

Mediating Chana: Seeding Synergies between Doves and Development

by

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Bachelor of Science in Architecture and Design
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Submitted to the
Department of Architecture
in Partial Fulfillment of the Requirements for the Degree of

Master of Science in Architecture Studies

at the

Massachusetts Institute of Technology

September 2021

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ABSTRACT

For almost a century, domestication of zebra doves for birdsongs has given Chana the reputation as the emerging Southeast Asian capital of zebra doves. In this rural district in the southern coast of Thailand, the doves are not only worth more than gold but also hold higher values in the local society and in the community stewardship to the environment. In 2019, the national government of Thailand put forward a 6,000-acre plan to build an industrial metropolis and deep seaports in the area. If realized, this project will transform the pristine beaches and agricultural landscapes of Chana into special economic zones and the largest industrial complex in the south of Thailand. This process would inevitably hinder the dove ecologies of the area.

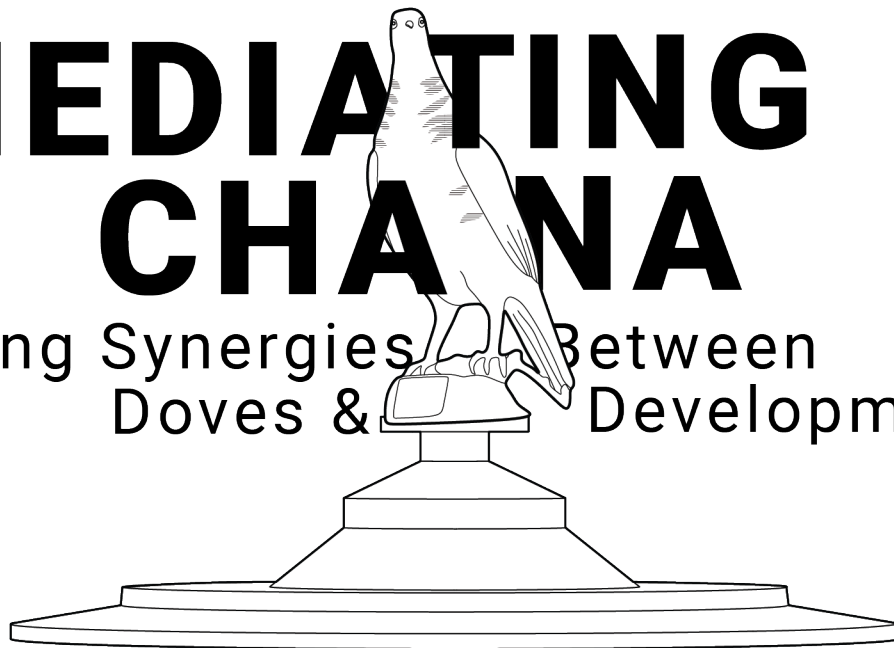
The forces driving this development are twofold: first, the centralized government has framed the project as a way to promote national growth through an opportunistic global trade. Second, the plan is also driven by a national-security agenda aimed at quelling the on-going 'separatist insurgencies' along the southern borders to Malaysia. The plan is not new; some locals see it as another reproduction of large-scale projects deployed under the highly centralized government. These plans often deepen regional impasses by prioritizing economic development and simplify other complex socio-cultural and environmental dimensions.

The thesis is looking at these tensions between the forces of globalization, national development and the local culture. Drawing on my investigation of the unique relationships between humans and non-humans in Chana, the thesis focuses on the potentials of the doves and other local assets to negotiate the direction of development. The thesis proposes a series of design scenarios to preserve the local culture, regenerate the local assets, and project future industries. Countering the top-down plan, the study's goal is to move beyond the impasse by orchestrating the synergies between the singing doves and the impending development.

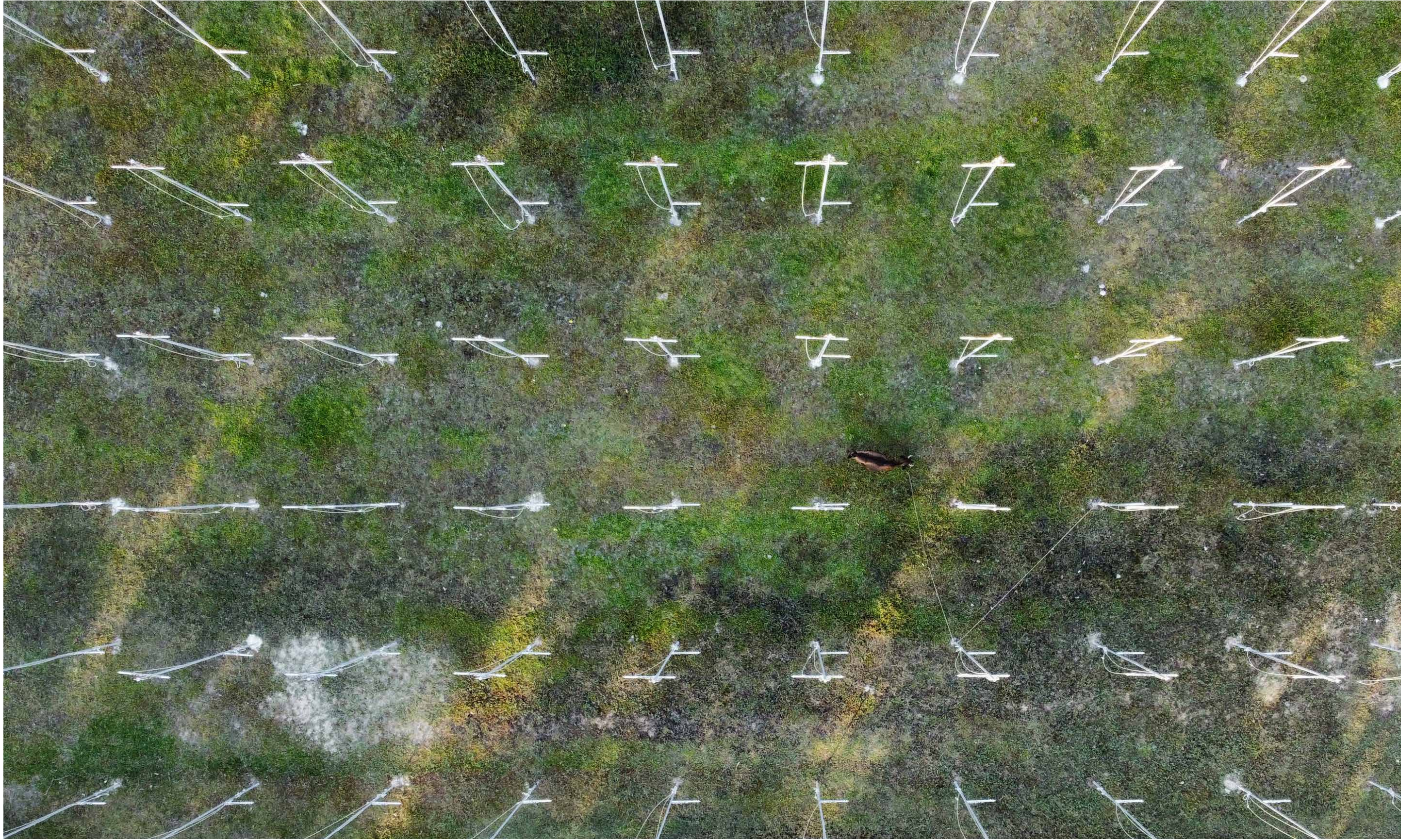
Thesis Advisor: Miho Mazereeuw
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MEDIATING CHANGING

Seeding Synergies Between
Doves & Development



Eakapob Huangthanapan
MIT SMArchS Urbanism 2021



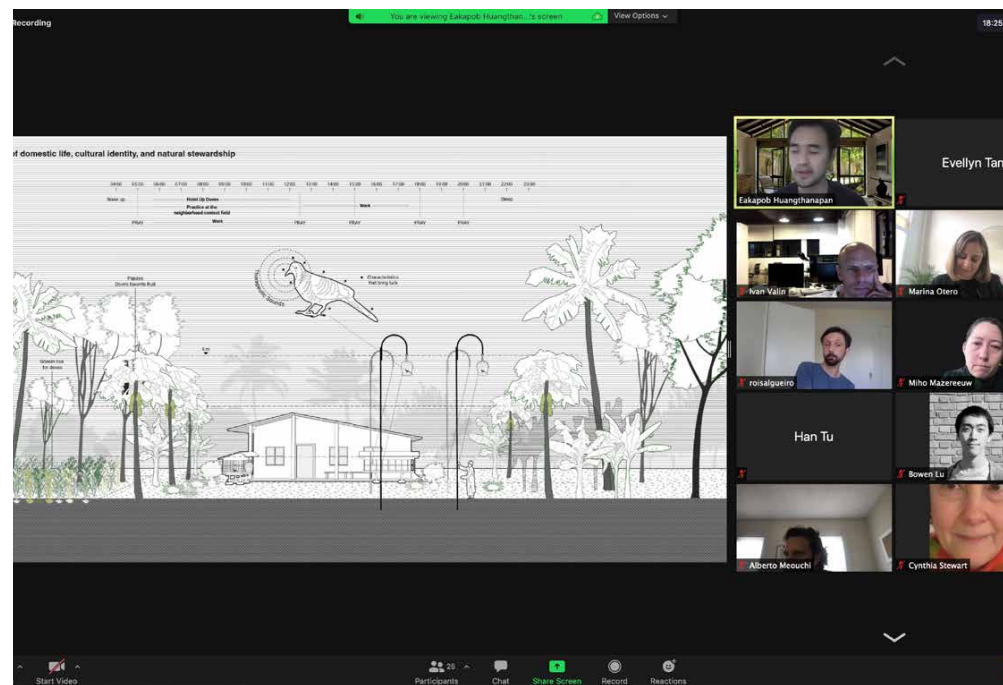
Acknowledgements

I would like to express my sincere gratitude towards my thesis committee. I am indebted to my thesis advisor, Miho Mazereeuw, for always being available and supporting immensely to the development of this thesis. Your availability, positivity, and guidance always resurrected my waning motivations to thrive during this challenging times. I also wish to thank my reader, Roi Salgueiro Barrio, for your invaluable guidance and support. Your critical feedbacks have always provided me with new perspectives.

The thesis would not be possible without the supports during my field trip to the Chana district. I would like to thank Ajarn Chon Supawongse for our brief conversation on the topic and for connecting me to Dr. Supat. A deepest gratitude towards Dr. Supat Hasuwannakit, the director of Chana Hospital, for introducing me to Chana and its people. Thank you Khairiyah, her family, and her community, for a warm welcome and company through my trip. I wish you the best of your future and keep us inspired with your courageous activism. Thank you to every resident of Chana who participated in the interviews and both in our formal and informal conversations. The field trips were genuinely invaluable towards my academic and personal growth.

Many thanks to my cohort and friends, although we have had fewer opportunities to bond physically over the past academic years, our struggles were shared and cherished across the time zones. Thank you my academic advisor, Rania Ghosn, for your guidance. Susanne and James, for thesis preparations. To other faculties and everyone who have collectively contributed to my MIT experiences.

Lastly, I would like to thank my family for their unconditional love and support. You have worked hard and graced me with the freedom to explore my interests and to grow. Thank you Franc, for your reassuring support and sharing of struggles.



Virtual thesis presentation on 21st May 2021.
Screenshotted by Evvelyn Tan

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Chana Trip March 2021. (Image by author)

01 Introduction



*"Goog-groo gog gog..."*¹ This is the sound made by a Zebra Dove. Also known as the barred ground dove, this tiny bird is native to the south of Thailand and across the Southeast Asian regions. While being abundant, the dove and its soft staccato calls are economically, socially, and politically important to the people in the South of Thailand. Little known outside its cycle, the Chana district in the Songkhla province of the southern Thai coast is considered as the Southeast Asian capital of the Zebra Doves. Here, the birds are worth more than gold.

The intriguing relationships between humans and doves in Chana are entangled in the everyday rural lives of the residents. The majority of the communities here work mainly in agriculture and fishery, reflecting the typical rural lifestyle of southern Thailand. However, these rural lifestyles and the ecologies of the doves, will soon face a great disruption. In early 2019, the central government of Thailand put forward a 6,000-acre plan to transform the coastal region of the district into the largest industrial development in the south of the country.

The forces driving this development are twofold: first, the centralized government has framed the project as a way to promote national growth through an opportunistic global trade. Second, the plan is driven by a national-security agenda aimed at quelling the on-going 'separatist insurgencies' along the southern borders to Malaysia. While the development promises to generate more than 100,000 jobs and bring prosperity to the region and the nation as a whole, oppositions arose and caught attentions nationwide.

In May 2020, a young activist called Khairiyah stayed overnight in front of the city hall for 50 hours as a resistant act against the cabinet's decision for the plan. Before the act, she wrote a letter to the country's Prime Minister Prayuth Chan O Cha, asking to reconsider the plan to protect her home and her ocean. The attention caught by the media represented as a narrative of a

¹ Wannu Wibulswasdi Anderson, 2005.

fight between a courageous young woman from the country's Islamic south and the power of the state. The contestation stirred up questions regarding the project legitimacy, regarding it as another top-down project that shortcuts participations, inappropriate to the local needs, and unlikely to solve the complex issues of cultural conflict within the region.² While the Prime Minister agreed to reconsider the plan, her fight is not over, and the development plan is still an on-going process.

While the mainstream media has portrayed the contestation as the conflicts between local fishermen villages and the state-led development, little has addressed other aspects of socio-ecological tensions in the area, namely the dove-rearing culture and other local elements. This thesis looks at the tensions between the local culture and the state-led development driven by the national agendas and forces of globalization. Through this tension, the thesis aims to understand the granularity and nuances of the local context to address design and spatial reforms towards the development in the area.

In the thesis *Clash of Civilizations*³, the American political scientist Samuel P. Huntington wrote that people's cultural and religious identities would increasingly become the primary source that shape the pattern of conflicts in the post-Cold War world. The case of Chana development plan is problematic, because the plan is driven by large-scale capitalist development to solve complex socio-economic problems through economic incentives. This single narrative of economic progress is not only a concern within the culturally sensitive context of southern Thailand. As humans are facing the global challenge of climate change, industrialization through exploiting labors and extracting resources would also accelerate the nation towards the worldwide tipping point of irreversible consequences. To reimagine and understand capitalism and its alternatives, the renowned anthropologist Anna Tsing, in *The Mushroom at the End of the World: On the Possibility of Life in Capitalist Ruins*⁴,

² Thailand Development Research Institute, 2020

³ Huntington, 1997

⁴ Tsing, 2015



A Zebra Dove (*Geopelia striata*) in a bamboo crafted cage (image taken by author)

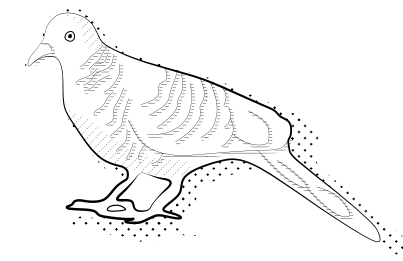
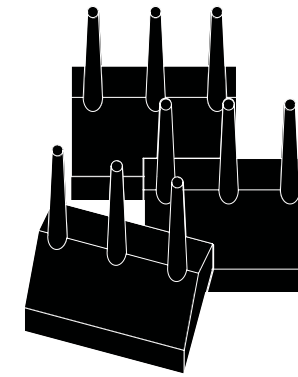


Daily dove singing contest in Chana (image taken by author)

turned to the precarity of mushroom picking and revealed its multi-species entanglements. In her ethnographic analysis, she critiqued the unitary goal of capitalism and shows that beyond this, life (of human and non-human) requires an interplay of many kinds of beings and assemblages. By embracing this, it may be possible to see the economic diversity through which accumulation is possible.⁵

Perhaps, taking Tsing's invitation in shifting our attention from the capitalist goal of progress towards understanding the indeterminacy of other beings beyond us. Through the case of the Chana district, the study investigates this unique relationship between humans and the doves, along with other local aspects, as the first step towards exploring the possibility of mediating the direction of development. Through field research, interviews, and other tools of representations and mappings, the thesis positions design as an agency to make different connectivity and possibilities visible. The thesis sees this as an act of "mediating" within Chana to understand its conflict and explore other possibilities through different intersections of the local interplays.

In chapter 2, the thesis identifies deeper the driving forces of this development and its conflict. The chapter focuses on the two driving forces: the economic forces of globalization and the deepening cultural impasse within the region. Chapter 3 focuses on illustrating the local context of Chana. The chapter is based mainly on the field trip and its findings revolved around the local culture of dove rearing and its related ecologies. In chapter 4, the study analyses the proposed development conditions and suggests a framework for countering the plan. Finally, Chapter 5 offers spatial interplays and strategies for alternative programs of development.



⁵ Tsing, 2015

02 The Contested South

There are mainly two drivers fueling the large-scale development at Chana. The first driver is the forces of globalization, and the second is the regional unrest in the country's Deep South region.

Forces of Globalization

In Southeast Asia, the globalization of manufacturing by multinational corporations has transformed the region's resource-based economies into export dynamos within the decades by the end of the 20th century.⁶ Geographically, the south of Thailand is a part of the Malay Peninsula, a peninsula landmass located at the junction between the Indian Ocean and the Pacific China Seas. Situated in the southernmost of the peninsula is the Strait of Malacca, one of the world's most crucial shipping lanes connecting the Asian trade routes to the rest of the globe. According to the US Energy Information Agency (EIA), around 16 million barrels of crude oil and 3.2 million barrels of Liquid Natural Gas (LNG) were transported daily through the strait in 2016. More than 70% of China's petroleum and LNG exports and 60% of China's trade flow passed through the strait, making the strait an important chokepoint to the energy security as well as the trading economy of China.⁷ Addressing the lack of alternatives to the dependency of the Strait of Malacca, China has explored alternative steps to avoid the over-reliance on the strait. One of the strategies is an ambitious plan to build a canal across the south of Thailand as an alternative shipping route.⁸ The plan is not new; the Thai Canal idea was first introduced about 340 years ago during the reign of France's Louise XIV and Siamese King Narai and is constantly being reintroduced in many of the country's major economic discussions. However, the project never being realized due to many unclear negative consequences.⁹

As the Asian economies are rising, the pressures from the impending economic growth and geopolitical incentives have spilled over from the Strait of Malacca to the rest of the Malay

Peninsula and especially the south of Thailand. Under these forces and its geography, the south of Thailand has constantly been under the national strategy as high potential areas for development. These resulted in many large-scale infrastructure development plans proposed in the regions.¹⁰ However, these top-down plans are the products of the highly centralized state where conflicts are constantly reproduced through community rights violations.¹¹ Especially in the South of Thailand, the conflicts stemmed from environmental justice issues could further complicate the tensions of cultural identities.

⁶ Felker, 2003

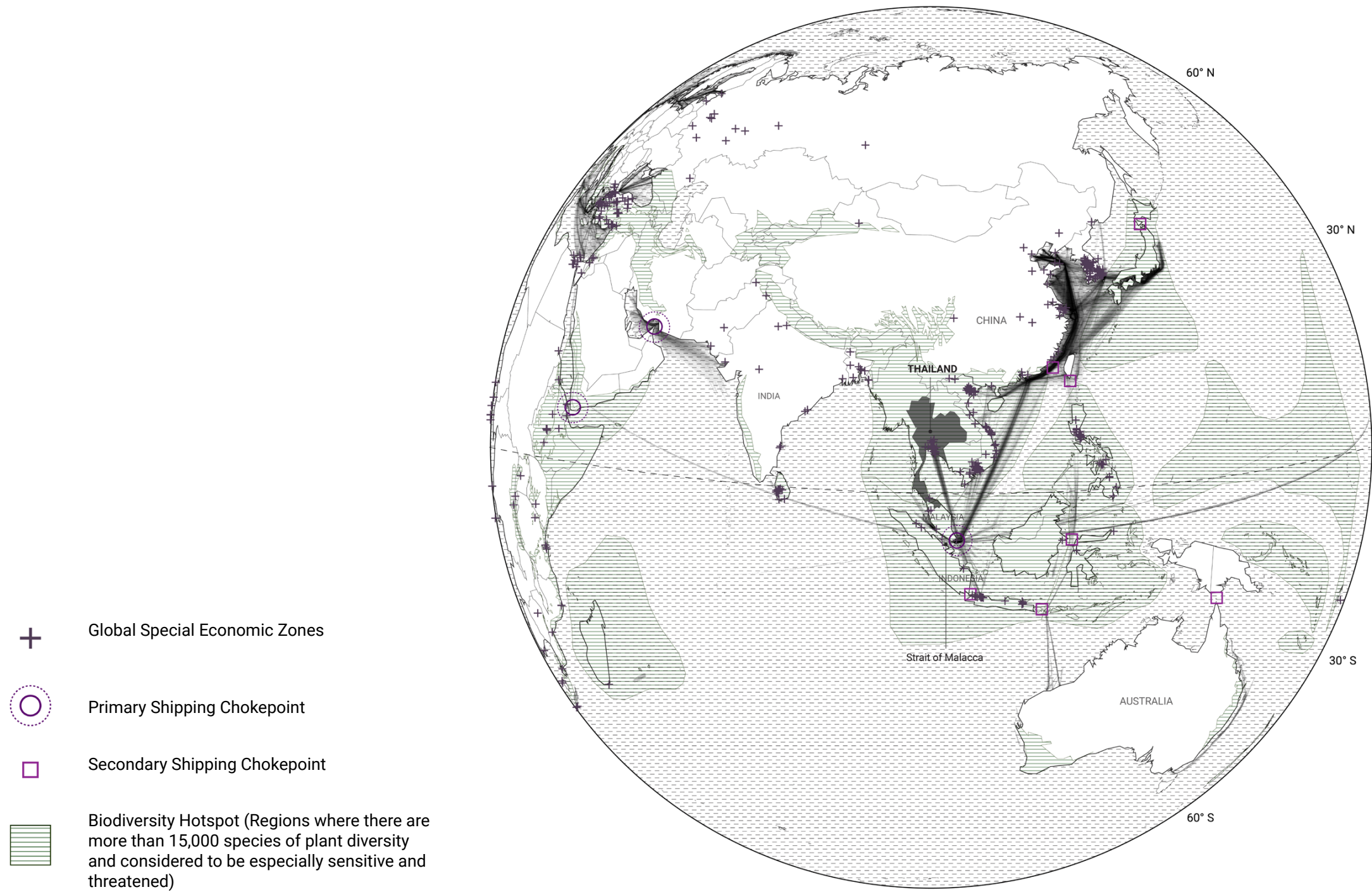
⁷ Paszak, 2021

⁸ Berkeley Political Review, 2021

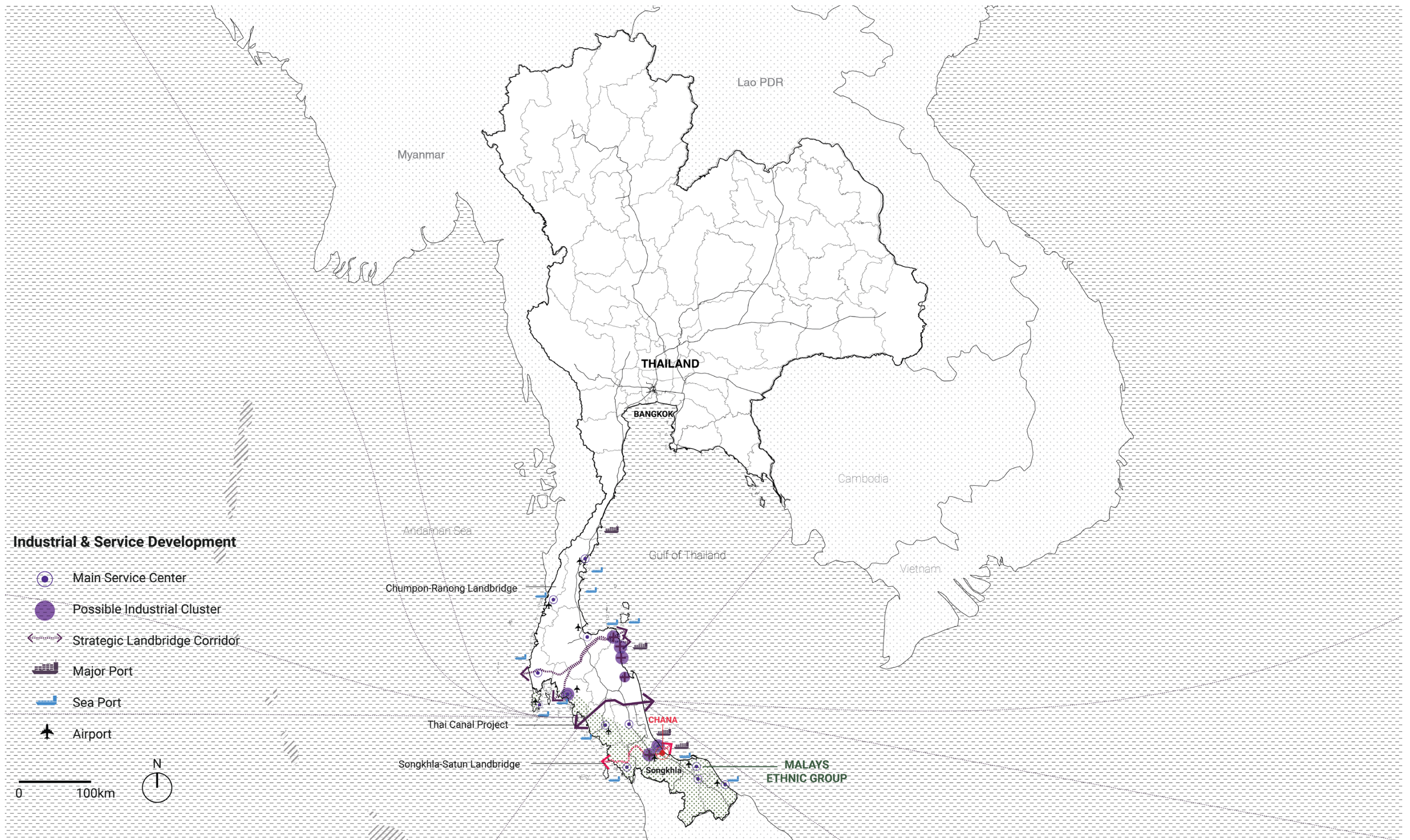
⁹ Chongkittavorn, 2020

¹⁰ Southern Development Monitor Group, 2013

¹¹ Parinyasutinun et al., 2012



Data source: The World Bank (2017), The Critical Ecosystem Partnership Fund (CEPF)



Deep South Insurgencies

Thailand hosts about 70 ethnic groups, 62 of these ethnolinguistic communities are officially recognized by the state. The southernmost provinces bordering Malaysia are home to ethnic Thai Malays citizens, the sixth-largest ethnic group in the country.¹² These Deep South regions of Thailand have long been experiencing what the Diplomat has called “The Slow-Burning Insurgency”.¹³ These regions included the current three southernmost provinces of Patani, Yala, and Narathiwat. The insurgency, originally as a separatist movement for territorial independence, re-erupted more violently in 2004. Since then, more than 20,000 incidents, including armed violence and car bombs, occurred with more than 7,000 casualties of which around 90 percent are innocent civilians including students and Buddhist monks. As there are many debates over the causes of the violence the media and the state often regard the insurgent incentives under poverty, economic factors and drugs narratives.¹⁴ While poverty is surely one of the main aspects, the southern regions' conflicts are rooted in a much deeper and complex history of its ancient Malay state of Patani Kingdom.

