurrencies can improve economic accessibility by providing unbanked people with access to financial services and ways to transact in global markets without depending on banking infrastructure. Cryptocurrencies can also improve social mobility by making it easier and cheaper for migrant works to send remittances back to their families. This is relevant to Kiribati, where the labour force often acts as a migrant workforce for nearby nations like Australia and New Zealand.

Disadvantages

Bitcoin alone had an annual carbon footprint similar to Sri Lanka in 2018 and consumed as much energy as The Netherlands in 2021. And Bitcoin might only represent two-thirds of the environmental cost of all cryptocurrencies, at a time when Kiribati faces a climate emergency. Experiments in El Salvador and Vanuatu suggest that cryptocurrencies rely on users having stable access to internet and a legal system that permits the use of cryptocurrencies. And cryptocurrencies still face financial issues like being too slow for making payments and having very volatile values that can still be influenced by regulation in major powers like China and the US.

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INFORMAL SETTLEMENTS

Advantages

People living without formal property titles are highly affected by climate change. They have developed mechanisms to protect their homes and lives from climate change which need to be taken into account. The neighborhood associations need to be involved in data collection about the effects of climate change. International data on climate change needs to be available for these neighborhoods even if not everyone is connected to the Internet.

Disadvantages

The government of Kiribati considers these residents "squatters". As a sovereign country, climate risk projects need to include government. This may exclude the people in vulnerable neighbourhoods, who have greater exposure to natural disasters, as impacts are worsened by sensitivity factors such as poor-quality housing, lack of hazard-reducing infrastructure, and less legal protection. Involving them and recognizing their land rights rather than insisting on relocation, may cause fraction with government.

INTELLECTUAL PROPERTY

Advantages

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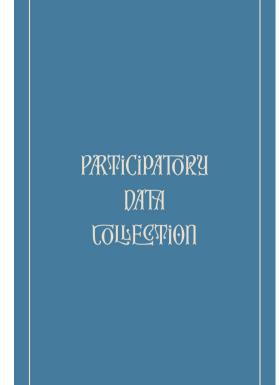
MEDIA NARRATIVES

Advantages

Current foreign media coverage on Kiribati mainly make use of four media frames: Kiribati as proof, victim, refugees of climate change and as travel destination. It undermines the desire of the community to be seen as proactive, self-determining, and active agents of change (Dreher and Voyer, 2021). The vigorous and active news coverage will adopt alternative frames for climate justice media, including frames of human rights, active change agents and migration with dignity. Those efforts can create favorable public opinions internationally, as well as to build leverage with foreign publics to accomplish policy goals in the long run.

Disadvantages

Adopting an active news coverage may not be objective, or will fall into selectively presenting facts which encourage particular perception, or using loaded language to arouse emotional response to the presented information rather than rational response. This action may also hinder freedom of the media, as it should be considered as a right to be exercised freely and not to be manipulated by any factors, even if the suggested frames are provided by the citizens from Kiribati community.

PARTICIPATORY DATA COLLECTION

Advantages

Residents in informal settlements need to be involved in data collection and analysis about the effects of climate change to measure everyday impacts of climate change in vulnerable areas. This will ensure that these data are derived from the lived realities in informal settlements, where people have greater exposure to natural disasters, as impacts are worsened by sensitivity factors such as poor-quality housing, lack of hazard-reducing infrastructure, and less legal protection.

Disadvantages

The government of Kiribati considers residents in informal settlements "squatters" and insists on their relocation, albeit without offering alternative housing. As a sovereign country, climate risk mitigation projects with foreign funding need to include government. Involving people in informal settlements may cause fraction with government, and delay climate action. This may increase the risk residents in informal settlements are exposed to.

PHYSICAL ACCESIBILITY

Advantages

Physical and digital accessibility are intimately connected, where rural areas are often not as connected both physically and digitally. Areas with poor digital connectivity also have impact on the ways in which data and technology can be mobilized to provide better information for getting around. The pristine nature of Kiribati presents an opportunity for big tech to enter and mobilize technology to create better physical connectivities, such as through the use of google maps or to support the flexible transport systems. This could provide greater physical connectivity to connect Kiribati to other parts of the world.

Disadvantages

Development opportunities open up questions about profit and motive, especially when it involves companies and developers coming in from overseas. Transport planning presents many challenges in terms of who decides what roads are built, and may disrupt local traditions and knowledge around movement on the islands.
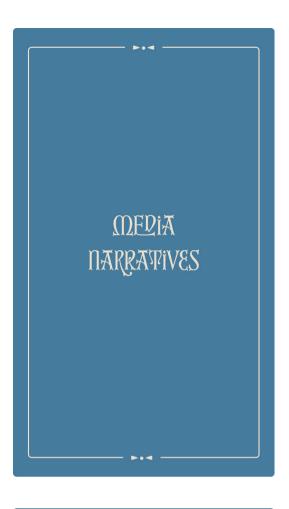

SOCIAL POLARIZATION

Advantages

A whole generation of the Kiribati people has grown up with the polarization of urban and rural lifestyles as part of their life perspective, and the two communities become more polarized politically. Considering Kiribati's current telecommunication process, we can adopt the digitalization method to facilitate the technologies on social relations, although which have been known as contributing to social polarization, to reduce the polarization between urban and rural areas. The lesson learned from previous cases is to increase inter-group communication, adopt perspective taking, and use common goals or a "superordinate" sense of identity to bring people back together (in Kiribati the case is jointly respond to environmental crises).