Like any other nation-states, Duncan McCargo argued that “Thailand has arbitrary borders that reflect a variety of historical accidents.”¹⁵ The borders of the Deep South provinces arose during the period of British colonization in Southeast Asia. Before the late 19th century, the Patani Kingdom was a semi-autonomous state led by sultans who would constantly pay tribute to the Siamese Kingdom (the former Thai kingdom). The Patani regions are geographically spread across what is currently the south of Thailand provinces and the north of Malaysia. After the Anglo-Siamese Treaty of 1909 between Great Britain and the Kingdom of Siam, administrative borders were drawn, and the absolute rule of the Thai state over the historic Patani region was enforced through forced assimilation and local nationalism. As Thailand is a highly centralized political order, both its political

¹² OCHCR, 2011

¹³ Morch, 2018

¹⁴ Srisompob and Panyasak, 2006

¹⁵ McCargo, 2015

structure as well as the economic disparities between Bangkok and its rural hinterlands south together sometimes characterized as a form of “internal colonialism”.¹⁶ During this intense cultural assimilation period, the social discrimination against the Malay ethnics were also caused partly by the nationalist grand narrative through rigid educational system and Buddhist chauvinism.¹⁸ Jawi, the local Malay language, as well as other cultural identities, were constantly being depoliticized.

The ethnoreligious conflicts in the region initially included both periods of violent conflicts and peaceful coexistence. Historically, the Muslim minority would only rebelled when they perceived their cultural identities were being threatened by the Bangkok-based centralized authorities.¹⁹ The lack of recognition of the cultural identity and other contentious religious, economic, and political issues lie at the root of the present-day violence. The Thai state's failure to significantly improve the problem lies in the government's persistence to interpret the insurgent agenda as primarily religious in nature or matter of criminality.²⁰ Through these simple interpretations, the government retains its legitimacy over the regions by introducing different economic models and proposals.

The violence from the three southernmost areas spilled over to nearby provinces, mainly the four adjacent districts in Songkhla- Chana, is one of them. Under the poverty narrative and economic disparities in the insurgent regions, in 2016, the government proposed an economic triangle development, namely the “Triangle of Stability, Prosperity, and Sustainability.” These economic zones spread as three different nodes located at each of the three Deep South provinces, forming an imaginary triangle. In 2019, the authority added Chana as an additional fourth model city within this economic reform scheme. Under the name “Chana Industrial Model City for the Future,” the plan is not new, but re-emerged from the plan to industrialize the area first initiated in 1997.²¹ In this old plan, Chana district was

¹⁶ Ibid

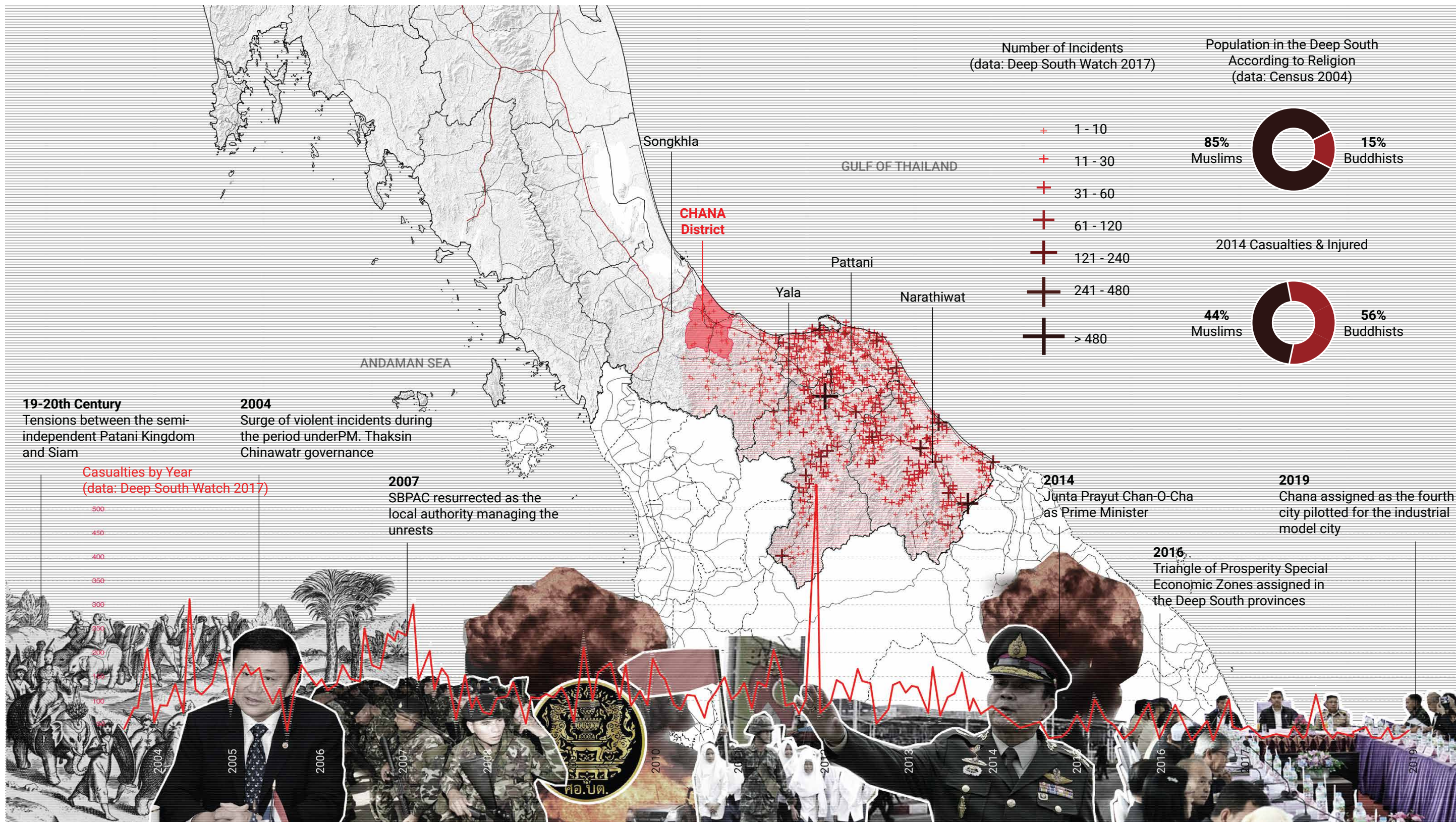
¹⁷ Croissant, 2001

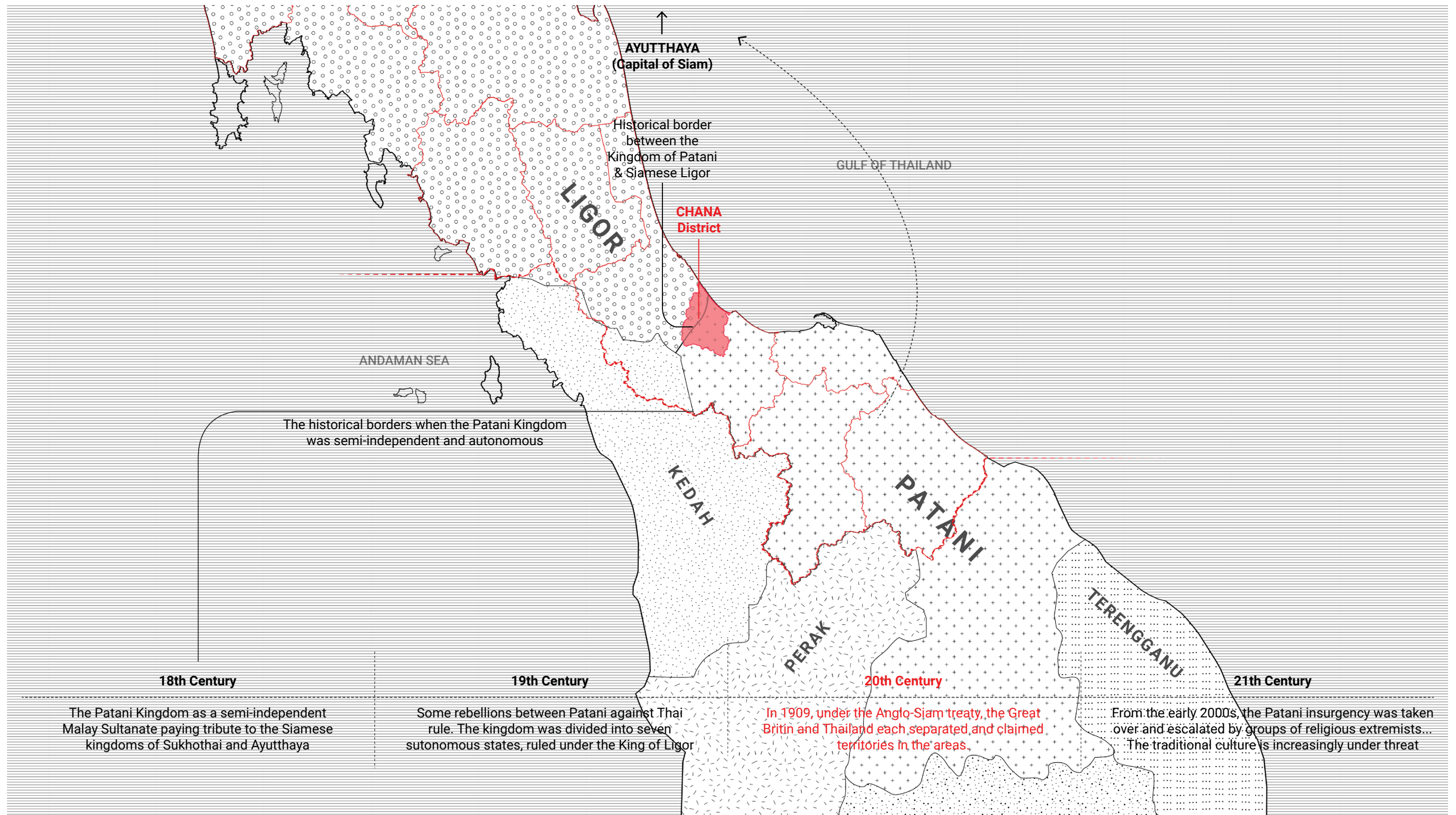
¹⁸ Tatiyakaroonwong, 2014

¹⁹ Croissant, 2001

²⁰ Liow and Pathan, 2010

²¹ MGROnline, 2019





designated to industrialize for petrochemical industries and to host a major deep seaport to facilitate the logistics needs of the region. The plan was initially canceled amidst violent local opposition. However, since then, the same investor has collectively purchased the lands around the designated regions.

The development plan is a joint collaboration between private investors and various public bodies on the national level. Currently, the central cabinet, located in the nation's capital city, executes all the major decision-making processes. Extensive development plans are usually taken care of by the Office of National Economic and Social Development Council (NESDC), the national planning agency reporting directly to the prime minister. The Industrial Estate authority, another governmental agency, and state enterprise, is looking after mainly the development of industrial complexes in the country. Located more than a thousand kilometers away from Bangkok, the Chana district is being executed otherwise.

Since 2005, the Chana district, along with adjacent districts and provinces affected by the unrests, were placed under special martial laws. Under this circumstance, the Southern Border Provinces Administrative Center (SBPAC), a particular administrative body, governs the area. While the primary duty and objective of SBPAC is the overall mitigation in response to the unrests active in the area, the SBPAC has been instead designated as the central authority to push forward the plan for the Chana special economic zone. The advent of industrial development is seen as a threat to the domestic culture, livelihoods, and environment to local residents. Many public hearings for the plan have also been reportedly contentious, where activists and some local residents were blocked from attending. Many public hearing participants were also allegedly claimed to receive bribes to agree with the project to speed up the process. The contentious processes lead the local communities to question the operation of the authority; while it

is supposed to alleviate the divisions in the area, in their eyes, it seems to aggravate them.

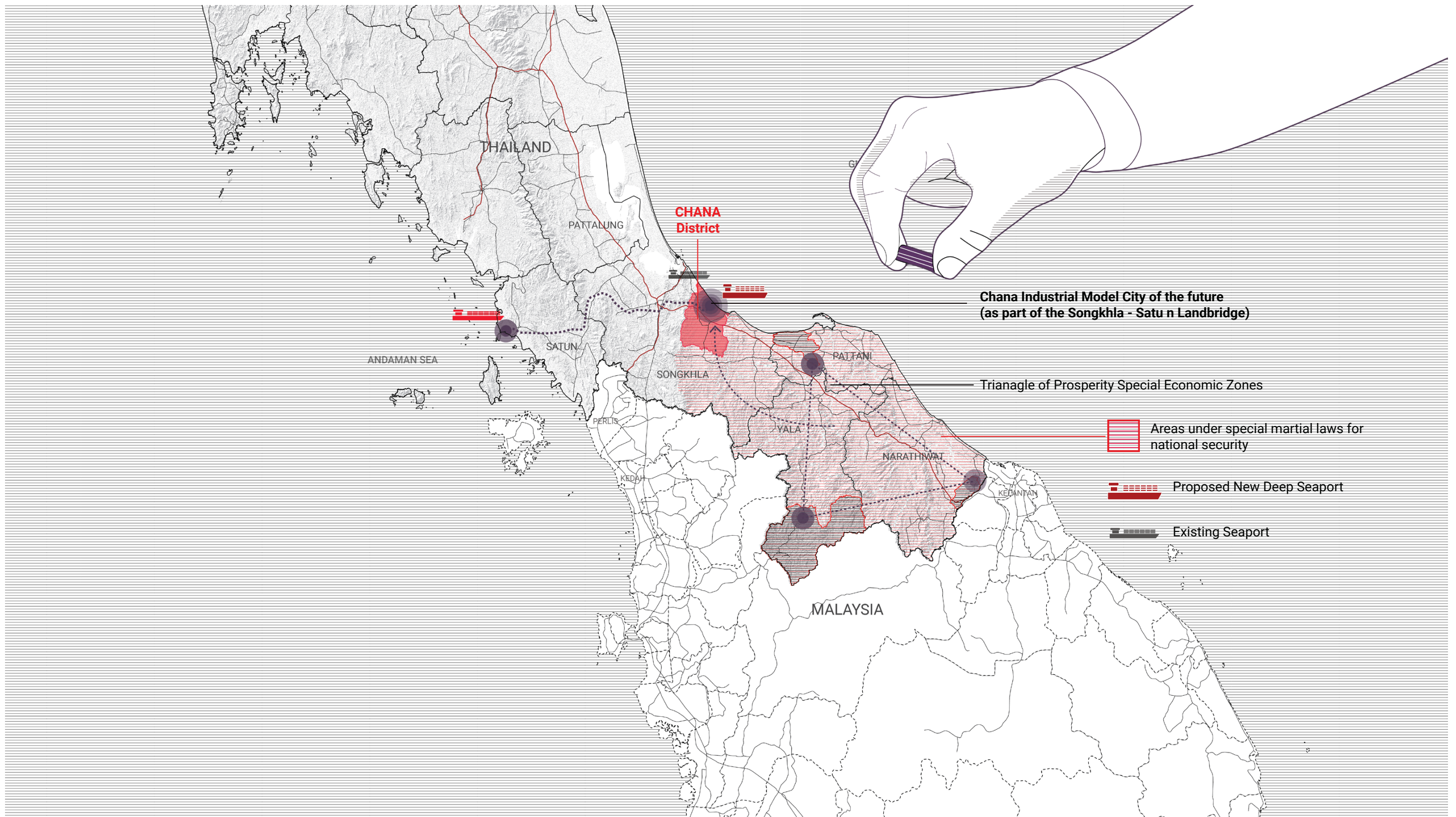
"Global development is clearly moving towards sustainability and reduced climate change impacts, and locals here have been moving in that direction. But when the idea of an industrial estate emerged, it is the opposite," said Supat Hasuwannakit, Chana Hospital director and a local activist. *"What is happening in Chana is a clear example of broken democracy and authoritarianism that suppresses locals with state power and capital without caring what locals would say."*²² Doctor Supat's statements echo the communities' questions and central to their act resistance.

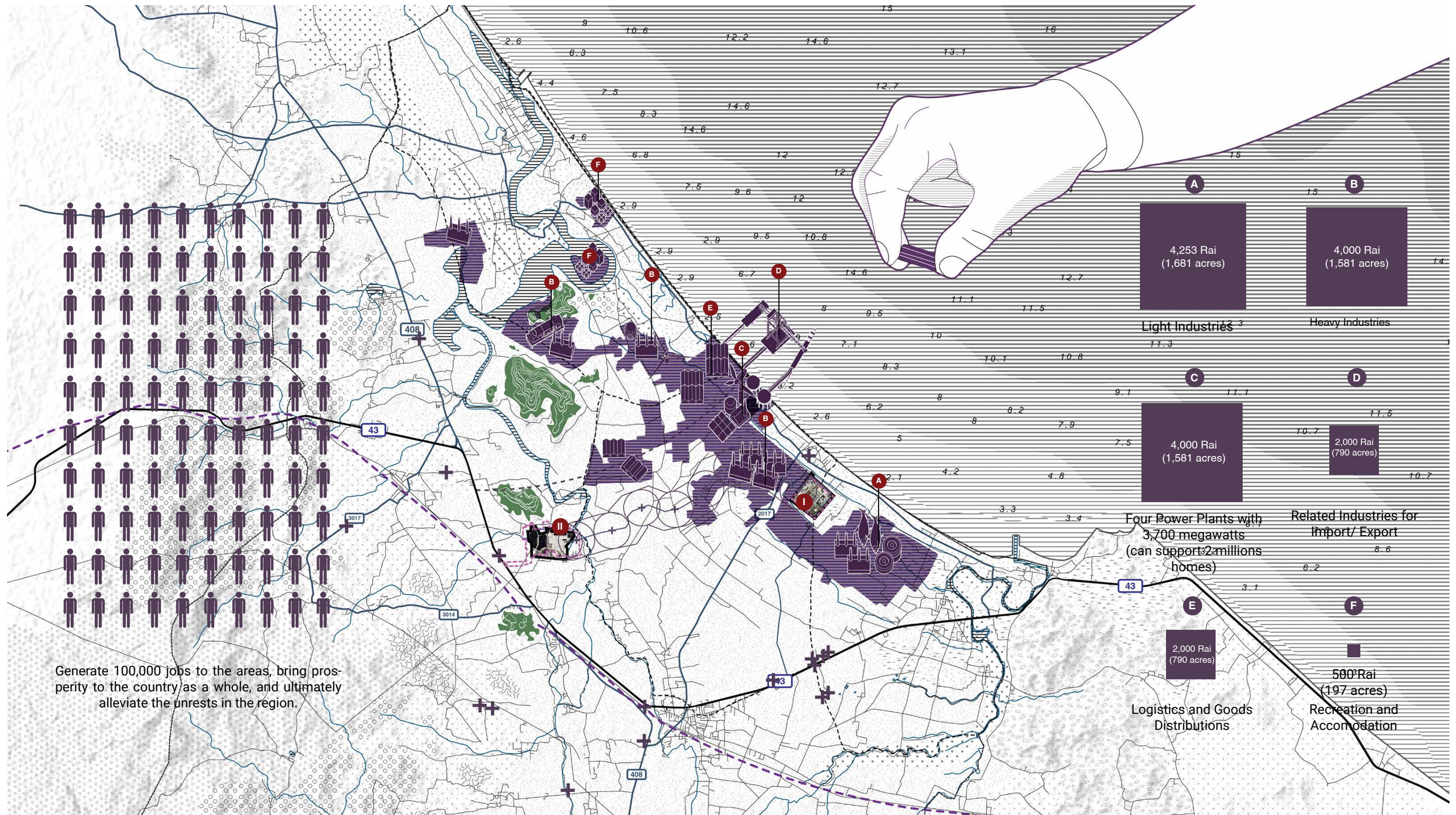
Throughout history, what is now the Chana district was geographically located at the border between the historic Patani kingdom and the Siamese lands. Presently, the district is one of the border districts of Songkhla provinces that is protected under the martial security laws with the rest of the Deep South provinces. In its district report summary, Chana district addresses in its vision the recognition that the district is "the gateway to the Deep South bordering provinces".²³ With its unique geography, the thesis reconsiders what would be the best path of development in the region. The southern region holds abundant natural resources with high socio-economic development potentials. However, in the past, no government has demonstrated a successful and sustainable strategy for actions. The past development schemes have been to capitalize and extract these natural capacities towards the capital cities.²⁴ Should the Chana district become a highly industrialized zone and follows this same extractive development path that abuses community rights? Or can we imagine a new role the development plan could offer to its unique culture and complex issues in the area?

²² Promchertchoo, 2020

²³ Chana District Summary Report. 2020

²⁴ Tatiyakaroonwong, 2014





Generate 100,000 jobs to the areas, bring prosperity to the country as a whole, and ultimately alleviate the unrests in the region.

03 Chana: The Dove Capital

Chana district represents a typical rural hinterland in the south of Thailand. It is one of the sixteen districts in Songkhla province, a province with one of the most urbanized city, Hat Yai, in the south of Thailand. The district has 107,985 residents, of which 75% are Muslims, and 25% are Buddhist. Roughly, 80% of the land in Chana is agricultural lands, where the locals work primarily in agriculture, fishery, and related labor jobs.²⁵ Apart from its rather unstimulating demographics, the district does have its unique brand. It is typical for each province or district in Thailand to have its own slogans as a quick summary of their identities. For Chana district, the slogan writes:

“Zebra Dove Songs, Sakom (sub-district) Accent, Cultural Diversity, Renown Community Savings”

The culture of bird rearing for birdsong competition is important to both social and economic makeup of the Southern Thai region.²⁶ Little is known outside its circle, Chana district is considered as one of the capital of the Zebra Dove birdsong competition in Southeast Asia.²⁷ The development of these competitions sparked the phenomenon of bird breeding and rearing within Chana which altered the local lifestyle, economy, and belief. While the competitions have brought unique economic aspects to the communities, these competitions are comparatively recent in the past decades while the culture of raising doves dated much longer in the past and have a deeper social significance. The town is said to be home to the first dove raiser who successfully breed a quality voice pedigree of doves. Through the field trip interviews, it is believed that Chana is the special place with the most beautiful dove sounds.

The relationships between human and doves in Chana is visually striking throughout the small town. Upon arrival, a birdcage tower will be visible as one of the small town’s prominent landmarks. Statues of doves are erected in front of the authority building and city hall. The dove poles— an long steel pole where birdcage

is hoisted during the birdsong competition— could be seen everywhere, almost like another layer of the local infrastructure.

The thesis focuses on the culture of dove rearing in Chana, a prominent culture in the district yet being undermined within the discussion regarding the development. The thesis argues that the shift of attention towards the culture is essential. Although not in the way of romanticizing the culture, by understanding it, we could perhaps acknowledge the socio-environmental entanglement as the basis towards planning a suitable path of development.

A field trip to Chana was conducted at the beginning of March 2021. Data collected from the trip through interviews and other qualitative methods are translated into different representations. These include maps, diagrams, drawings, and images that visualize the contextual narratives of Chana. Through this, the thesis identifies different scales of domestication of the dove and its related ecologies to visualize the local connectivity of the site.

²⁵ Chana District Summary Report, 2020

²⁶ Kirichot et al., 2014

²⁷ MGROnline, 2019



Gulf of Thailand

Songkhla District

Hat Yai

Na Mom District

Chana District

Sadao District

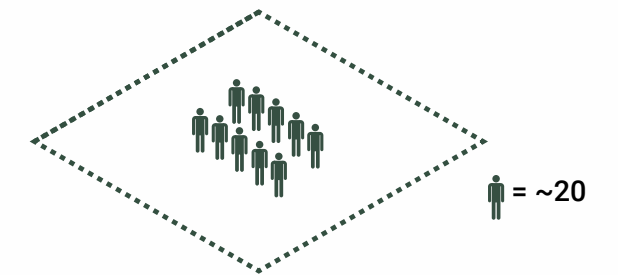
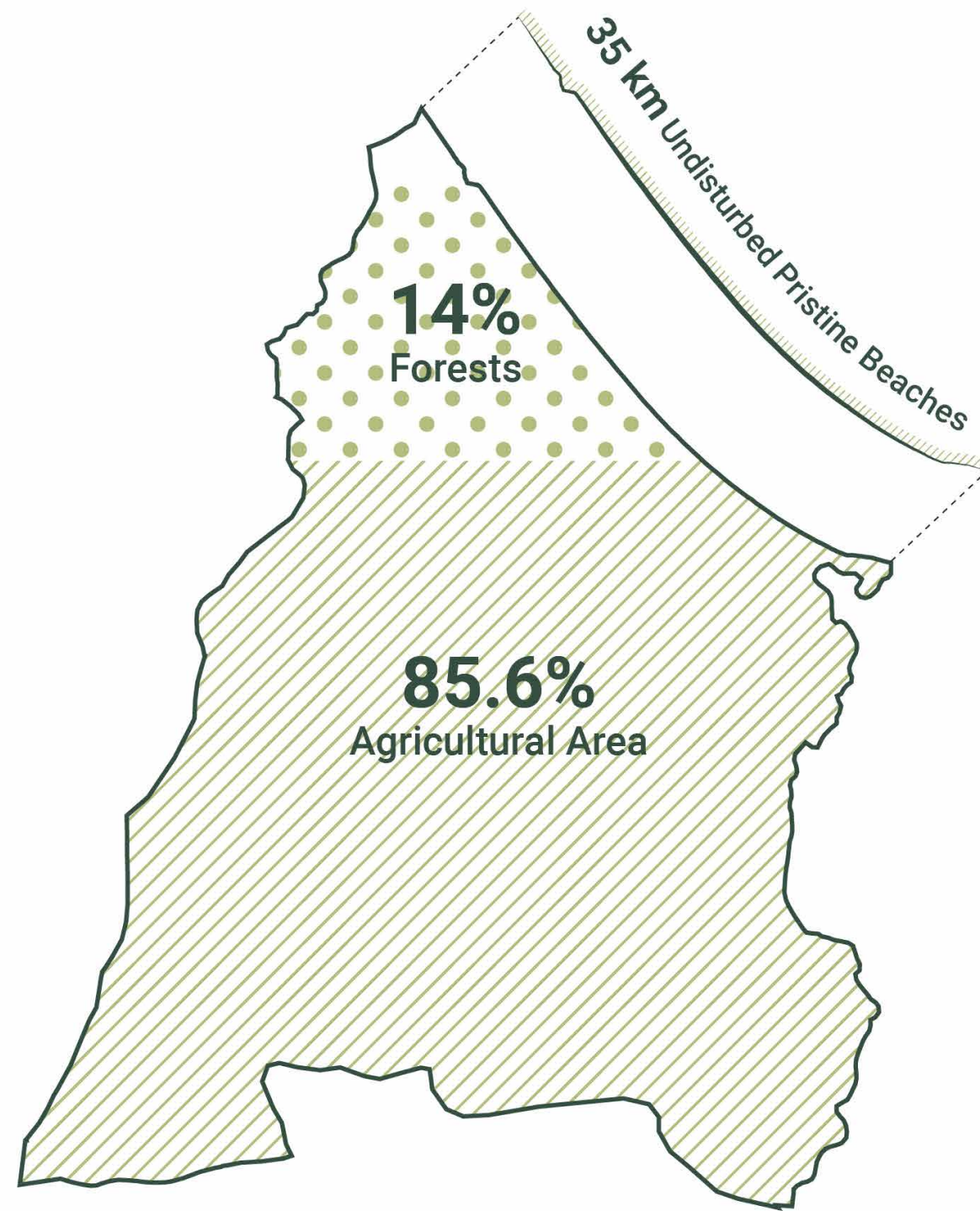
Thepa District

Na Thawi District

PATTANI PROVINCE



107,985 Total Populations
75 % of populations are Muslim



Density
214.10/ sq Km

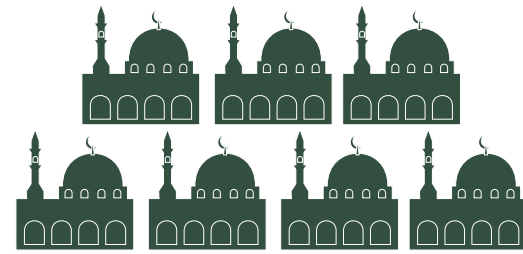


Agricultural Households
14,928



Average Household Income
23,459

While the dove culture is a prominent part of the district's identity, the culture does not seem to be recognized through any official administrative records and data.



Mosque
73



Thai Temple
32



Shrine
1



Cattle
8,058



Buffalo
40



Hog
1,296



Duck
55,794



Chicken
717,373



Goat
7,326



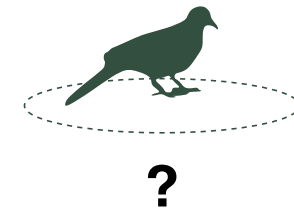
Sheep
76



Quail
7,200



Fish Farm
1,594



?



Hotel
15



Gold Shop
4



**Second-Hand
Motorcycle Shop**
3



**Second-Hand
Car Shop**
4



Steel & Pawn Shop
4

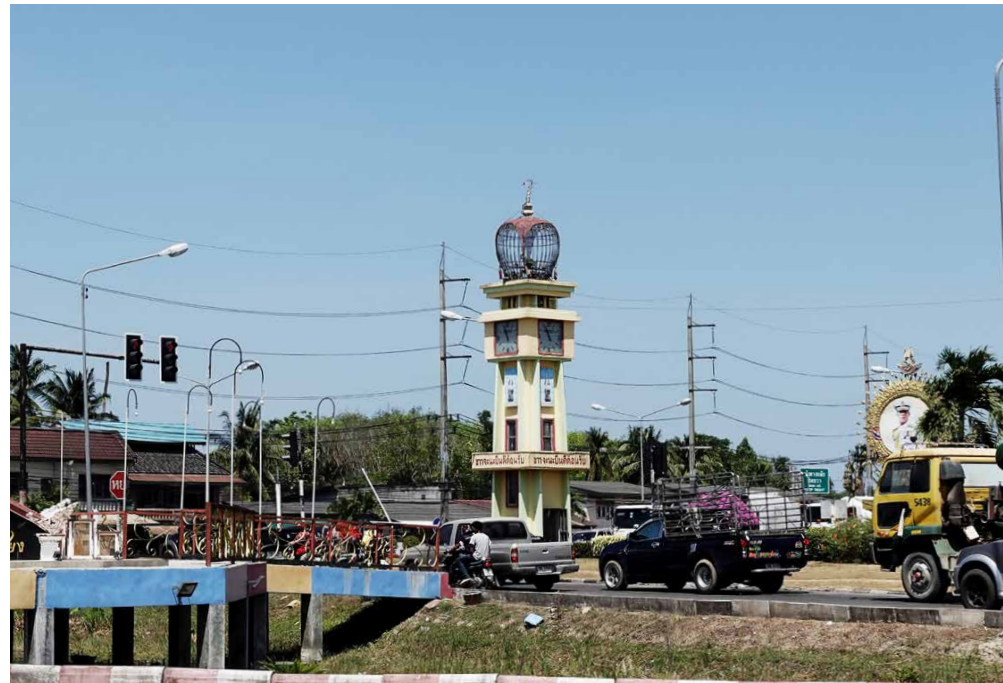


Cows Fight Ring
1



Cockfight Ring
4

Data source: Chana District Summary Report 2020



The bird cage clock tower at the entrance to Chana town center. It celebrates the re-nown craftsmanship of cages made here and the domestication of melodious doves. (Image by author)



Dove poles as another layer of local infrastructure. (Image by author)



A dove statue in front of the Chana official district office. (Image by author)



Dove cage as an extension of the domestic space. (Image by author)

Domestic Scale

The hobby of keeping and raising doves as pets in the region dated back for centuries. Doves are regarded as high-class animals with the most beautiful sounds of all the birds. Initially, the birds were kept as pets to add to the ambiance of one's home or at the teahouses. It is also culturally believed that a dove in particular physical conditions could bring good luck to the owners. Since dove adapts well and is easily domesticated, the dove could reflect the personality of its owner, and it is said by one dove raiser that to sell his favorite dove is like selling himself.²⁸

This strong relationship between doves and their owners, therefore, is reflected in the community's stewardship to nature. Since the sound of the dove is fragile yet a precious commodity, efforts are being made within one's own domestic space to plant more trees to cool down the air, provide shades, or selectively grown as feeds and herbs for the doves.



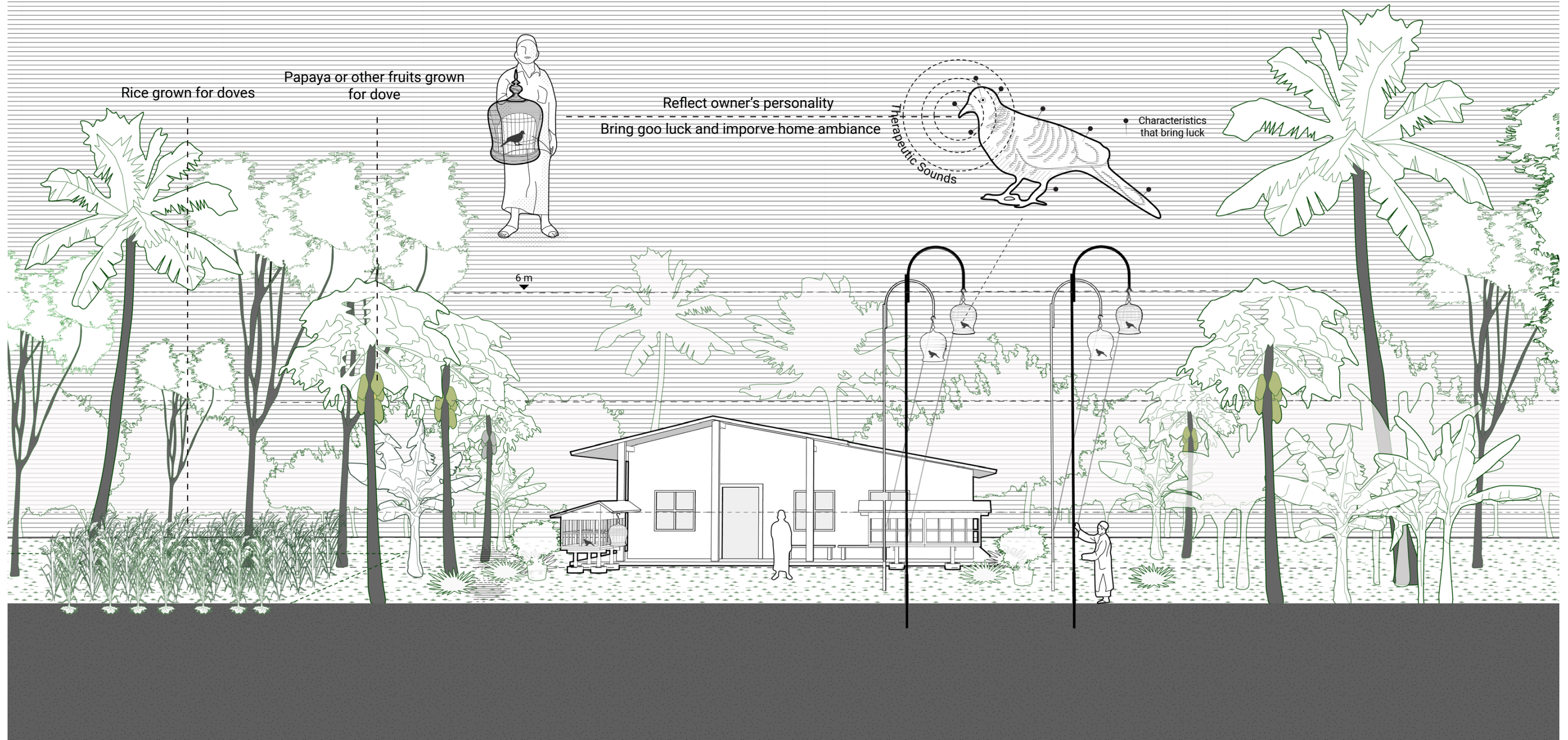
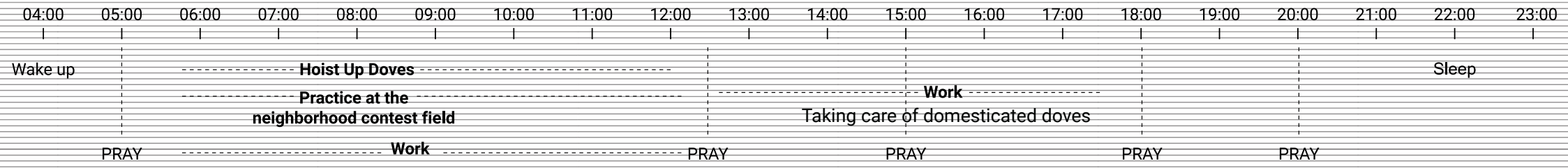
Small domestic dove field in a house front yard. (Image by author)



Dove cages in a rubber plantation. (Image by author)

²⁸ Sookpala, 1995

Typical Dove Raiser Daily Schedule





Visiting a commercial dove farm in Chana. (Image by author)



“The doves won’t sing if irritated by the smells of mosquito sprays, chilli peppers, or when it’s too hot”

“Can you imagine if there’s heavy industries here? The doves will be doomed...I’ve already purchased some land up on the mountain and plan to move there in case everything collapses”

Yee-Wang
Owner of a dove farm



Neighborhood Scale

Additional to this popularity of raising doves is perhaps the social interaction venues structured and offered through daily gathering contests to practice and prepare the bird for the big contests. There are currently about five gathering spots located in different sub-district neighborhoods. Some of these spots are hosted in the public space, while the others are offered by individual private areas for the small local contests.

Unlike other animal fights like cockfights or bullfights presented in the region, the dove contest does not involve animal violence or gambling with monetary rewards. The rewards sought from the contests are the shared enthusiasm between individuals with the same temperament and the ultimate bragging rights from winning. The peaceful contest also reflects the lifestyle of the Muslims in the regions. This shared enthusiasm also attracts members of all social classes, from governors, businesspersons, teachers to janitors and farmers. The social grounds have the effect of expanding social fields and tear down social barriers. The activities crosscut religion and ethnic boundaries, particularly in the region where the dove fanciers are Buddhist Thai, Thai Muslim, and Thai Chinese.²⁹ During the field trip, a dove owner mentioned in an interview how violent incidents never occurred on the dove contest fields, even in those Deep South regions where the sport is popular, and significant social gathering events are risky towards insurgent incidents. Nevertheless, this social gathering is still primarily engaged by the local male residents, and very few women would engage in such sport.

While the social spaces are prominent to the social fabric of Chana, mostly the male residents enjoy the sport. However, apart from its androcentrism, women do play important roles in this culture, mostly through the supply chain of its economy.

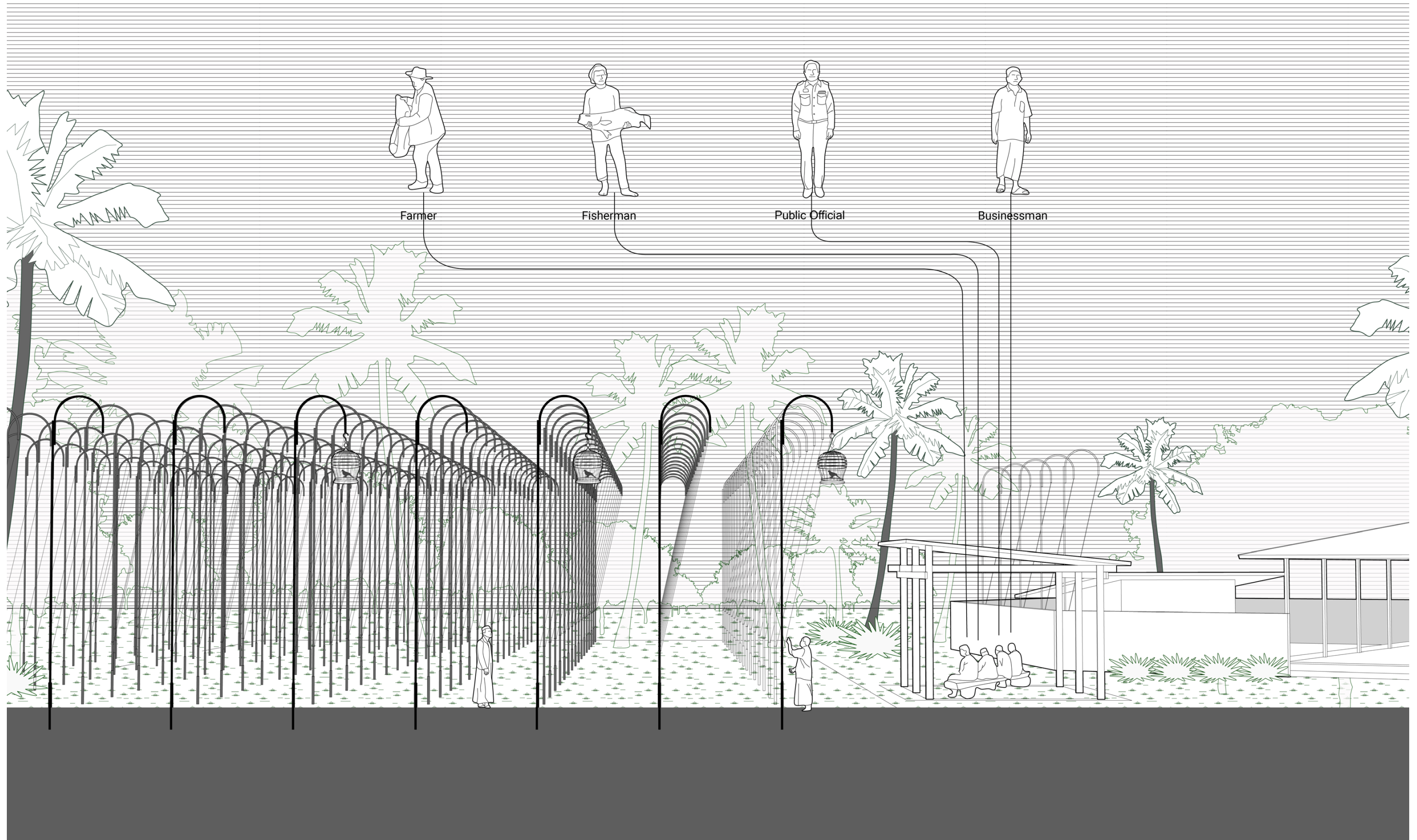
²⁹ Anderson, 2005



The residents gathered early in the morning for the local dove singing contest. (Image by author)



A local resident showing off his doves. (Image by author)



As different social groups enjoy the culture and its social spaces across Chana, the voices and opinions are often not discussed directly regarding the question of the impending development plan.



“We’ve been working hard to document the existing culture and natural assets in the coastal communities and marine ecosystems of Chana. We just realized that the dove culture could potentially be the key to negotiate with the industrial development plans..”

“I want to push Chana towards UNESCO heritage for dove-rearing. The first step is to gather more people from the dove side who would agree with the idea...”

Kitipop
A local activist



“There is not yet a clear evidence whether the development would negatively affect the birds. We can’t really say it right now or else there will be negative images for both the dove community and the development...”

A local district officer & a dove raiser



Regional Scale

Within the past decades, the sport has stepped up an additional dimension of transnationalism; it has evolved into a Southeast Asia international sport.³⁰ Every year, dove fanciers from Malaysia, Indonesia, Singapore, Brunei, and even within Thailand itself will gather in Chana or the nearby provinces for the international dove cooing contests. In 2005, more than 1,400 entries participated in one single contest within the region. Upon winning a singing trophy, the dove and its owner would sometimes get unsolicited offers from other enthusiasts. These offers are very high; some were offered as much as \$44,500 after winning by international enthusiasts.

Comparing to the other Thai traditional folk sports like cockfights or bullfights, the bird singing contests expand beyond being a simple folk sport but also transcends to the individual and international societal context. The social space of dove cooing competition operates as a neutral ground that crosscuts preexisting social ties, class, ethnic and religious boundaries that also extend to the larger transnational boundaries. These boundaries extend beyond socially and ethnically diverse interactions through the doves but also towards local, regional, and transnational economics of dove raising and selling. This new economic dimension becomes more engaged in the needs of the community.³¹

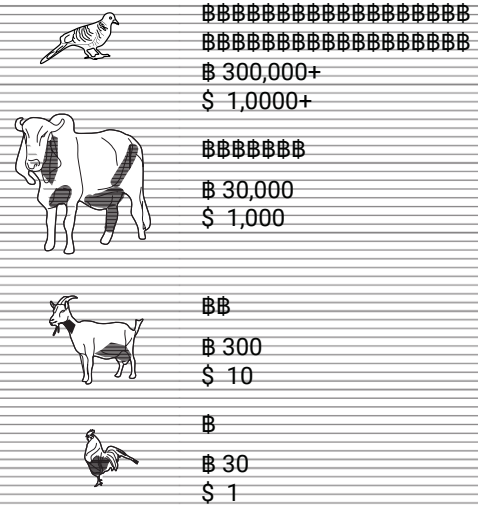
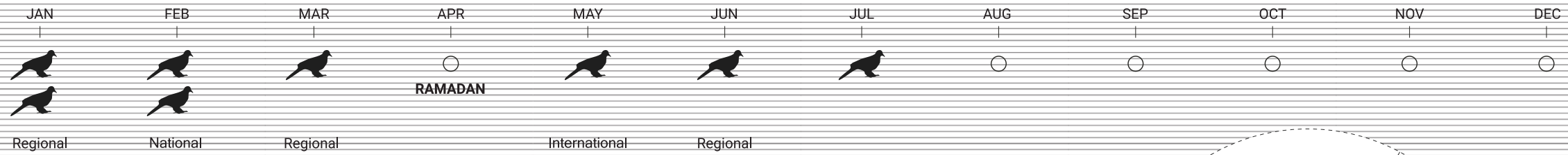
As in the case of the Chana district, the popularity of the sport has evolved into a complex lineage of decentralized economies within the region. These local economies include the lineage of a supply chain in dove raising and selling through dove farms, birdcage-manufacturing villages, to dove feeds and supplement productions. In one dove farm, a high-quality dove pedigree would sell in pairs with a price starting at \$1,000 per pair. Lower quality dove with indistinct voice values a lot less with a starting price of \$15 per pair. Apart from the dove itself, the birdcage

used for dove raising and competing could also be sold for a high price. The higher quality birdcages are considered as a piece of craftsmanship and priced more than \$30,000. Standard cages are also local craftsmanship where the bamboo was locally sourced and used as the primary material. Khao Din village, a small village with roughly a hundred residents located in the southwest of Chana town center, specializes in cage making. Almost every family produces dozens of cages weekly. With the rise in demand for birdcages, bamboo grown naturally as riparian buffers along the riverside was cut down and declined locally.