Disadvantages

The digitalization process in Kiribati is relatively slow and tortuous, at the same time, the climate crisis may be a more urgent and realistic issue for them. Sober use of social media may help the communication and flow of information between urban and rural areas, thereby reducing the polarization of opinions. However, given that Kiribati's existing digitalization problems also exist in these areas (such as internet use and cell phone coverage), whether the polarization can be relieved remains uncertain.
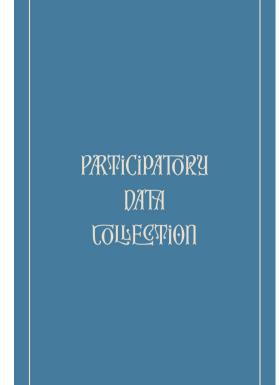
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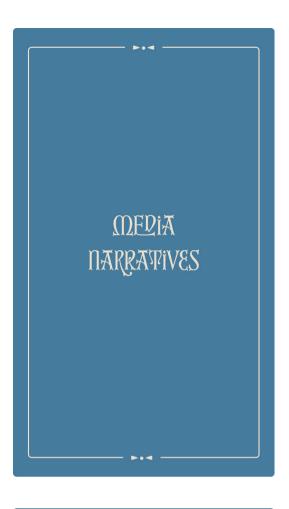

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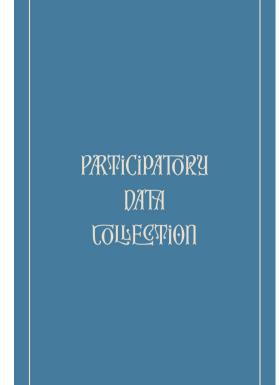
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Disadvantages

Development opportunities open up questions about profit and motive, especially when it involves companies and developers coming in from overseas. Transport planning presents many challenges in terms of who decides what roads are built, and may disrupt local traditions and knowledge around movement on the islands.
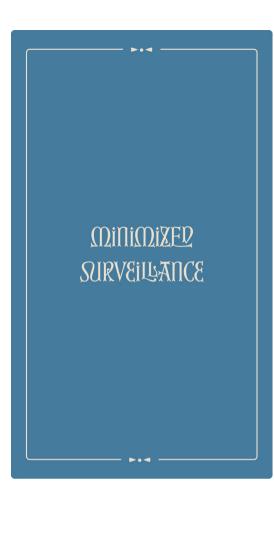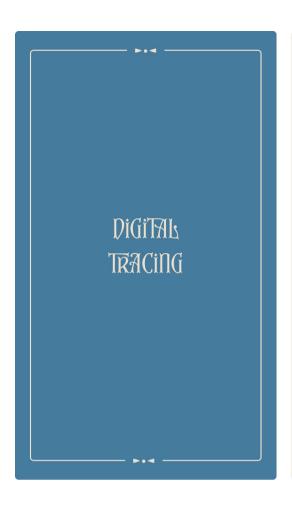

SOCIAL POLARIZATION

Advantages

A whole generation of the Kiribati people has grown up with the polarization of urban and rural lifestyles as part of their life perspective, and the two communities become more polarized politically. Considering Kiribati's current telecommunication process, we can adopt the digitalization method to facilitate the technologies on social relations, although which have been known as contributing to social polarization, to reduce the polarization between urban and rural areas. The lesson learned from previous cases is to increase inter-group communication, adopt perspective taking, and use common goals or a "superordinate" sense of identity to bring people back together (in Kiribati the case is jointly respond to environmental crises).

Disadvantages

The digitalization process in Kiribati is relatively slow and tortuous, at the same time, the climate crisis may be a more urgent and realistic issue for them. Sober use of social media may help the communication and flow of information between urban and rural areas, thereby reducing the polarization of opinions. However, given that Kiribati's existing digitalization problems also exist in these areas (such as Internet use and cell phone coverage), whether the polarization can be relieved remains uncertain.

MINIMIZED SURVEILLANCE

Advantages

Tarawa is not surrounded by CCTV cameras and it should stay this way. Surveillance will only be employed to combat against illegal fishing within exclusive economic zone of Kiribati. As the number of cameras used will be kept at the minimum, electronical waste will also be minimized.

Disadvantages

Funding will be needed to obtain technical hardware. Not all streets of Kiribati will be surveilled; hence safety issues may arise. The street lights and traffic lights of Tawara will not be smart. Legislation for the protection of privacy will not be a priority of the State as privacy rights of citizens will not be violated on a daily basis.

DIGITAL TRACING

Advantages

As stated in Kiribati National ICT Policy document, the mobile subscribers has surged to 46% of total population and the construction of 4G base station, have made digital contact tracing of spatiotemporal reporting over cell phone tower networks and GPS possible. The deterioration of the climate crisis that citizens moving to the centre islands brings necessity for a social network and digital tracking system. As the study of social network structure can identify local and global patterns and examine the network dynamics, therefore, the system can be used for studying the migration patterns of the coastal Kiribati community based on big data and the analysis of climate change, and predict the livable places on the island in the future. On the other hand, the data can be anonymized and submitted to the court as digital evidence to cater the growing immgration needs.

Disadvantages

The voluntary adoption of digital tracing sometimes can not reach the thresholds for efficacy as the "trust-gap". Currently there is no independent oversight organization in Kiribati on behalf of the traced populace to look after their best interests. Technical feasibility is another concern as the efficacy of using Bluetooth to determine proximity will report false positives cases due to inaccuracy. Lastly, ethical concerns have been raised about privacy, surveillance, and data ownership.