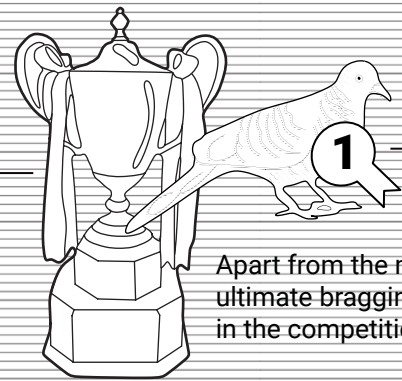
³⁰ Anderson, 2005

³¹ Ibid

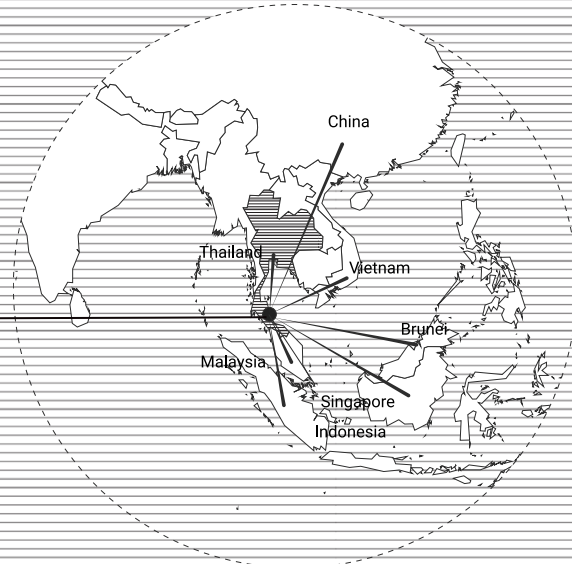
Competition Schedule



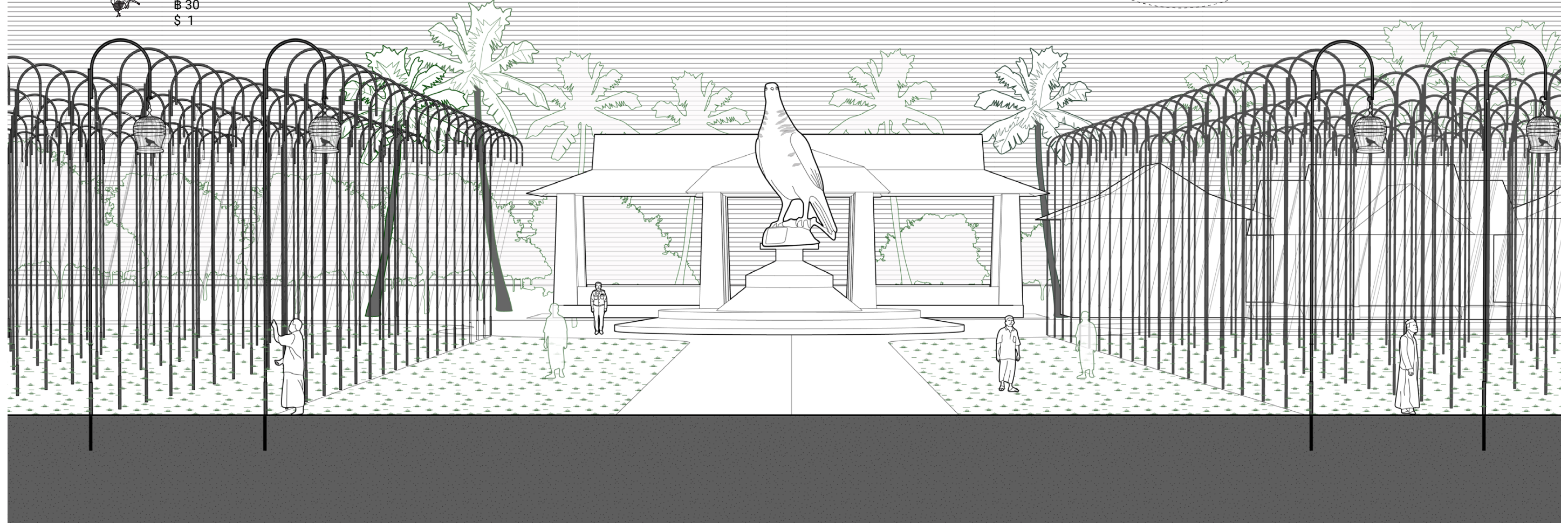
In Chana, doves are worth more than any other domestic animals and livestock



Apart from the monetary rewards, the ultimate bragging right is most valued in the competition



The competitions have attracted participants from various ASEAN countries as well as promote cross-country economies revolving around the doves



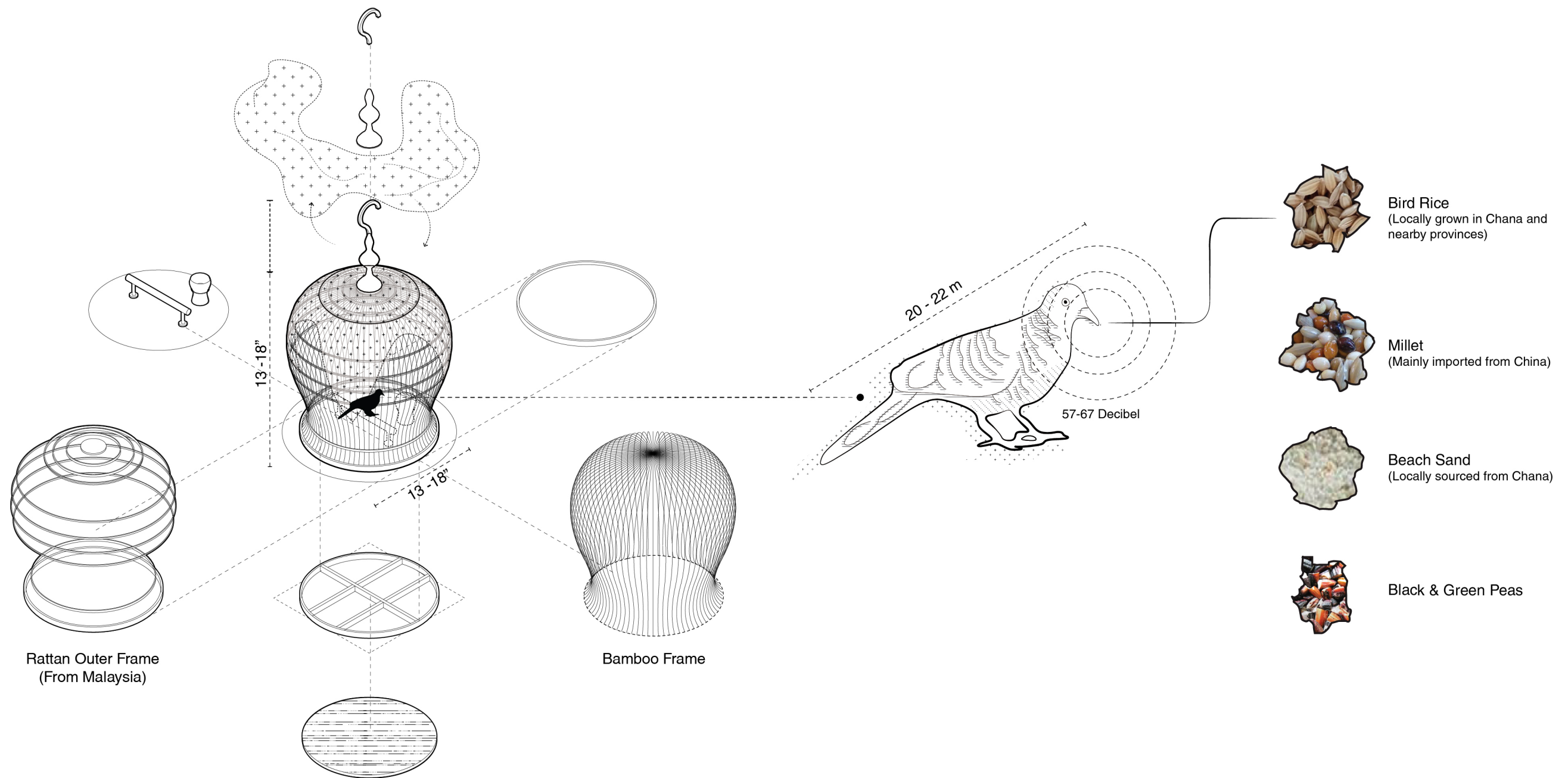


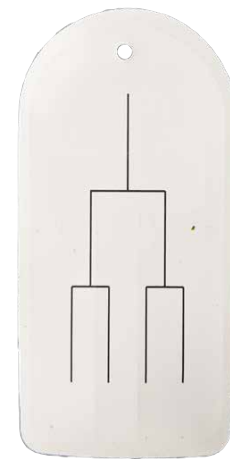
The big dove statue located at the center of the Chana Wang Dee Field (translated as "Good Hope") as a symbol to commemorate the competitions held year-round. (Image by the author)



Another view of the Wang Dee Field seen from above. The field is left for cattle grazing and open for general recreational and sport activities for the publics. (Image by the author)

Elements of the dove cage and food sources.





A dove tag showing information and identify the ancestry and the line of the dove's pedigree. The rearing culture has organically developed a system to commodify and further domesticate the doves.
(Image by author)



One of the biggest cage shop in Chana. The shop has been opened for almost half a century. Cages here range from \$100 to \$10,000. Cages and accessories here are sold to other parts of Thailand and internationally to China, Vietnam, and Malaysia among others.
(Image by author)



"I was working in Malaysia for five years. After there is no works to do (because of COVID) I returned home to continue my parent's business and their expertise of cage making..."

"We are not totally against the industrial development, it would bring jobs. However, we are concerned about the environment. The government only speaks about the good sides but never give us enough information on the negative consequences.."

Asma Yaloh
A resident of Chawa Thong community



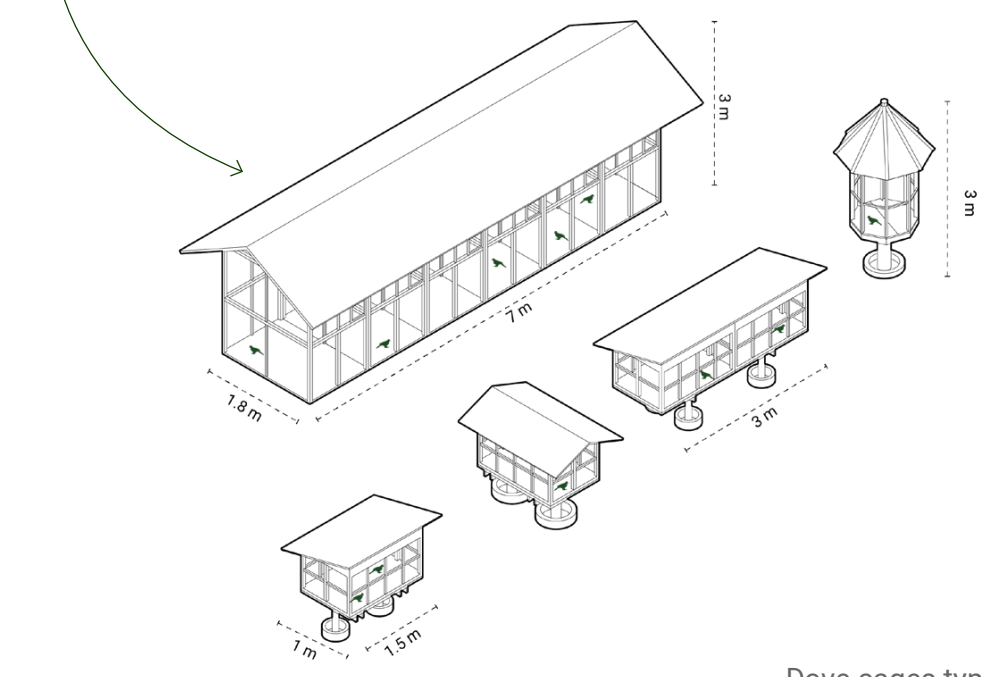
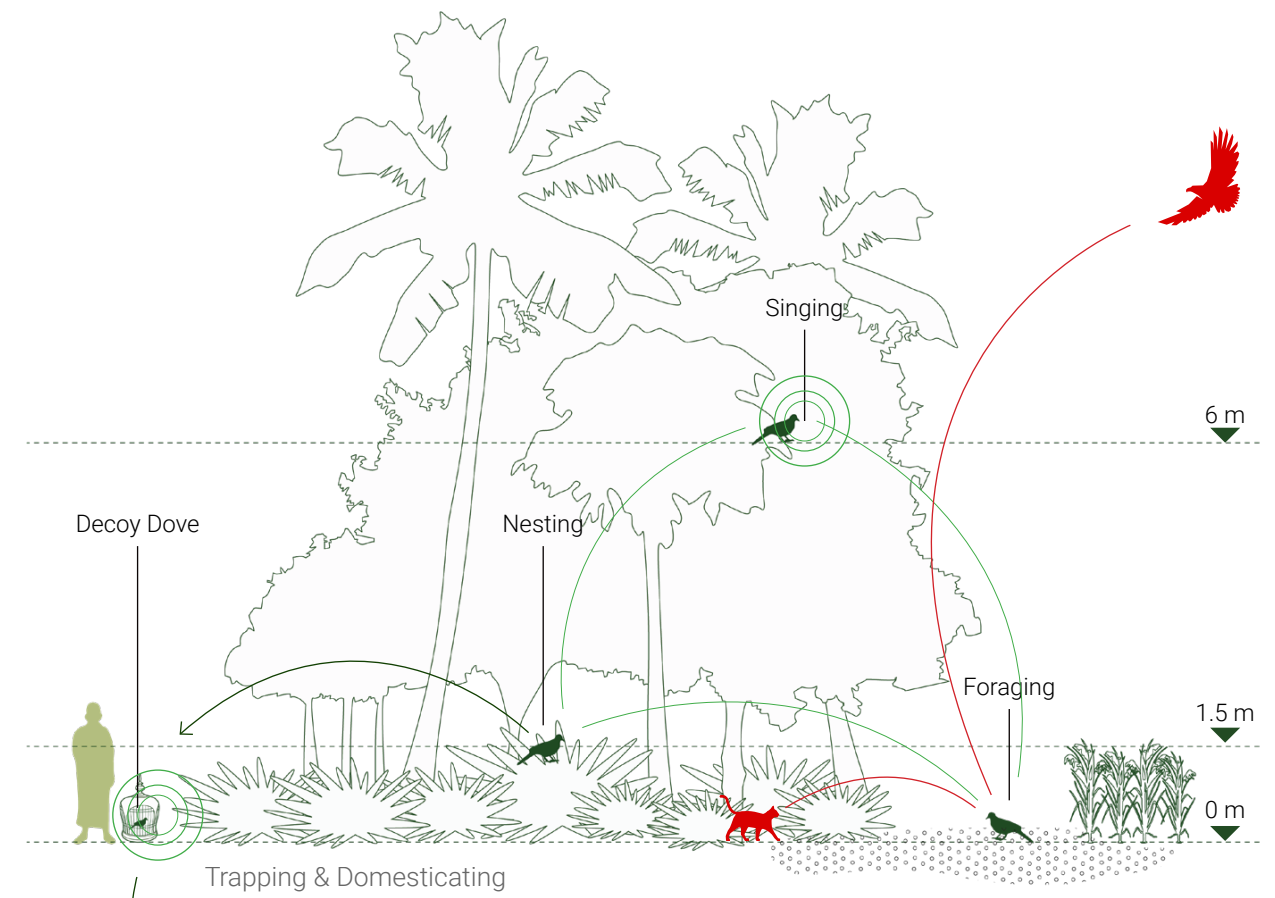
"We are now starting to collect on-ground data on the local dove communities in response to the industrial development. We are not totally against the development, however the name 'Industrial Metropolis' already implies the immense scale this would transform our cultural landscape."

"Chana is a rural town but internationally famous for its birdsong, we must seriously discuss this in the face of development"

Juh-mae
The new leader of the local dove association

The culture of dove rearing and competitions has been around for almost a century. While there is no definite record of its origin, the culture has been seen from generation to generation within Chana. From its first domestication of wild doves through trapping and decoys, the practice has enforced domesticity to the breeding of the doves that current new generations of caged doves could not survive in the wild without their owners. The enforced mutualism has expanded beyond its economic value but also as a tool for political demonstrations. In the early 2000s, a conflict erupted between the construction of the massive gas separation plant and the local residents. The residents have politicized the culture as a tool towards negotiations between the power plant developments, which at the time the conflict had escalated into a subject of social crisis.³²

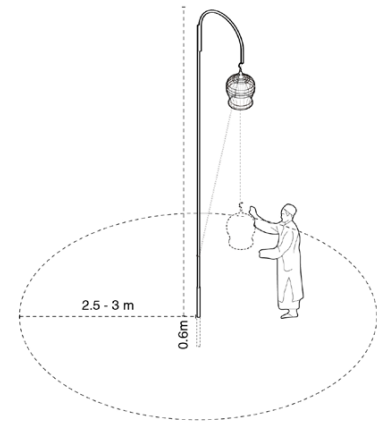
The relationship between humans and doves here in Chana represents various aspects that hold the communities in significant ways. First, the relationship represents the cultural identity of the Thai Malay ethnicities in the region. Second, the relationship fosters collective stewardship towards the environment. Third, the social space provides neutral and safe public grounds that welcome and crosscut social, class and religious boundaries. Fourth, the culture transcends to a transnational scale and decentralizes the local economies within Chana. With all these aspects, the thesis argues that this local dove culture is an important element as both symbolically and literally a peacekeeper of the area. The study argues that its ecologies and territories need to be preserved and understood. Acknowledging how much the culture touches on the local lives, it should be considered into consideration as one of the elements for the area's development. On the other hand, the culture is being threatened by the proposed plan, which does not recognize such granularity and nuances of the local context.



Dove cages typologies

³² Kirichot et al., 2014

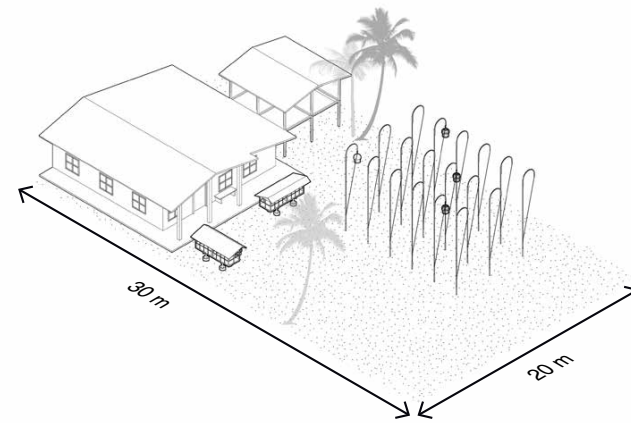
Individual



Represent Cultural Identity

Historically and ethnically, the practice of domesticating doves has a deep root in representing cultural identity of the Malay ethnics in the region. The dove represents a spiritual entity to the owner as well as their social status.

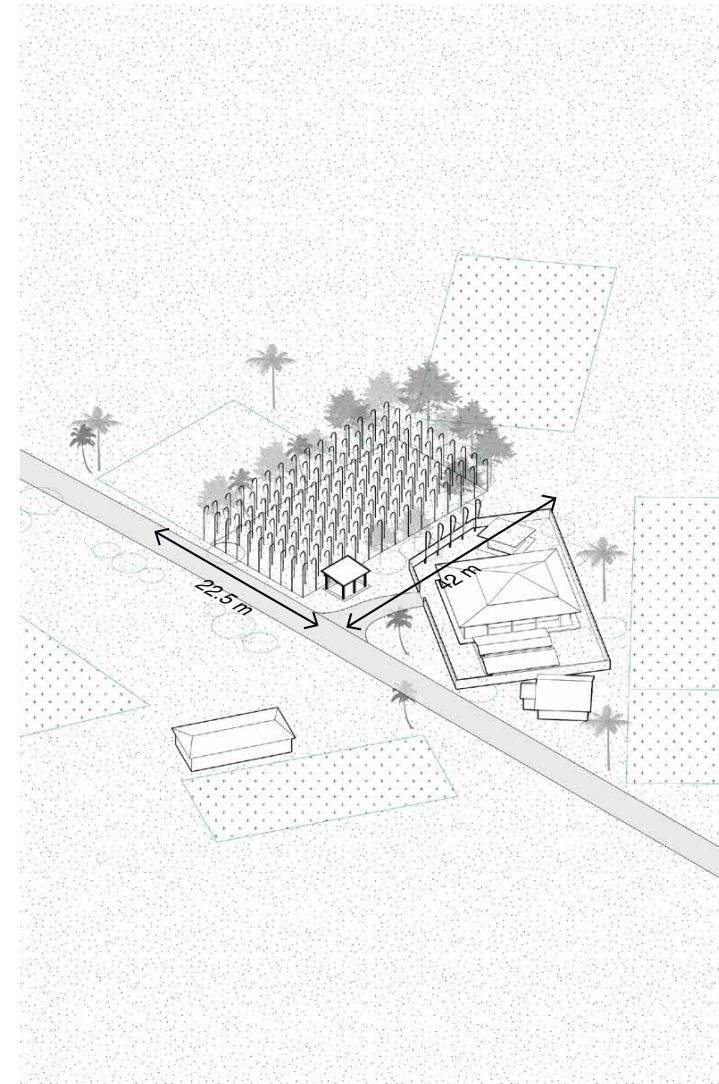
Domestic



Collective Stewardship with Nature

As the doves are raised for their singing voices which are very sensitive to the environment, the community is active in protecting the environment in order to nurture these doves. It is jokingly said that some of the owners love their doves more than their children.

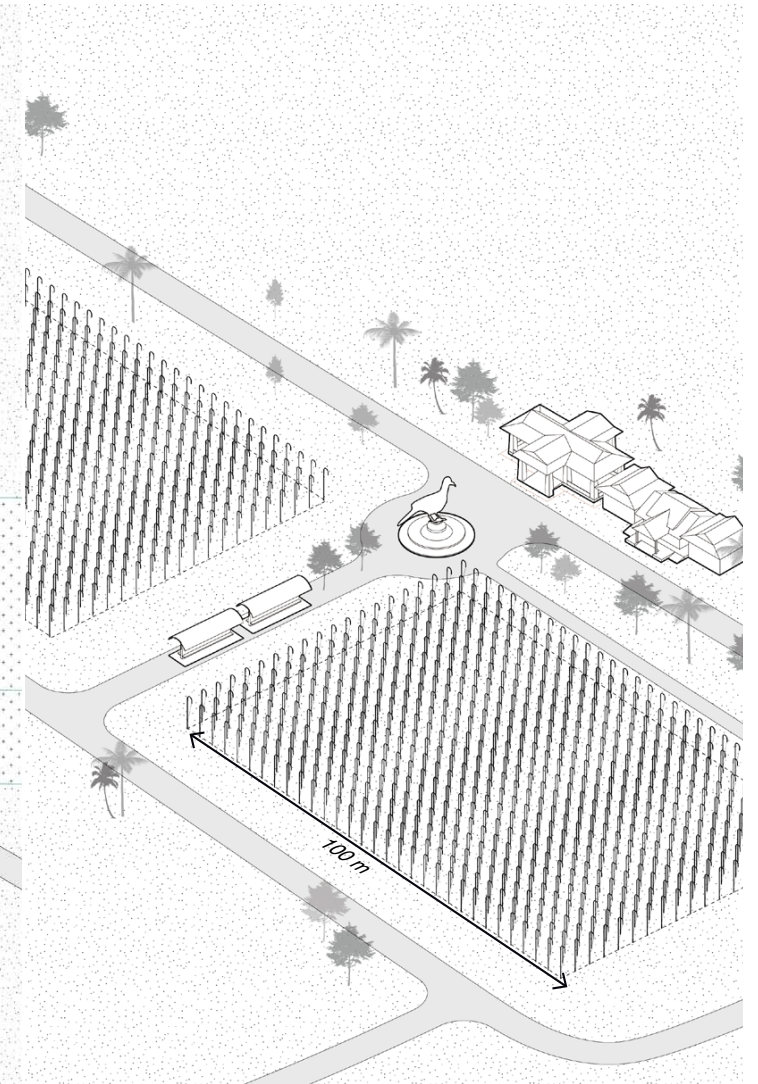
Neighborhood



Neutral Public Spaces

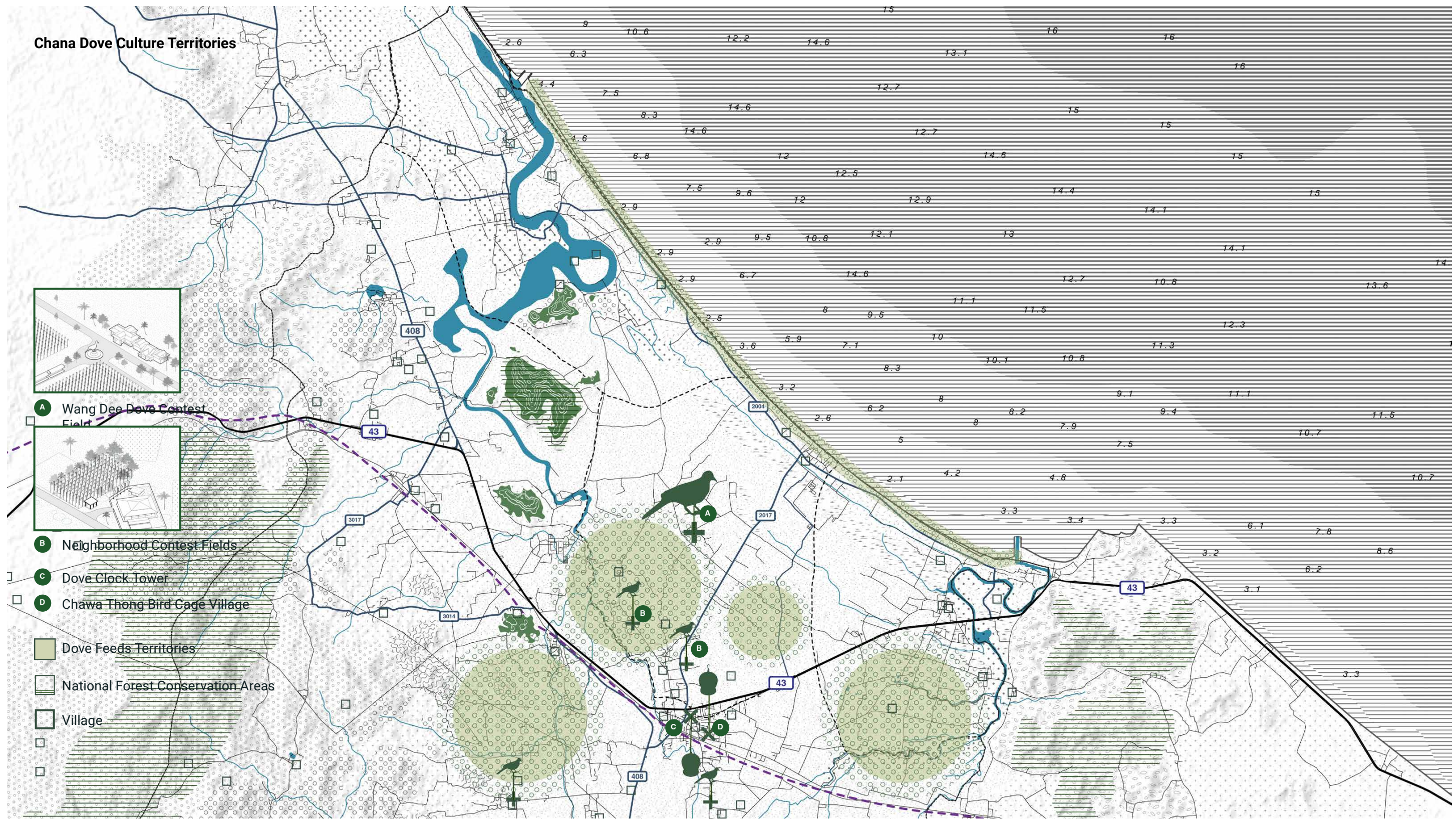
The doves are competed not for monetary rewards but for social values created within the communities. It is stated that those who loves listening to the cooing of doves are peaceful people. The contest grounds operate as a neutral ground and context for interactions that crosscut preexisting social ties, hierarchical class structure, and ethnic and religious boundaries.

Regional

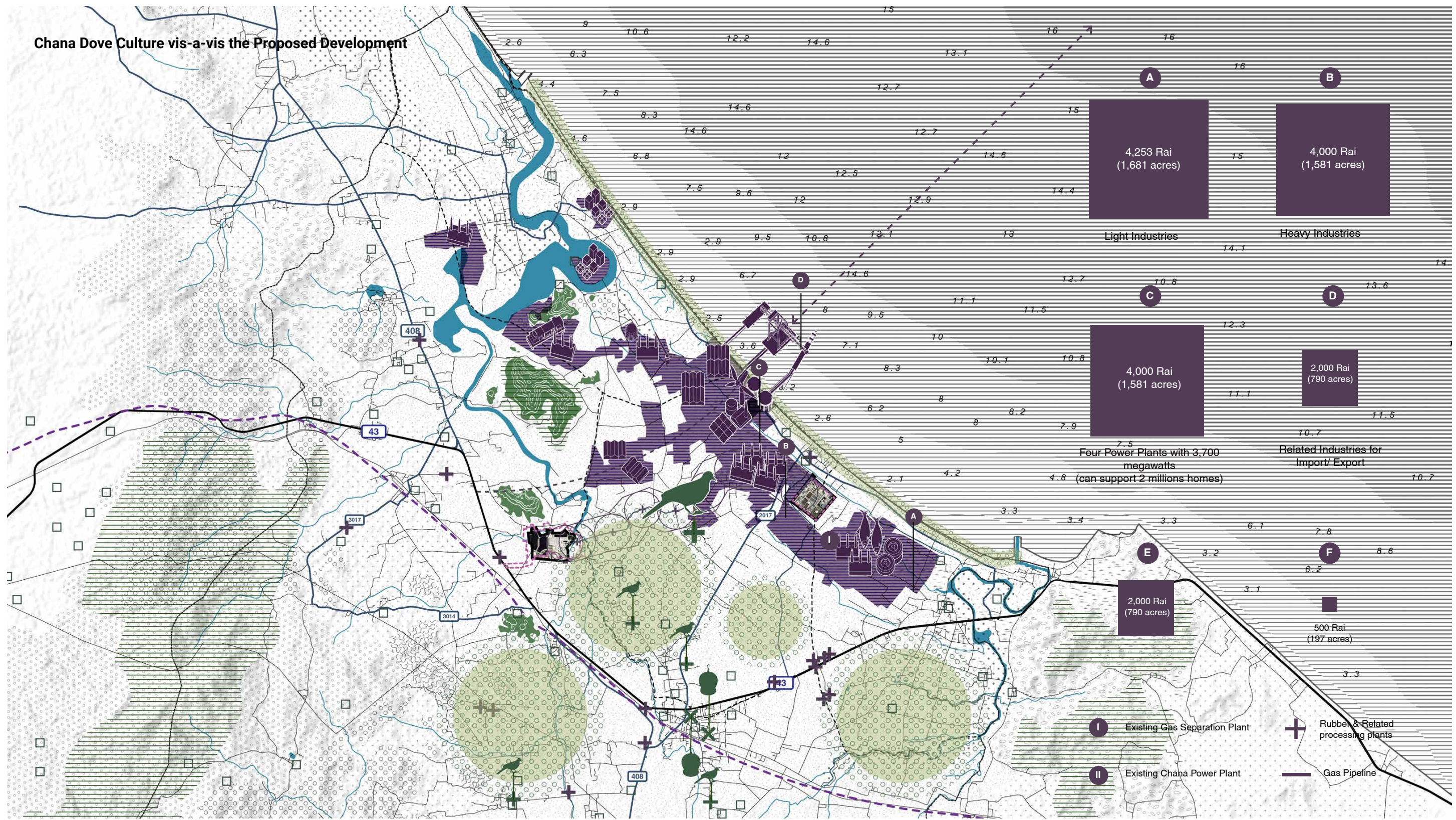


Decentralize Local Economy

The supply chain involves in the zebra dove rearing practice create lineage of jobs for the community. These include dove farm, food, cage, and other related industries which decentralize the economy in the town yet position it within the transnational context.



Chana Dove Culture vis-a-vis the Proposed Development



04 Re-Programming Development

Since the end of World War Two, top-down industrial development strategies were prevalent as the main effort to improve economic and social inequalities in developing nations. This process of development generally followed the paradigm of neoclassical economics. This economic theory suggests that the best path to development and modernization is to industrialize and accumulate capitals where the growth in Gross Domestic Product (GDP) is the measure of economic progress.³³ Thailand is among the developing countries with a successful economic development with a GDP growth of 7% in the past decades and drastic poverty reductions from almost half the population to around 8% of the current population.³⁴ However, while the economic growth has been impressive, income inequality has been rising. In fact, the development plan actioned by the centralized Thai state is considered predatory instead of developmental.³⁵ As Somboon Siriprachai wrote in his analysis of industrialization and inequality in Thailand, while the Thai leaders have shown interest in modernizing the country, they “may have taken out so much of the scarce resources, but put back so little in the way of public or collective goods.”³⁶ Additionally, the Thai development policy was perceived as contributing to the rural impoverishment. The centralized nature of development devalued the local cultures and regional diversity.³⁷

In 2015, Thailand’s military announced ‘Thailand 4.0’ as a new national development strategy through utilizing innovation and technology to drive economic, ‘inclusive’, and ‘green’ growth. However, despite the emphasis on equitable development, critiques still point out that the new policy is driven on the same development trajectory of the past decades, where growth is justified at the expense of labor and the environment.³⁸ As with the case of Chana, the development proposed under the name of “Progressive Industrial City for the Future” emphasizes clean energy development and promises jobs generation for the locals in the region. This government-led plan promises to create more

³³ Stiglitz, 2002

³⁴ Kelly et al., 2012

³⁵ Siriprachai, 2007

³⁶ Ibid

³⁷ Kelly et al., 2012

³⁸ Chiengkul, 2019

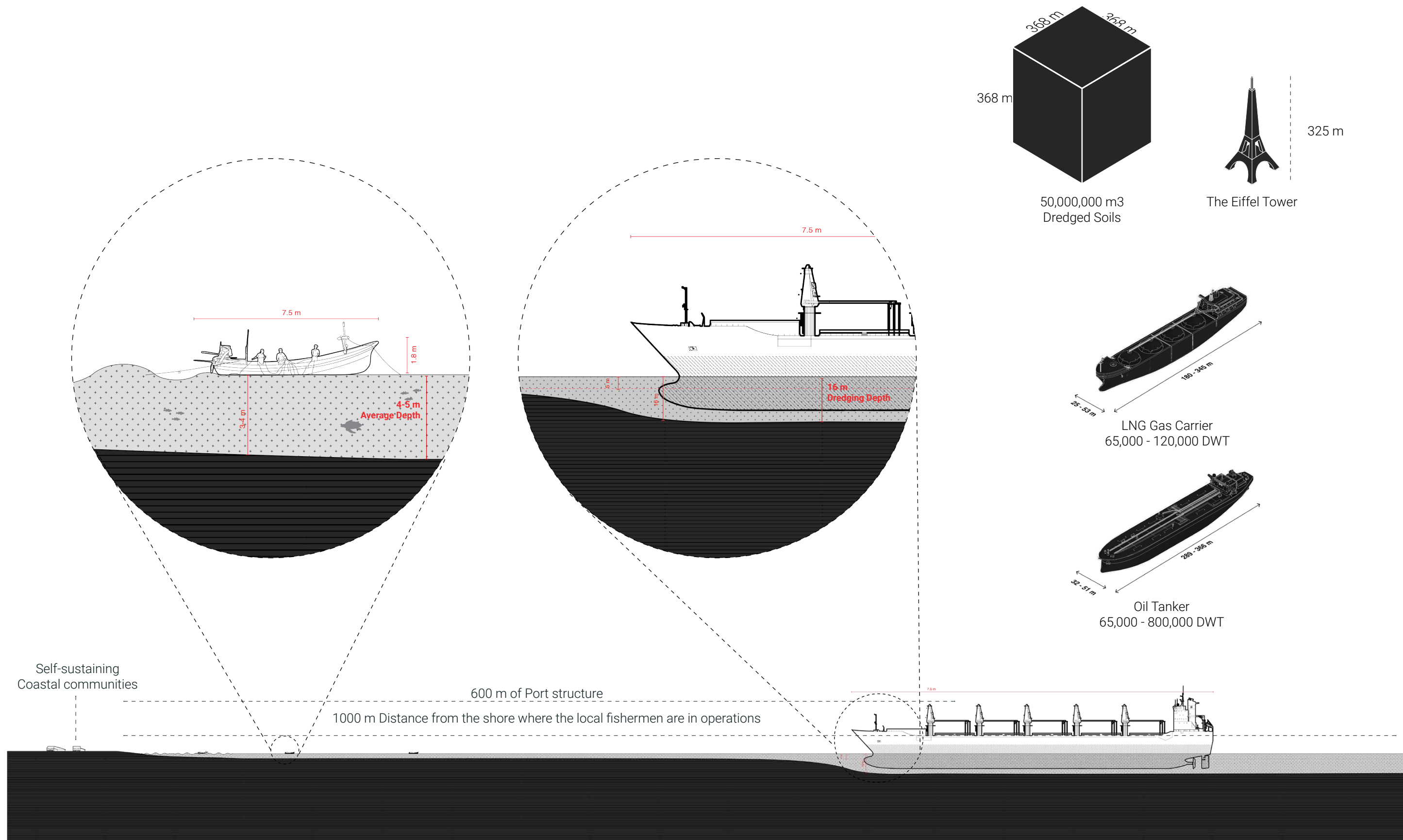
than 100,000 jobs in six sectors: agricultural and light industries; heavy industries for electric generators, wind turbines, and crane manufacturing; clean electricity generations with a total capacity of 3,700 megawatts; downstream industries related to port services; warehouse and distribution centers; recreational and residential areas.³⁹ Despite having an emphasis on the progressiveness and clean trajectories, the details of the plan’s assessments are unclear, as well as its public hearing process, which was questionable and contentious.⁴⁰ A closer look into each proposed industry also bring forward various concerns that disregard the nation’s roadmap towards progressive development.

First, the whole plan is piloted around the deep seaport development. The plan proposes three seaports, of which two are for cargo containers bulk and one for oil and gas transportation. The ports will facilitate cargo vessels up to 120,000 tonnages and therefore need to dredge a channel of 16-meter deep to facilitate the transportations. The Chana district currently has one of the most extended undisturbed coasts with a total length of up to 30 kilometers and a relatively shallow seafloor depth of approximately 5 meters. The deep seaports’ constructions would be an immense transformation of the coasts, which affect the livelihoods of the local, self-sustaining fishermen in the coastal villages. These local fishermen have been leading sustainable fishing in the area and helping to monitor illegal and unsustainable commercial fishing conducted in the past. Additionally, there is an existing deep seaport called Songkhla Seaport 1 located about 32 kilometers away from the designated new ports location. This deep seaport is considered as one of the major seaports yet currently operates under its maximum capacity.⁴¹ This is due to the lack of proper planning and strategy when the deep seaport was constructed about 20 years ago; the port located right in the mouth of the Songkhla estuary, therefore, requires constantly high costs of maintenance. Additionally, investments to install improved cranes are too high and risky.⁴²

³⁹ TPIPP, 2019

⁴⁰ Chandran, 2020

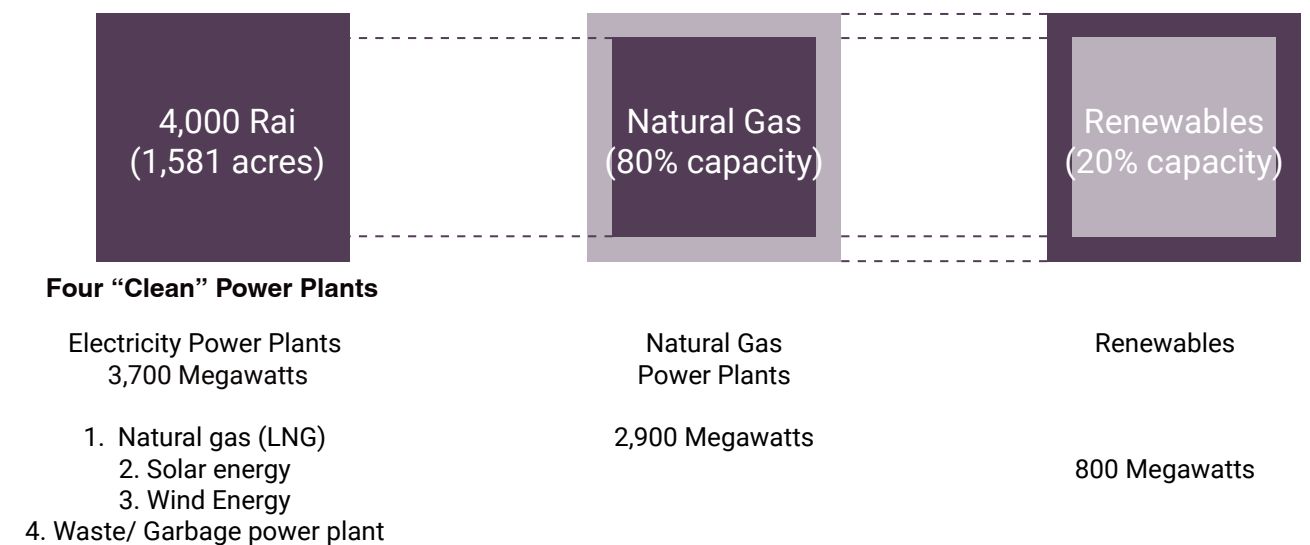
⁴¹ Chuerchang, 2004

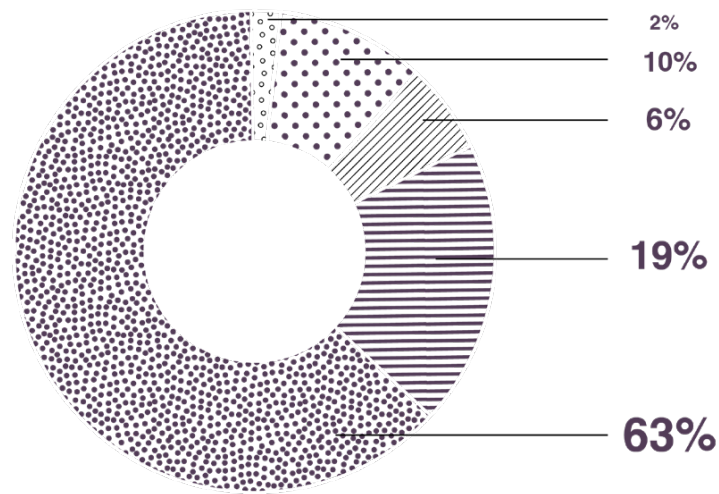


While there is an imperative need for another deep seaport in the area to facilitate the region's higher demands of logistic infrastructure, having deep seaports at Chana will eventually face the same maintenance and environmental problems. The massive investments required for the deep seaports thus incentivize the needs for heavy industries that followed.

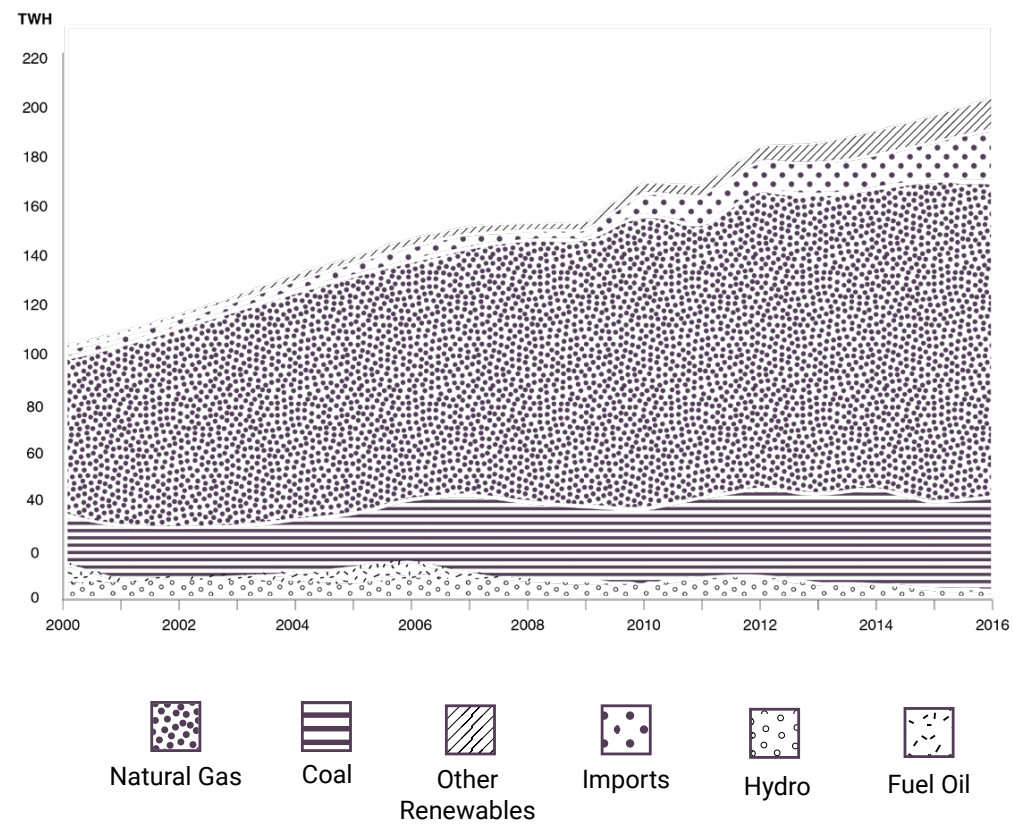
Second, the development plan proposed a series of "clean" energy complexes, including 2,900 megawatts of energy from liquid natural gas (LNG) and 800 megawatts of wind, solar, waste, and biomass combined.⁴³ More than half the ratio of the proposed energy complexes is relying heavily on natural gas. This poses a concern, which also reflects the country's current challenges on energy security. The country has placed energy security as one of its top priorities and committed to the Paris Agreement on reducing greenhouse gas emissions by 20-25% by 2030 with its new renewable energy targets. However, more than half of its energy supply relies on imported energy, and in total, almost 60% of its current energy sources are from natural gas.⁴⁴ Currently, considerable portions of natural gas are extracted within the Thai sovereign oil reserve in the Gulf of Thailand. This natural gas sourced within Thailand is projected to deplete roughly by 2037 or within the next two decades.⁴⁵ Despite this urgent need to lower the reliance on natural gas and diversify the energy sources⁴⁶, the proposed plan for Chana proposed to have almost 80% of its project energy production on the reliance on natural gas. Additionally, the south of Thailand is increasingly in need of energy in order to be less dependent to the centralized energy system of the country and to support burgeoning service economies.⁴⁷ Currently, one of the two primary power plants is located in the Chana district. There is also a massive gas separation plant within the district itself under the joint collaboration between Thailand and Malaysia. The gas separation plant is believed to be in Chana as an initial gesture to support what was designated to be the petrochemical industrial development in the area. The plant was violently

⁴² Chantawongse, 2018
⁴³ Chana EIA Plan Report, 2019
⁴⁴ Ministry of Energy, 2018
⁴⁵ Longtunman, 2018
⁴⁶ Meechumna, 2020
⁴⁷ Ministry of Energy, 2017

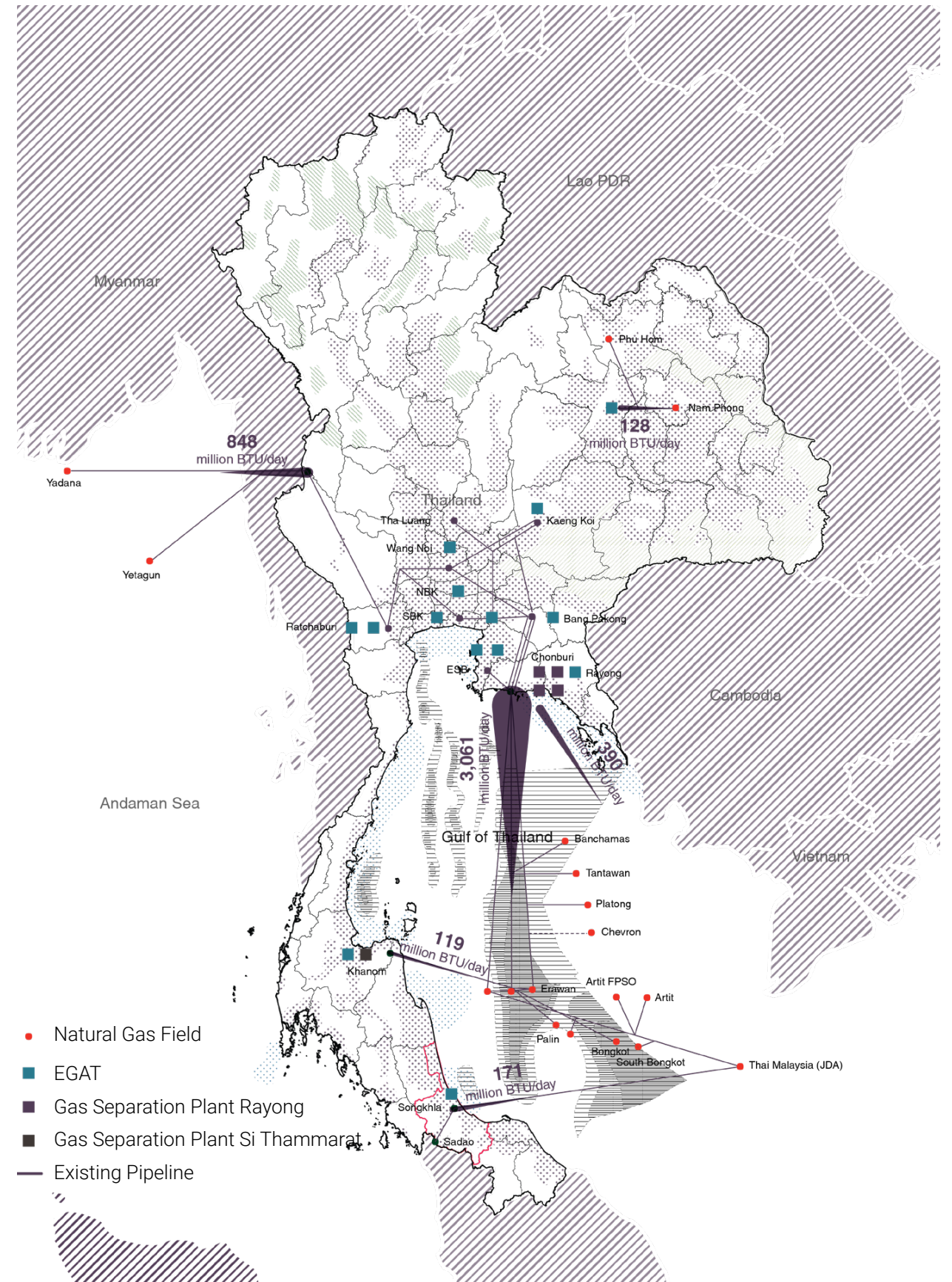




Energy resources in Thailand



Data source: Ministry of Energy, 2016

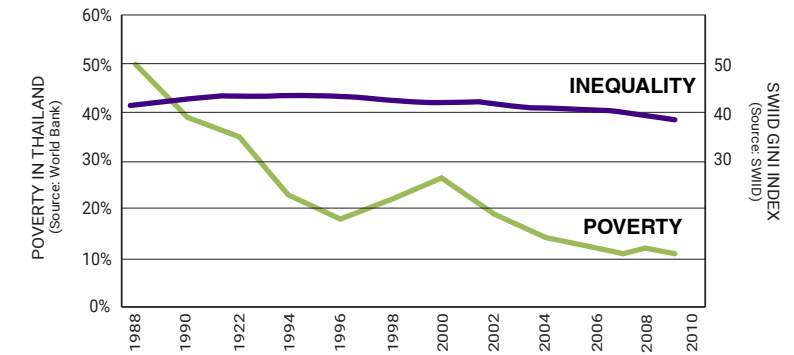


opposed by the locals as well as many researchers within the country who analyzed that investment as an unthoughtful decision.⁴⁸ While the project was developed under the joint partnership with Malaysia, where resources are being shared equally, the negative externalities are directly affected to the locals in the area where the region does not directly benefit from this resource.⁴⁹

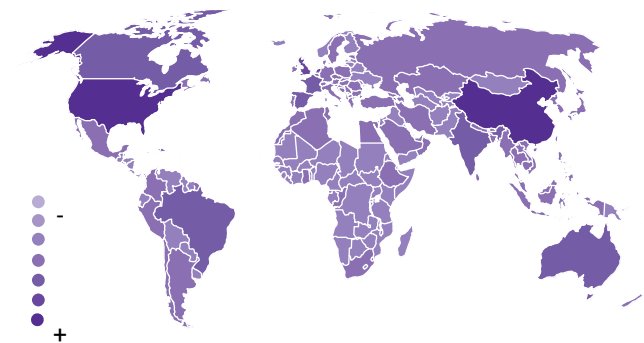
Third, the proposed industries are mainly capital-intensive, which means that they rely heavily on capital, less on human labor, and potentially more on automation and technology. This questions the legitimacy of the project that promises to generate 100,000 jobs for the local. Additionally, the project still follows the top-down plan where the goal is to attract as much foreign direct investment (FDI) as possible. Over-reliance and competition on FDI at the expense of the local resources is becoming a trend in developing nations, which could further reduce the benefits they receive through the FDI.⁵⁰ Recent statistics suggest that, on average, developing nations have received smaller shares of the total global FDI flows than developed countries since 2005.⁵¹ Moreover, Thailand, as with many developing nations, tend to rely on FDI for the hope of technology transfers. However, the country's experience of high inequality despite poverty reduction through its past development strategies showed otherwise. First, it shows that the state was, as quoted by Somboon Siripachai, controlled by the ruling elites; the military, vested-interest group (mostly ethnic Chinese), and bureaucrats who seem to plunder without providing adequate welfare to their citizens in terms of education, health care, the provision of pure water supply and adequate sanitation.⁵² Second, it also shows the failure in technology transfer through the past FDI development, where the absorptive capacities from the country's human capital and indigenous technology are lacking. Additionally, the uneven development resulted from the trade-off between the agricultural and the industrial sectors has developed into a challenging disparity in the agricultural economy. Data from

⁴⁸ Meetaem, 2009
⁴⁹ Prachatham, 2002
⁵⁰ Chiengkul, 2019
⁵¹ UNCTAD, 2017
⁵² Siriprachai, 2007

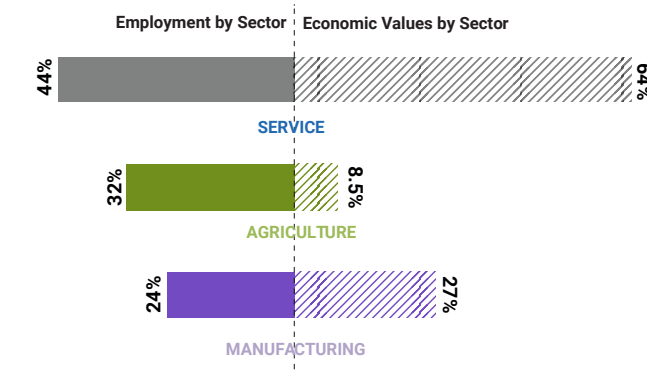
1% of Population hold 67% of the nation's wealth



While poverty has decreased in the past decades due to the industry sector, the inequality issues still persists.



Global FDI is fluctuating towards new economy nations. Manufacturing increasingly relies on automations and less on human labors.



The country has been under-developing its own assets of abundant agricultural resources.

the Ministry of Industry shows that while 32% of the country's laborers are employed within the agricultural sector, the sector only produces 8% of economic values.⁵³ In terms of industries, the challenge is to address this gap and develop the country's research and development sector towards building its own indigenous technology and enhancing human capital.

Ultimately, the development plan represents a homogenous form that acts as a barrier. This barrier creates enclaves of industrial and residential spaces spanning in parallel to the coast of Chana, barring both social and environmental linkages to the ocean. The project announces to generate 100,000 jobs, which later explained that 25,000 are direct employments from the project.⁵⁴ This advent of industrialization and development in the area would bring a new population of workforce and residents to the region. The current population in Chana district is roughly 107,000 people, with the majority working primarily in the agricultural and fishery sectors. The new jobs and new residents introduced of roughly the same number will definitely transform the social landscape and dynamics of the area. The project's plan designates only a portion of its development area for residential and recreations and unclear relocations plan for the locals affected by the plan. These designated residential patches are also located in enclaves far away from the local fabric.

The lack of planning for the socio-environmental consequences of the development could exacerbate the tensions and grievances natural in the area. With the contentious participatory processes, the plan could be furthering the act of internal colonialism through forced cultural and ethnic diversifications. As ethnic diversity on a domestic scale directly negatively impacts the economy yet could positively impact international cross-country trades, the political institutions become the critical agency in shaping ethnic identity and its role in socio-economic performances.⁵⁵ In the case of Chana and its designated

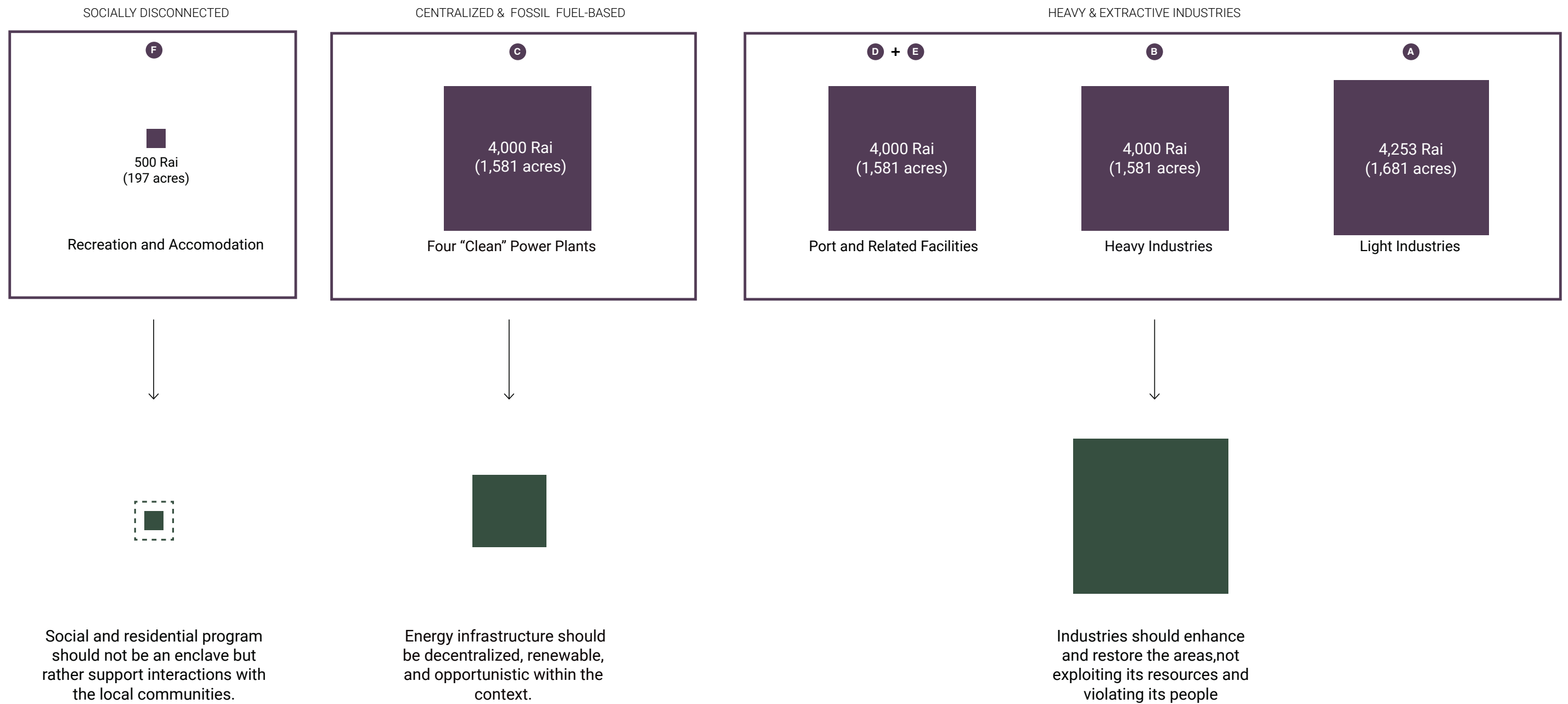
development, if not planned well, it could become a hostile gesture towards ethnic cleansing for security reasons within the region where cultural sensitivity should be promoted for peaceful co-existence and cultural reconciliation. On the other hand, the local culture, namely the dove economy, has organically grown from a local folk sport into scales of transnational interactions and hold intriguing potentials. Instead of recognizing this as an opportunity, the authority has not actively recognized the culture administratively and seriously.

Reflecting on the tensions between the state-led development and the complex socio-cultural situation in the region. This brings into question whether turning Chana into a highly industrialized area will benefit the people and help alleviate the unrest or instead exacerbate the tensions even further. In contrast to the heavy industrialization, the thesis argues that Chana's unique geography and culture could offer a potential site for cultural reconciliation and rethink ways of exploiting resources. Acknowledging that an industrialization is an inevitable form of urbanization, the development is indeed crucial for the region, yet understanding the contextual elements could lead to better paths of development, where the marginalized become parts of the growth instead of being left exploited.

⁵³ Ministry of Industry, 2018

⁵⁴ SBPAC, 2020

⁵⁵ Gören, 2014



05 Spatial Mediations

As theorized by Neil Brenner on the trend of planetary urbanization, the rural hinterlands are increasingly becoming the frontier of new kinds of urbanization. Brenner brings forwards the spaces of non-city from the backdrop of city-building processes that are fueled by the capitalist uneven development. This capitalist framework of urbanization “transform non-city spaces into zones of high-intensity, large-scale industrial infrastructure.”⁵⁶ Against turning hinterland landscapes into privatized enclaves, Brenner put forwards the role of architects and urbanists and the choice between to help maximize capital accumulations of these zones or to explore new ways to reorganize these non-city landscapes for collective common goods.⁵⁷

Sharing a similar concern, Keller Easterling analyzes the special economic zone as a new operating system of modern urbanization.⁵⁸ These zones are usually represented as an instrument for economic liberalism, yet their irrationality and fantasy often become a tool for political manipulation. Moreover, developing countries usually use these zones to socially and culturally conform to the global norm, as tickets into the global market. The zone, often a place of secrets, hyper-control, and segregations, brings into question—of all the irrationalities driving the zone’s development— “why create an enclave?”⁵⁹ Easterling suggests that instead of an object form as a master plan, the economic incentives of the zone can be selected and mapped into the host country’s existing urban elements. This could revolutionize the zone as well as bringing more benefits to the domestic economy.

Apart from how this zone affects the form of urbanization in non-city conditions, it also contributes to the collective climate anxiety that has become at the forefront of development discourse. Bruno Latour discusses in his writings and brings to attention how ecological degradations rooted in the political landscape contribute to the conflicts between globalization, localization, and massive inequalities. With modernity as

⁵⁶ Brenner, 2016

⁵⁷ Ibid

⁵⁸ Easterling, 2014

⁵⁹ Ibid

a backdrop, the idea of ever-expanding progress becomes the driving force of our globalizing world. This race towards modernization is driven by the modernist practice of purification, where the dichotomy between Nature and Culture is constantly reinforced and separated.⁶⁰ However, as we are now living in the Anthropocene, an epoch in which every anthropogenic activity has a consequence in the natural orders, it is imperative to rethink our politics towards the Earth rather than just global, national, or local.⁶¹ As learning new ways to inhabit the Earth becomes the biggest challenge, Latour emphasizes his claim that “we have never been modern”⁶² and advocates for a new system of ‘Terrestrial’ politics. This system gives attention to the social agency of nature and engenders a form of politics that acknowledges beyond human actors towards other diverse natural beings.⁶³ While this concept of thought came primarily from the Western standpoint, it reinforces the notion that the Western model of development, which is highly influential to many parts of the world, is rekindling the idea of a horizontal relationship with nature.

Taking the case of Chana, where the 6,000-acre plan under the given name “Industrial Model City for the Future” is designated to turn undisturbed hinterland landscapes into economic zones. If executed, the zone will become the most significant industrial area in the south of Thailand. The zone and its plan represent the infrastructure space disguised under economic incentives while being an instrument for state authoritarianism. Acknowledging that this form of urbanization needs an alternative, the thesis seeks to challenge this form and establish meaningful connectivity to the local territories and ecologies. Under Latour’s concept of ‘Terrestrial,’ the thesis reintroduces Chana’s dove rearing culture as an essential agency to reimagine different modes of development. Not in the way of resorting back to romanticism or agrarian myth, the thesis attempts to bring forward the obvious yet overlooked agency into the development discussions.

⁶⁰ Latour, 1993

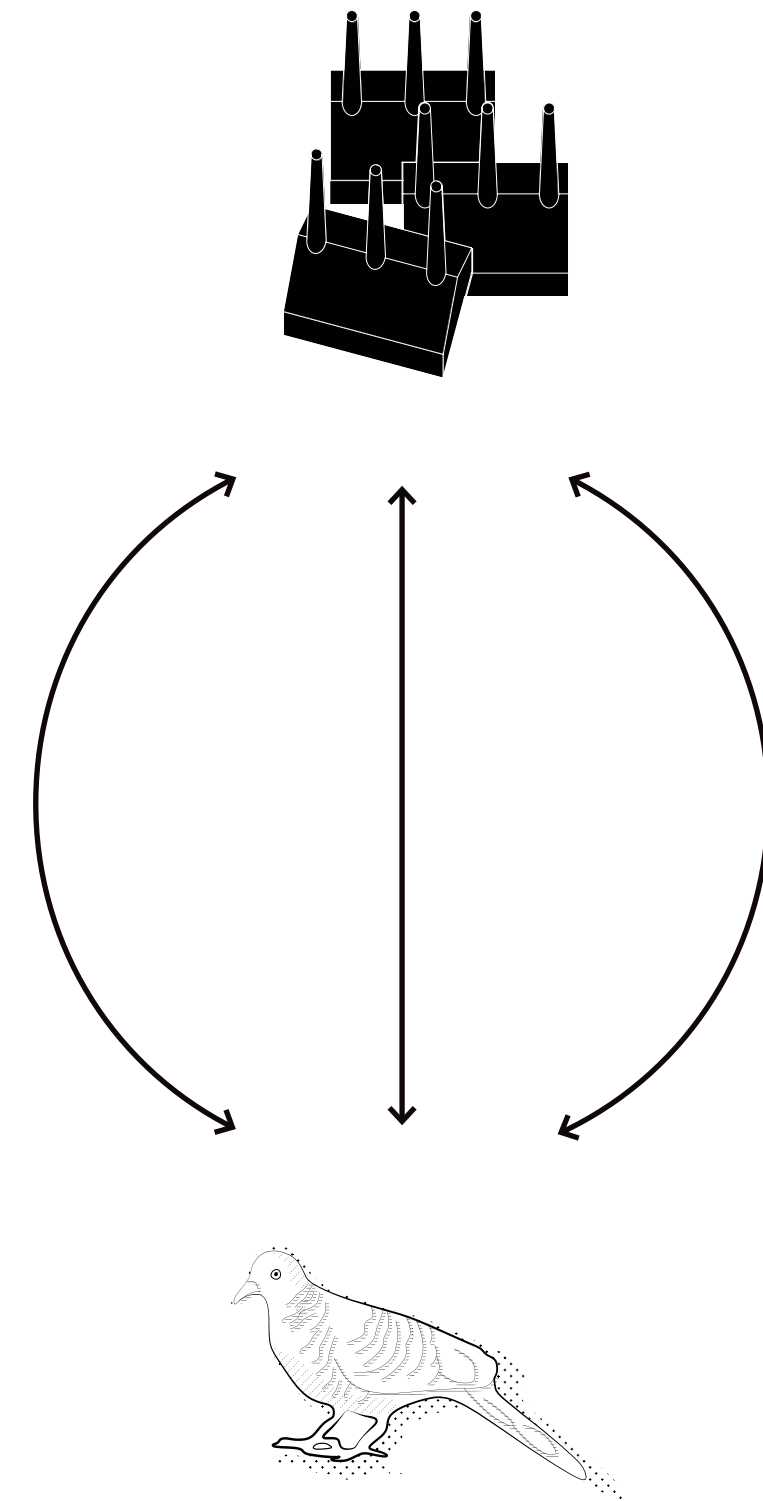
⁶¹ Latour, 2018

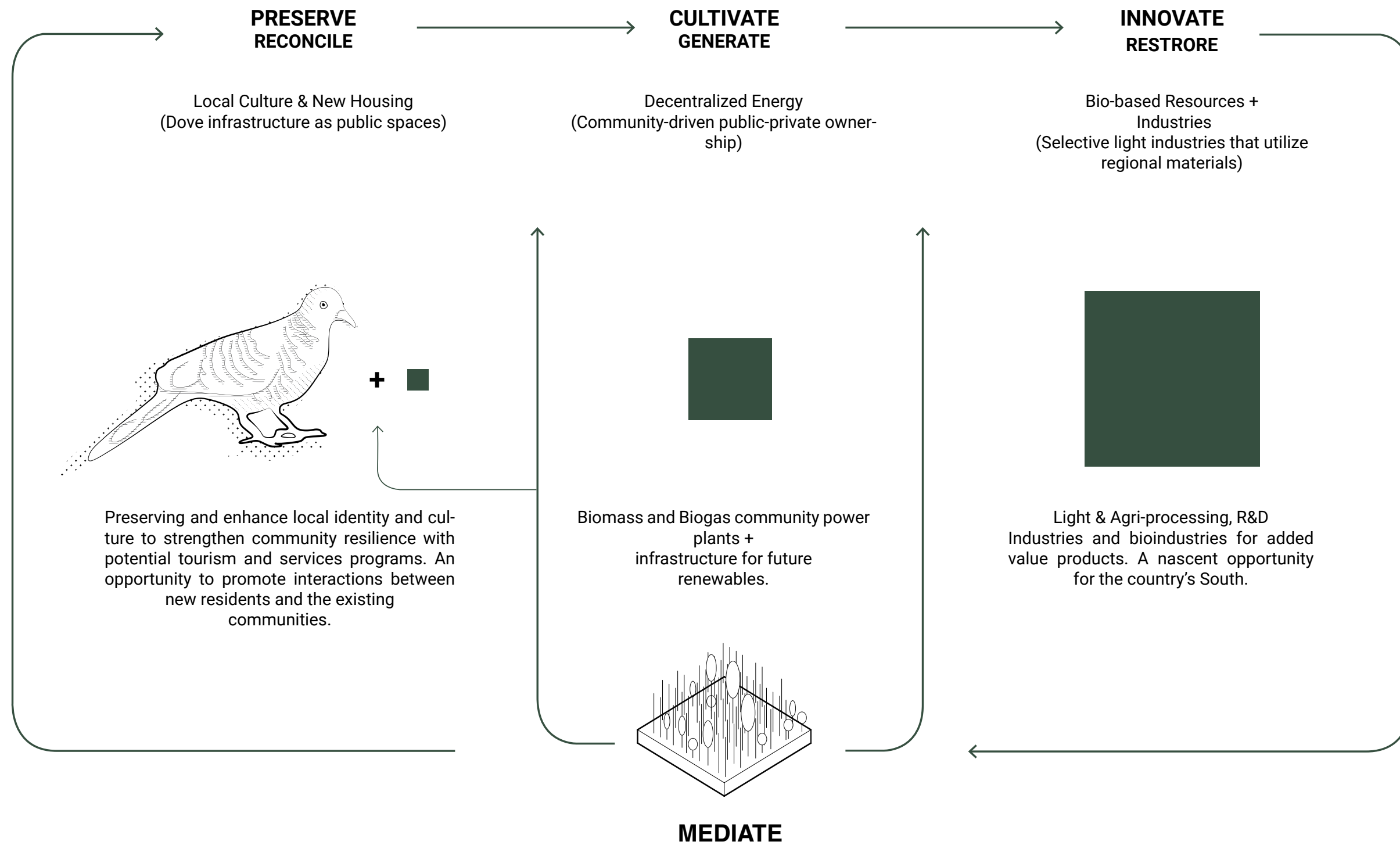
⁶² Latour, 1993

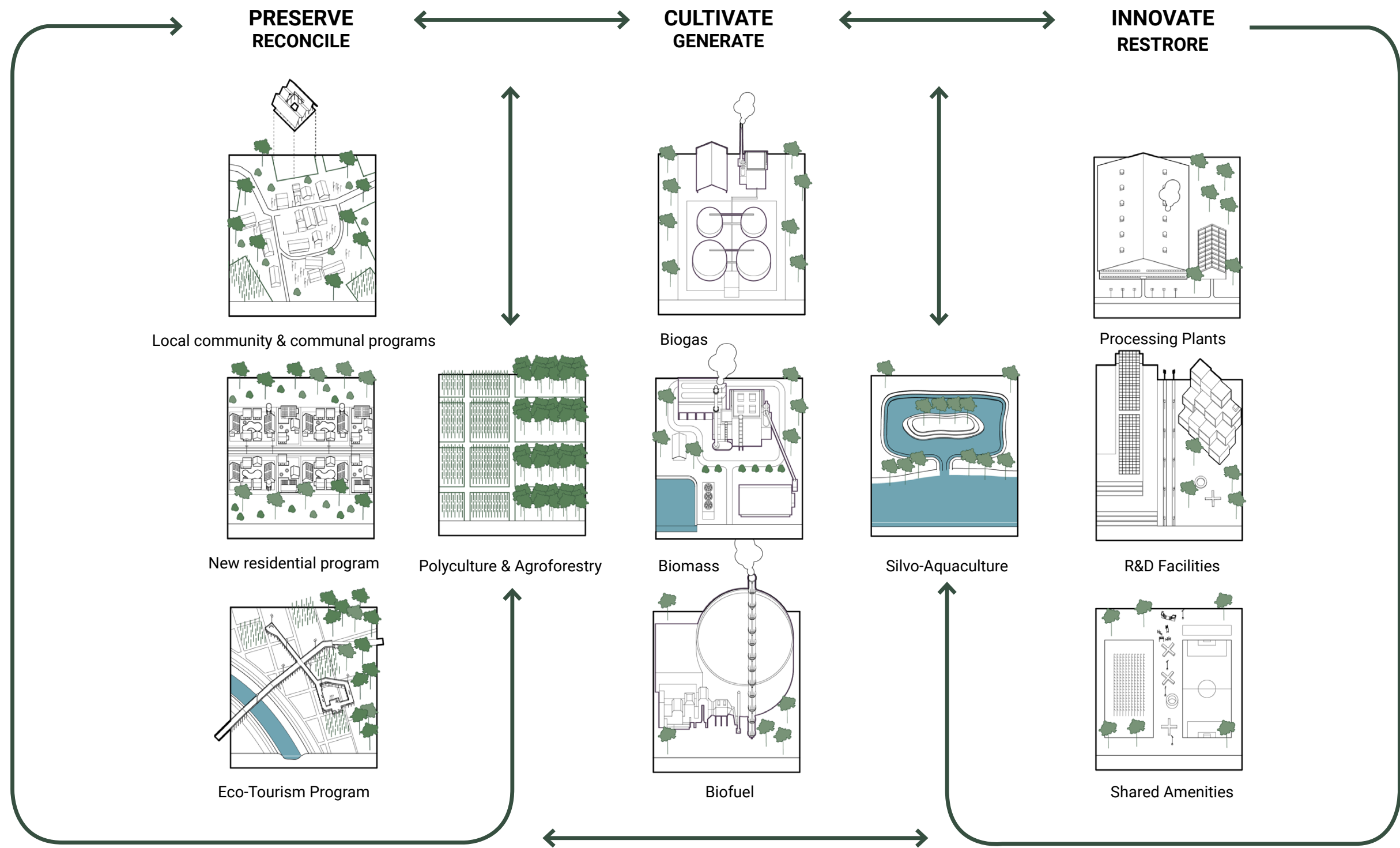
⁶³ Deller, 2019

Already the local mediator across individual and transnational scales, this local dove culture could become an important local entity to mediate different modes of spatial interplays to counter the hegemonic plan as proposed. Therefore, instead of socially and environmentally disconnected programs, the thesis proposes a new programmatic reformation that mediates social and cultural interactions, decentralizes energy, and enhances Chana's socio-environmental contexts.

These new programs translated into three initial strategies: to Preserve and Reconcile; to Cultivate and Generate; to Innovate and Restore. The Preserve and Reconcile strategy utilizes the existing fabric of dove culture in Chana. It seeks to preserve as well as enhance this cultural identity through residential and related service programs where preservation co-evolves through the strengthening of community resilience. The strategy offers an opportunity to promote interactions between existing local residents and future residents through social proximities and shared resources. The Cultivate and Generate strategy enhances the community-power plant concept through maximizing the uses of agricultural resources. The decentralized energy system primarily involves community-based biomass and biogas power plants. Lastly, the Innovate and Restore strategy seeks to prioritize local material uses through research and innovation while simultaneously restoring the local environment instead of extracting and exploiting them. These strategies are translated into a series of spatial toolkits to be tested out within selected sites. By shifting the monocultural practices currently done in Chana, the polyculture, agroforestry, as well as silvo-aquaculture are introduced as the backdrop that enables synergies, seeding through across these programs.







Agroforestry Strategies

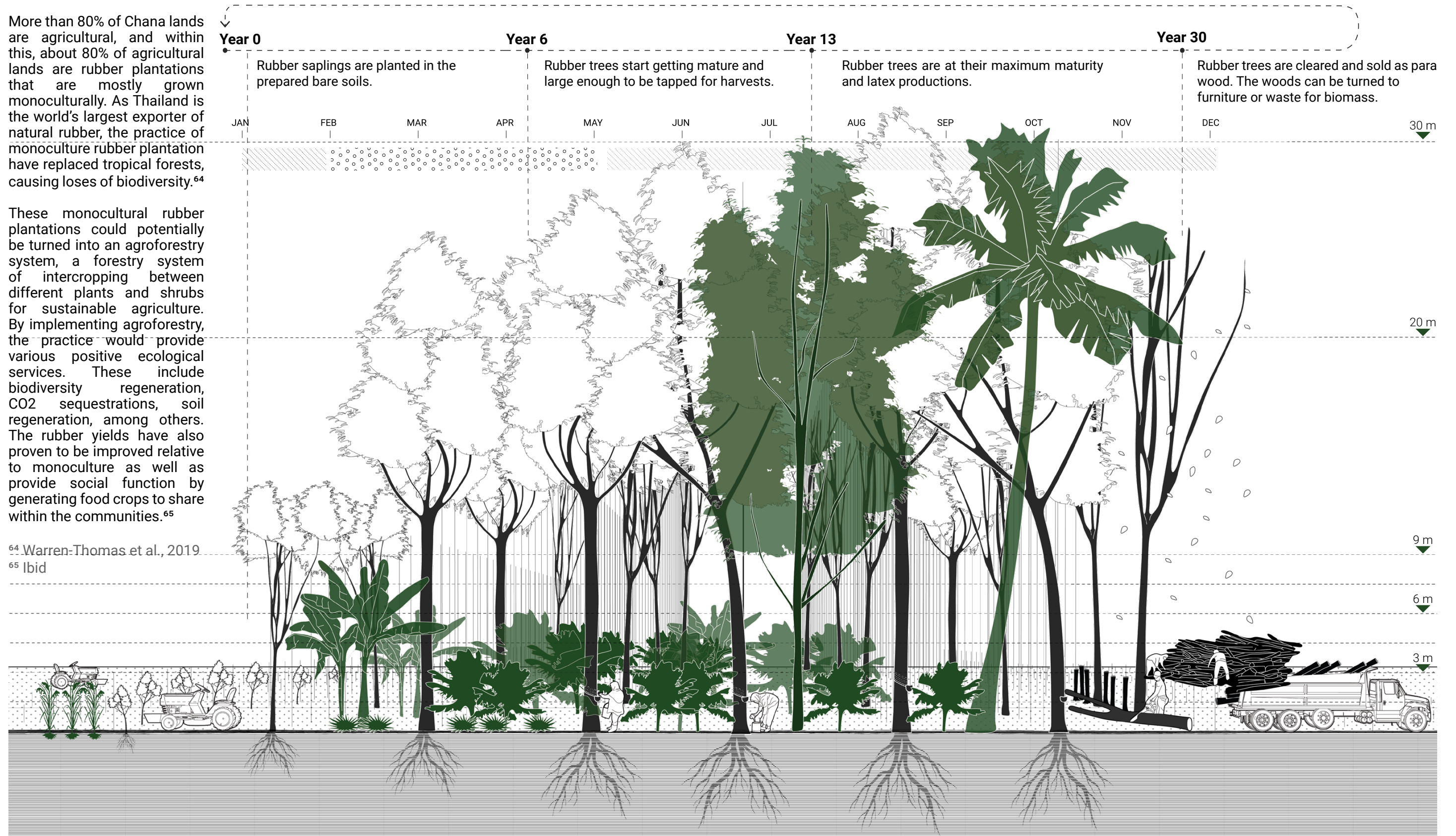
More than 80% of Chana lands are agricultural, and within this, about 80% of agricultural lands are rubber plantations that are mostly grown monoculturally. As Thailand is the world's largest exporter of natural rubber, the practice of monoculture rubber plantation have replaced tropical forests, causing losses of biodiversity.⁶⁴

These monocultural rubber plantations could potentially be turned into an agroforestry system, a forestry system of intercropping between different plants and shrubs for sustainable agriculture. By implementing agroforestry, the practice would provide various positive ecological services. These include biodiversity regeneration, CO2 sequestrations, soil regeneration, among others. The rubber yields have also proven to be improved relative to monoculture as well as provide social function by generating food crops to share within the communities.⁶⁵

⁶⁴ Warren-Thomas et al., 2019

⁶⁵ Ibid

RUBBER PLANTATION LIFE CYCLE



Government-led Programs

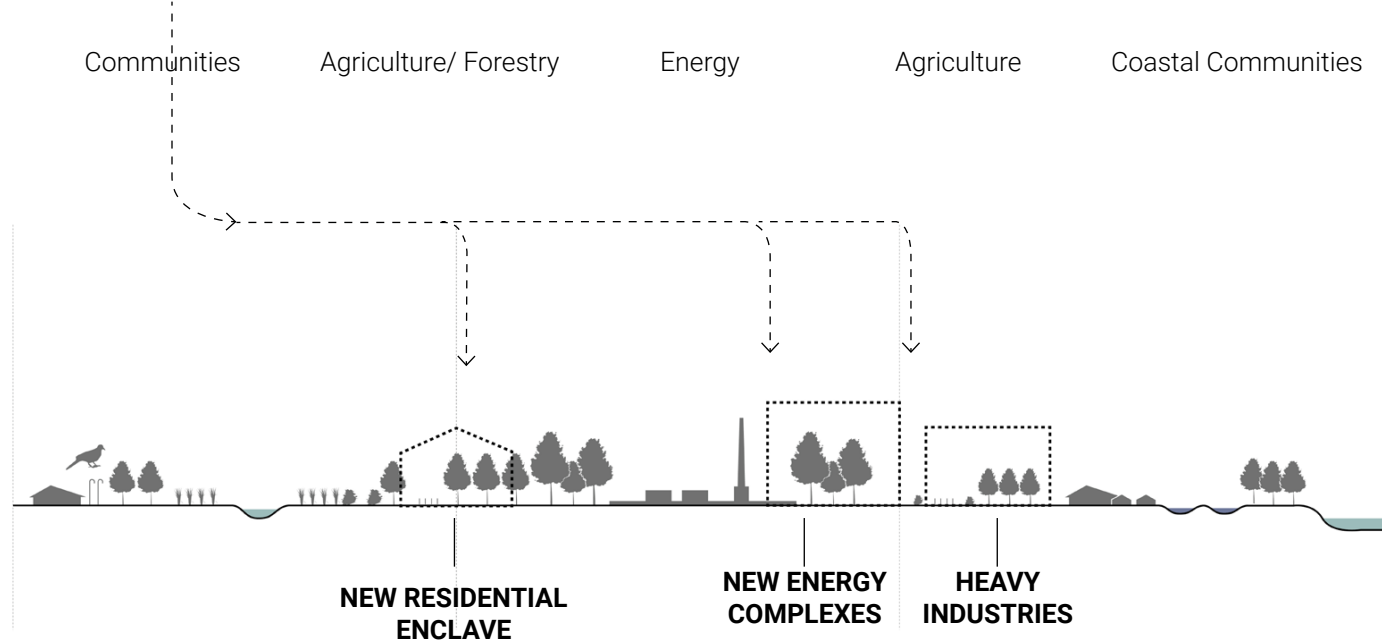


Fig.1

Proposed Programs

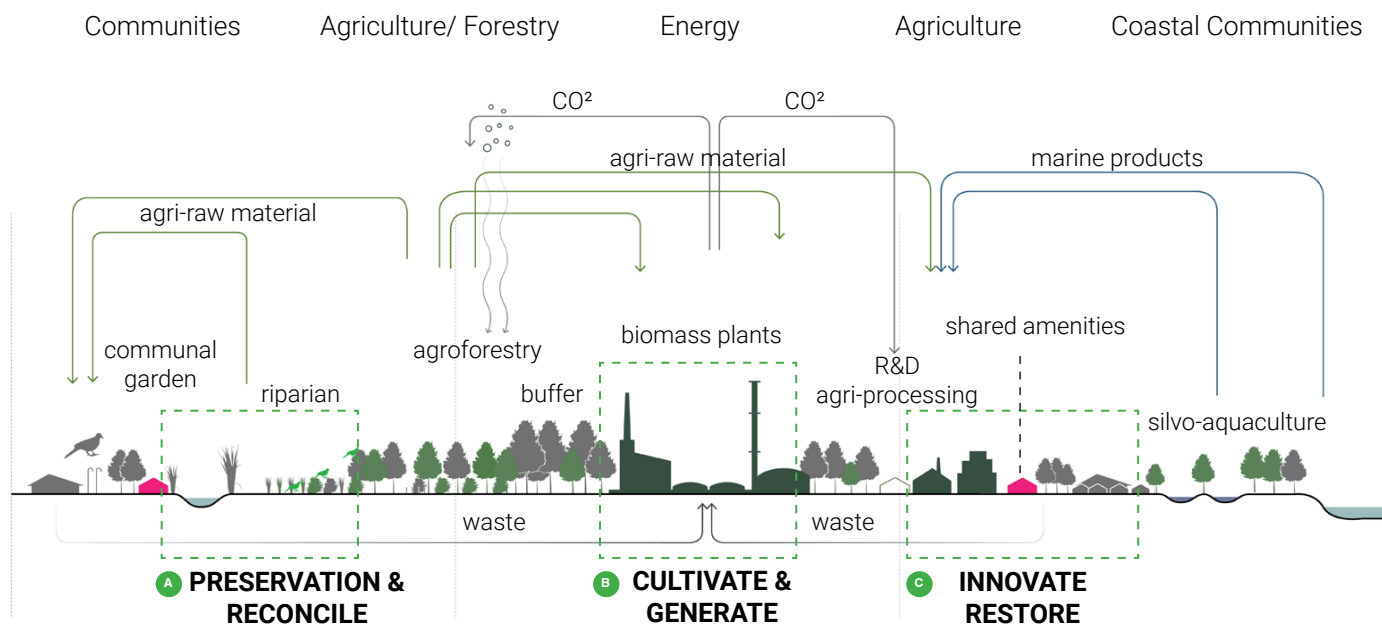
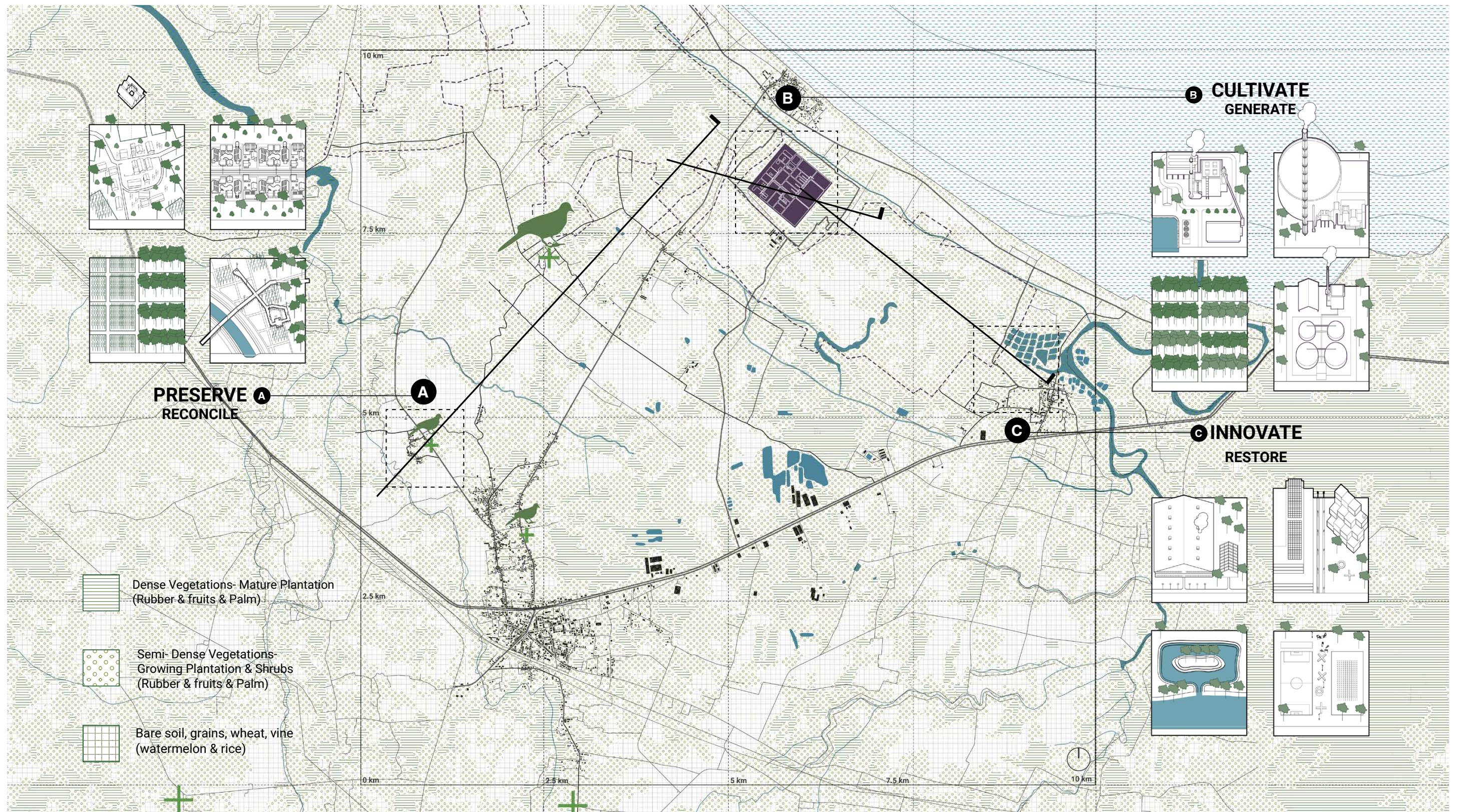


Fig.2

The current development zones span across the three coastal sub-districts within Chana, namely Na-Thap, Thaling-Chan, and Sakom sub-districts. The majority of the local residents here work primarily in fishery or agriculture, harvesting latex rubber, rice, and other edible fruits. A quick look at the diagrammatic section (fig.1) shows the local fabric as fragmented linearity of synergies between existing conditions. Imposing the government-led plan of industrialization would exacerbate the conditions by fragmenting the programs and elements even further. Instead, the thesis proposes a set of programs to bridge synergies by enhancing the potentials of existing capacities. Through strategically placing interventions and reinforcing the regenerative agricultural practices (fig. 2), these programs establish connectivity across social and ecological scales.

The proposed spatial programs and toolkits are tested out in a series of selected sites within Chana. The thesis proposes three scenarios. First, the Preserve and Reconcile program offers a scenario of co-habitation between existing communities and new housings through shared resources for food and recreation. This program intervenes in the existing fabric of community villages that are tightly connected to the local dove culture nodes. Second, the Cultivate and Generate program could use the phasing-out natural gas separation plant as the center for community biomass power plants. Third, the Innovate and Restore program offers industrial and research facilities as a catalyst for environmental restorations. The programs are designated to be in close proximity to the degrading mangrove shrimp farm surrounding the fisherman village to the east.



01 PRESERVE & RECONCILE

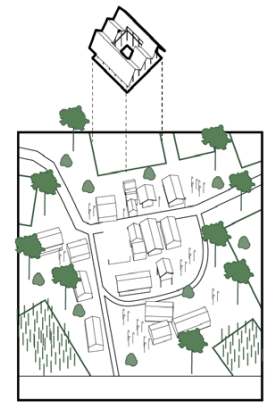
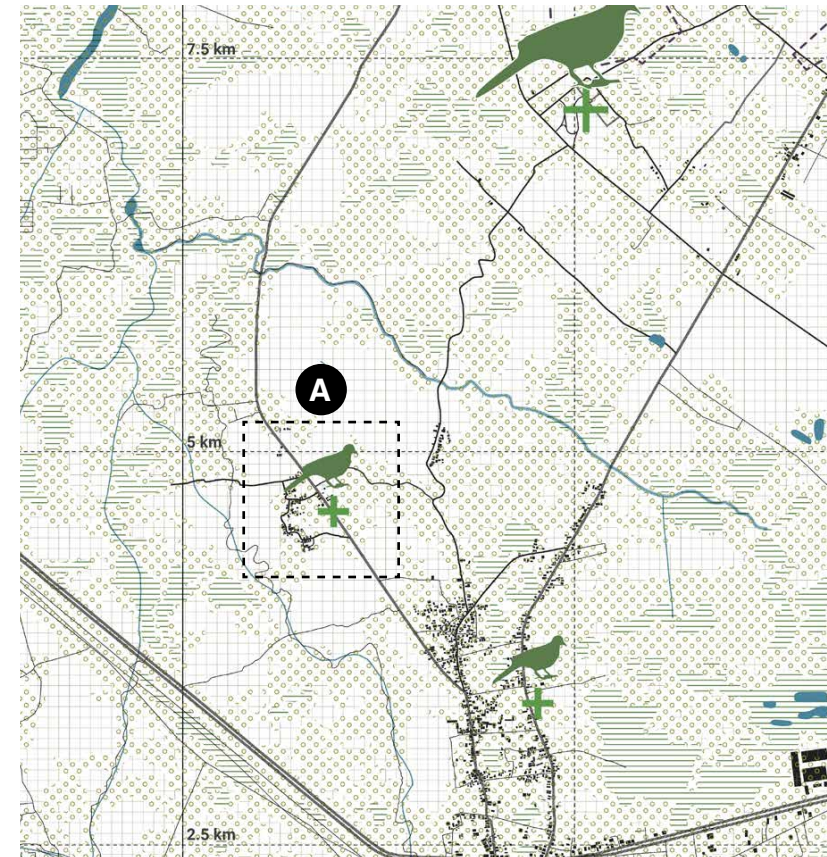
The preserve and reconcile program proposes that instead of having the new housing in an enclave far away from the local fabric, the new residential community could be placed in close proximity to the existing community.

The central agricultural field of monocultural rice and rubber is turned into a community garden along with other public programs such as community centers and markets that are placed in adjacent to the dove field. Generally, this creates the central public program to promote interactions between the existing and the new community.

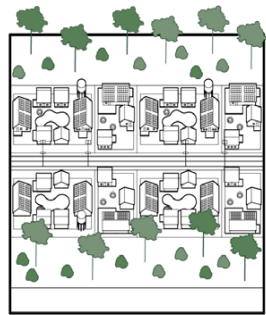
The polyculture and agroforestry strategy would regenerate the soil, ecological resilience, biodiversity, and absorb more CO² than the monocultural practices. The communal garden also provides food security to both communities as well as improves agricultural incomes.

The communal garden and the new programs would enhance the public center between the two and promote interactions through co-production and consumption of food. The social interactions would also be reinforced by close proximity to cultural activities such as the local dove field.

Biodiversity regenerated by the agroforestry and polycultural grain field would rewild native wild doves and other species. More wild doves surrounded by the dove field would create more natural communications and enhance the dove cooing activities. This could provide less stress to the caged doves and enhance the dove songs' qualities towards natural therapeutic sounds. The new communities or the tourists could enjoy this local identity and culture through these new landscapes of dove songs even without participating in this traditional sport.



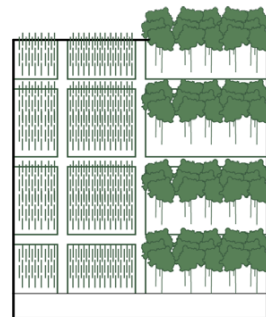
Local community & communal programs



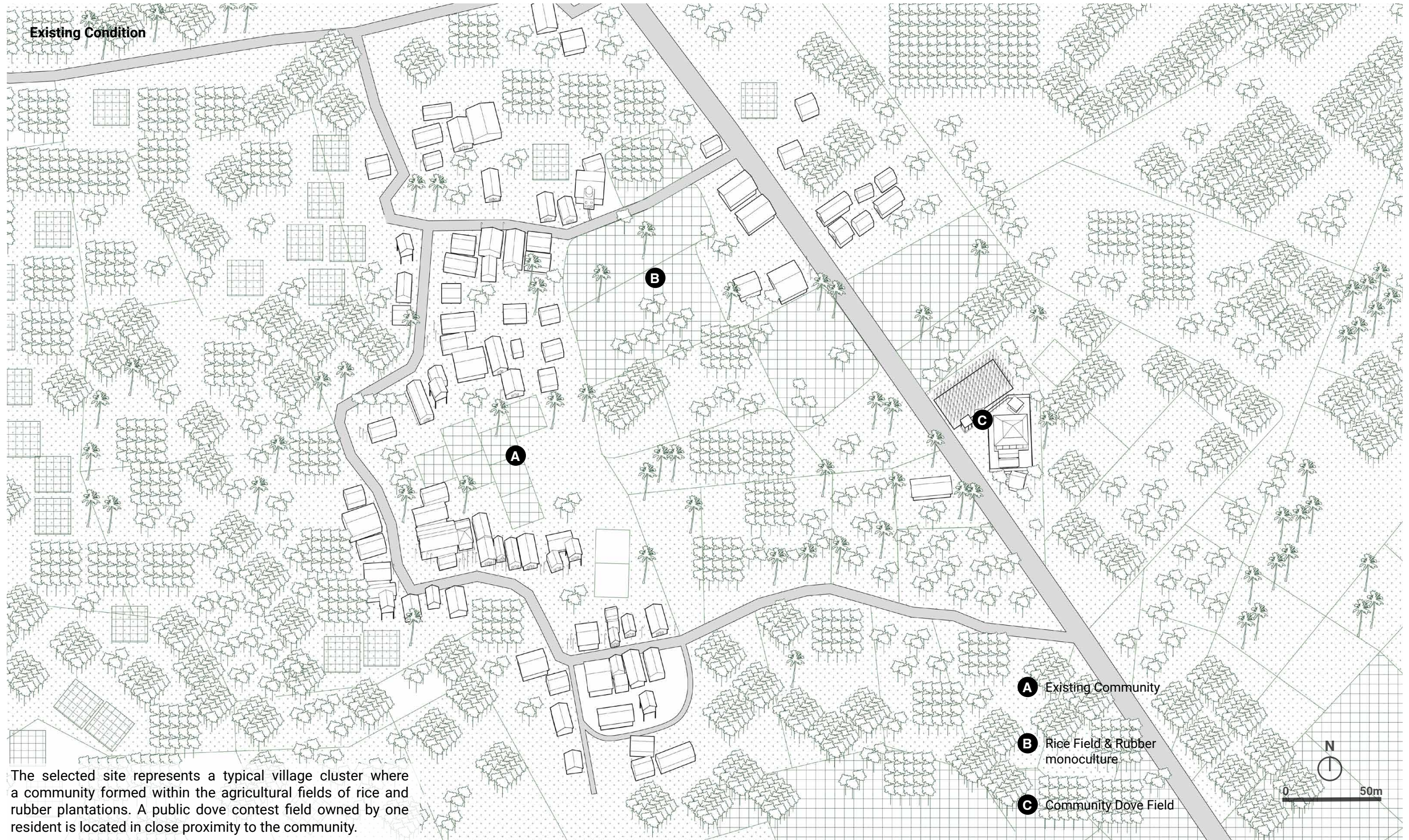
New residential program



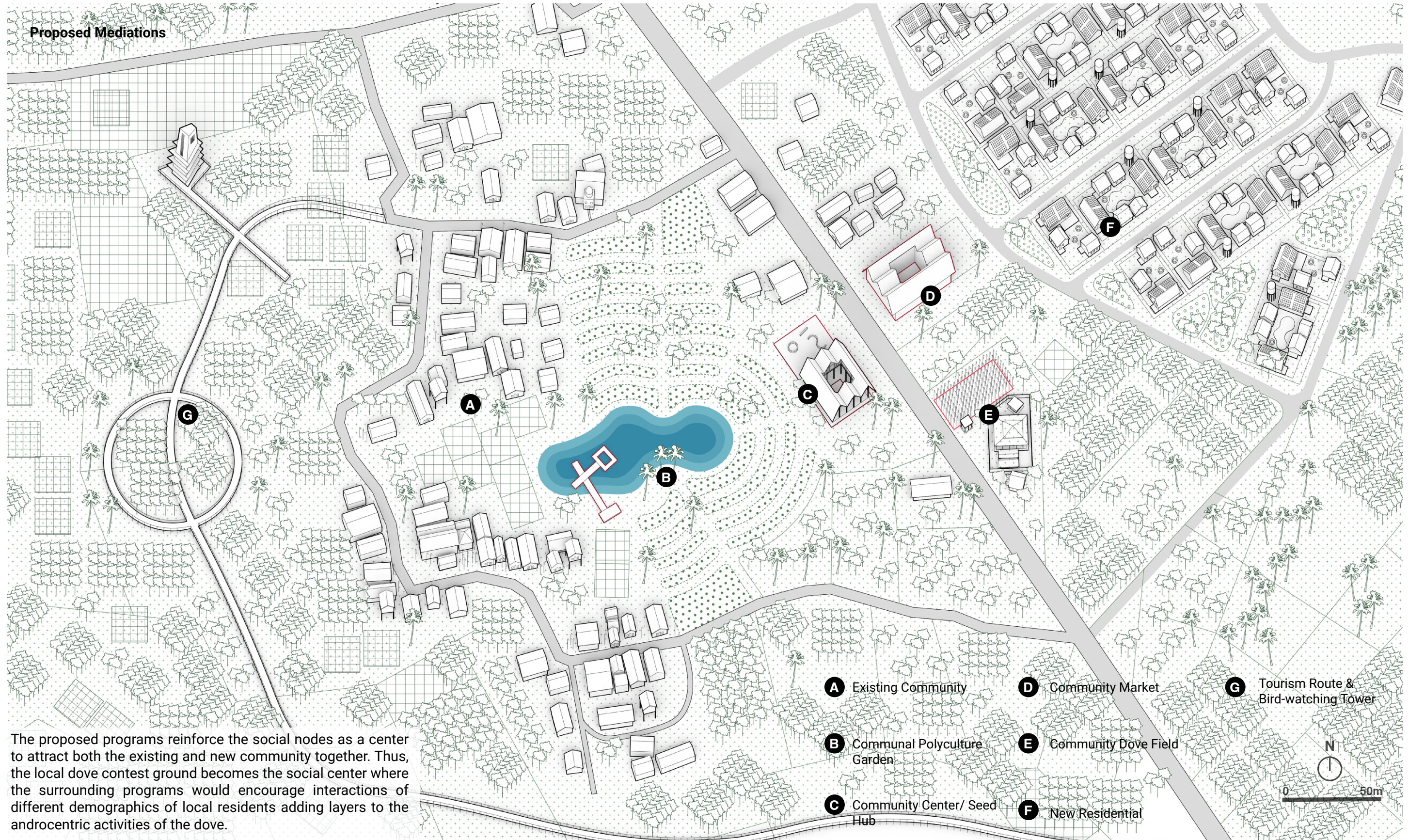
Eco-Tourism Program



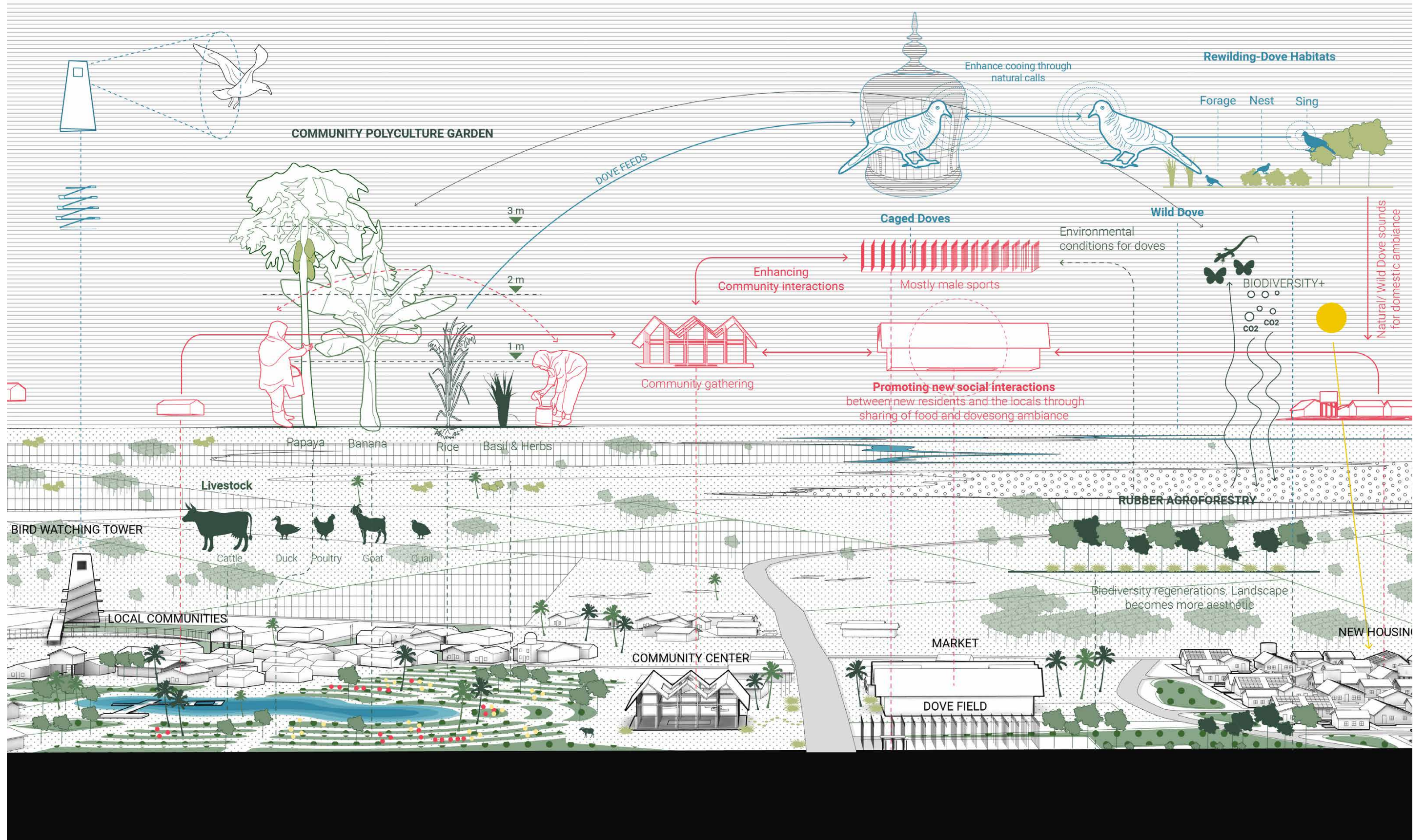
Polyculture & Agroforestry



The selected site represents a typical village cluster where a community formed within the agricultural fields of rice and rubber plantations. A public dove contest field owned by one resident is located in close proximity to the community.



The proposed programs reinforce the social nodes as a center to attract both the existing and new community together. Thus, the local dove contest ground becomes the social center where the surrounding programs would encourage interactions of different demographics of local residents adding layers to the androcentric activities of the dove.

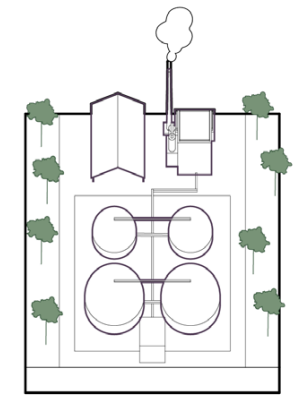
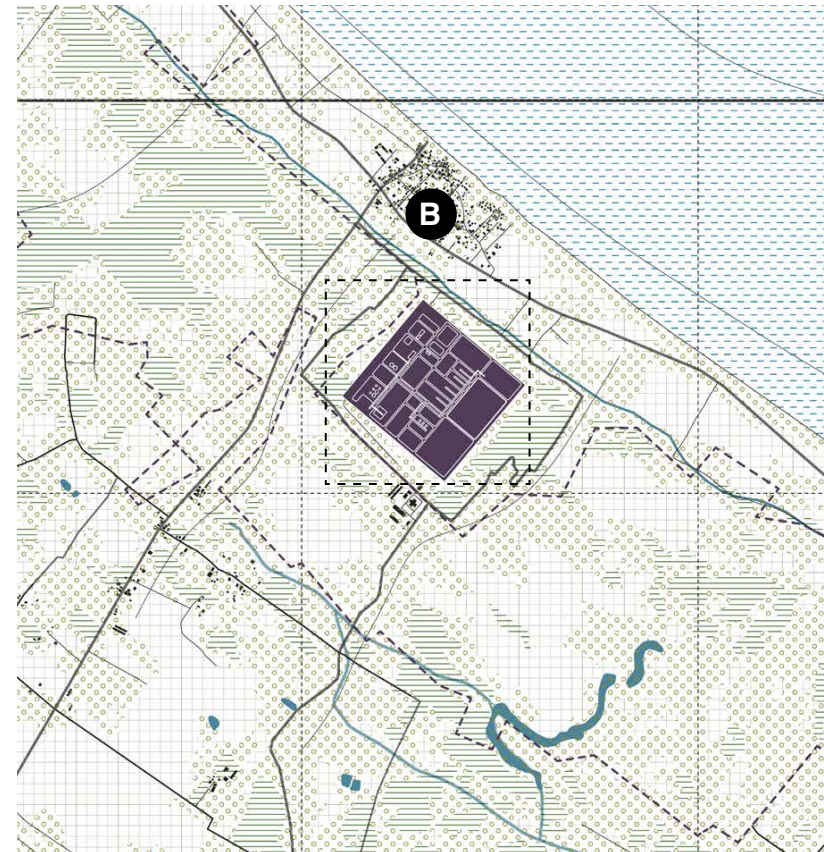


02 GENERATE & HARVEST

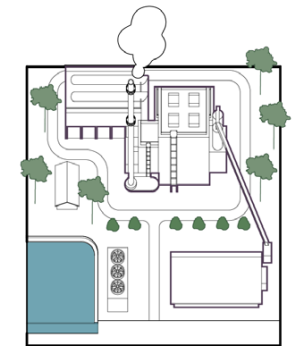
The second scenario looks at the natural gas separation plant here in Chana; this plant was constructed in the early 2000s against the local opposition. It is considered to be a bad investment where the gas extracted is shared 50-50 between Thai and Malaysia partnership, yet the pollutions and waste are 100 percent impacting the locals.

The plant is soon phasing out, and the thesis proposes to replace this gas infrastructure with biomass, biogas, and biofuel power plants. It will be operated based on the new national policy of community-based power plants where a partnership between private companies as an investor and the communities as a supplier of energy crops work collaboratively.

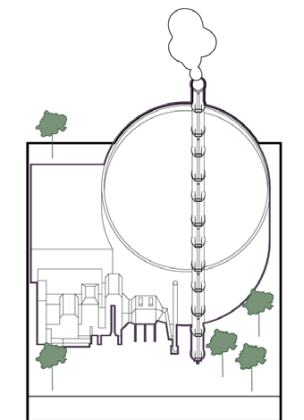
More than 80% of Chana agricultural lands are rubber; the rubberwood is being cut annually and is an excellent supply for biomass energy. By shifting the monocultural practices to agroforestry, the landscape will not only provide more harvest opportunities, more plant to sequester CO², but it will also act as the ecological buffer that mediates noise pollution, smells, and dust particles from these plant to the dove and other areas.



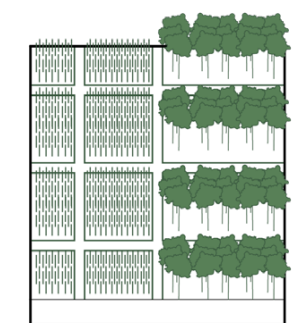
Biogas

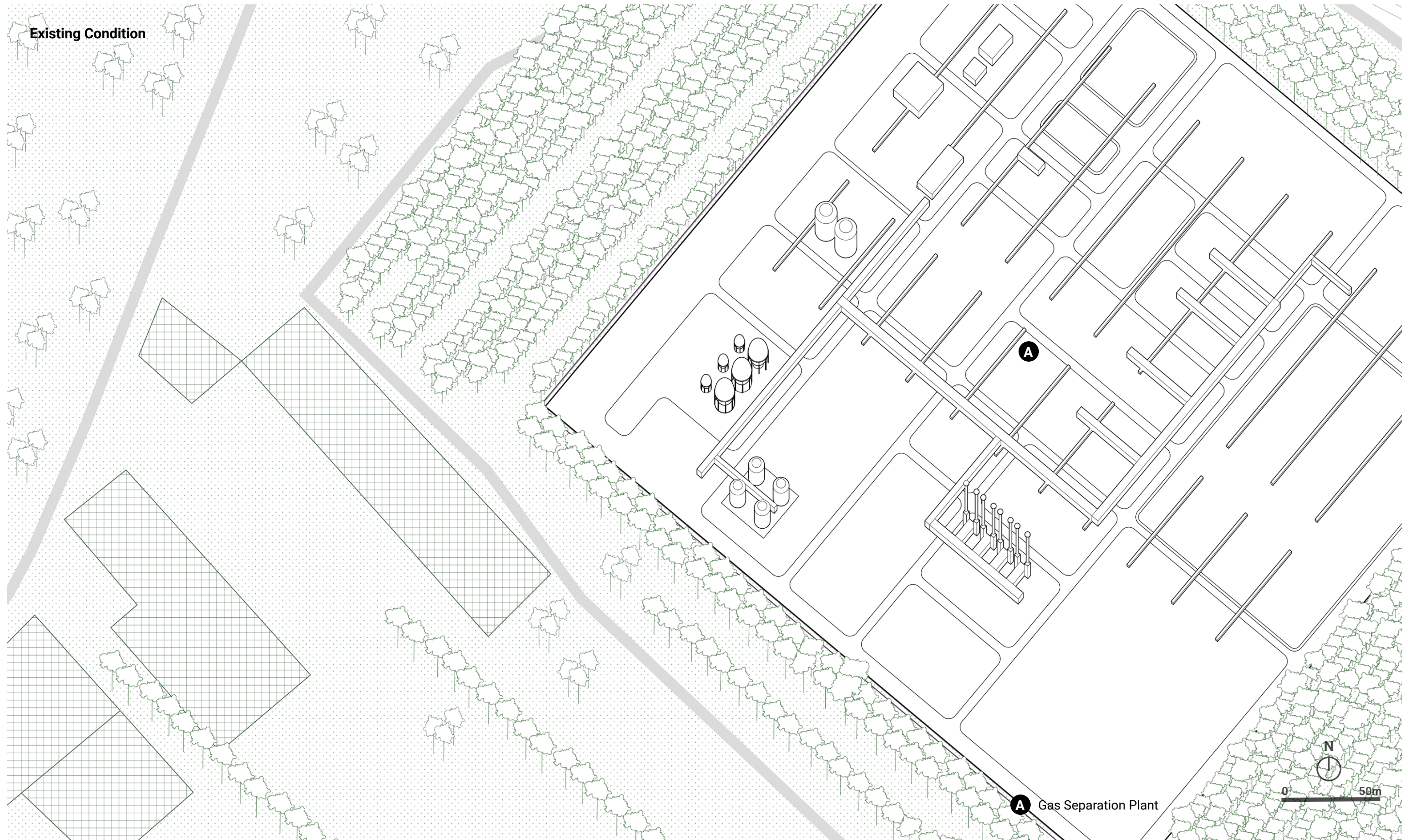


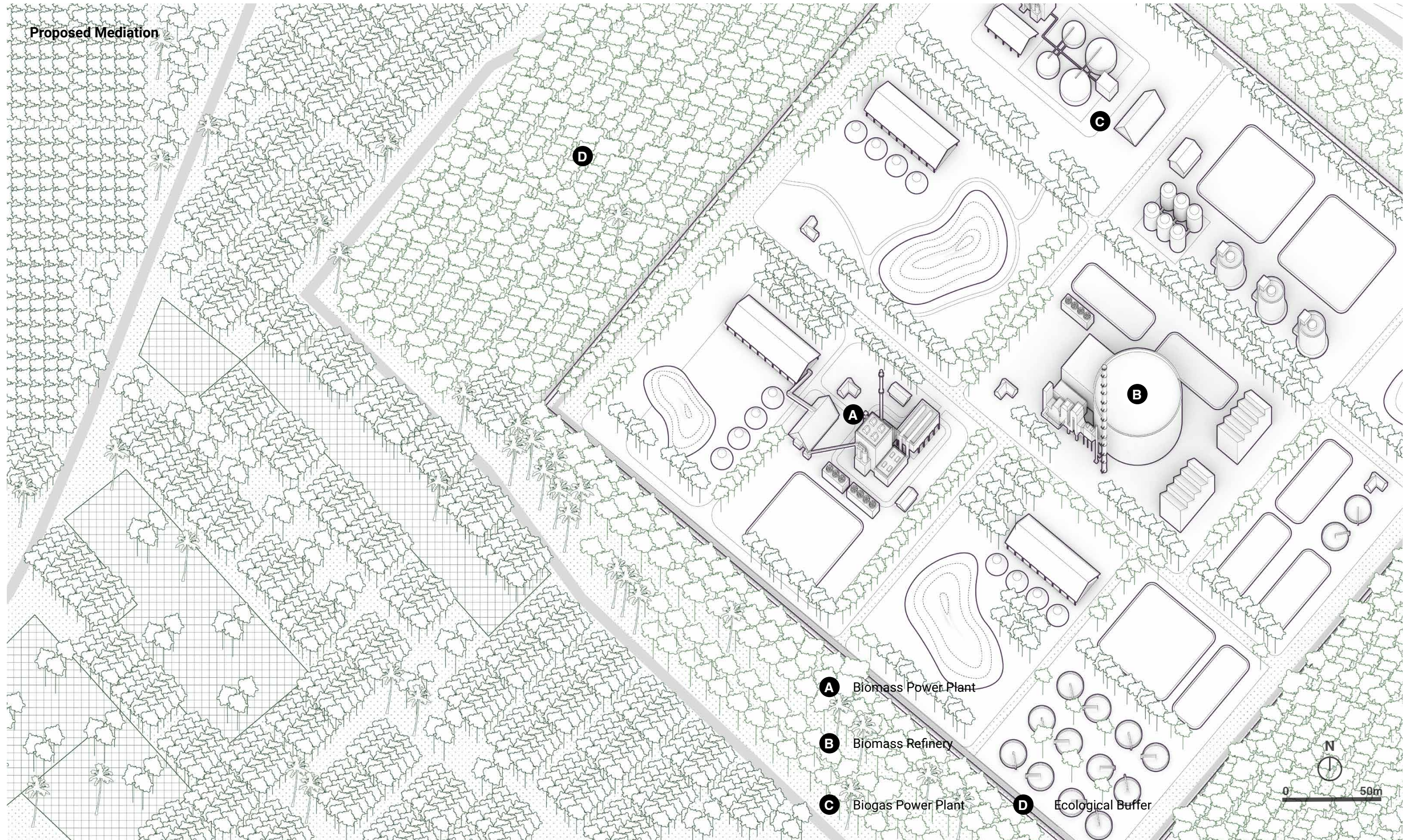
Biomass

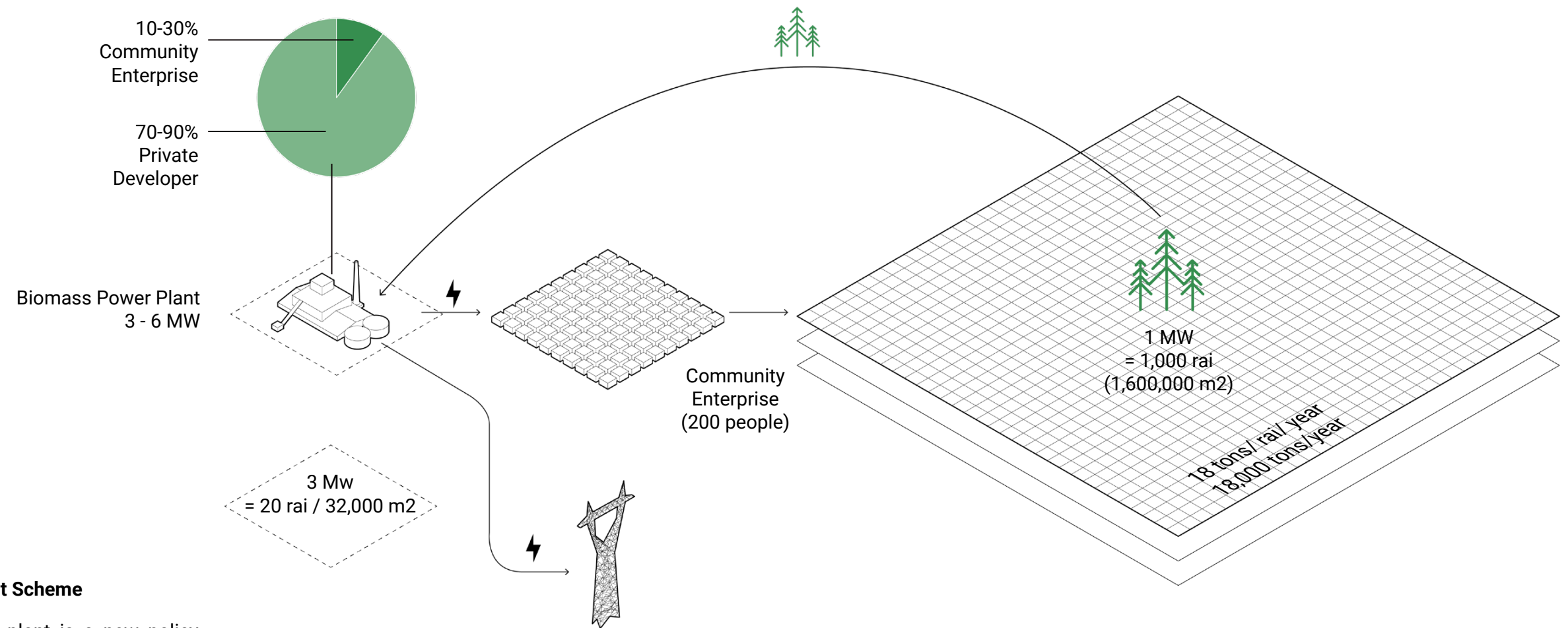


Biofuel





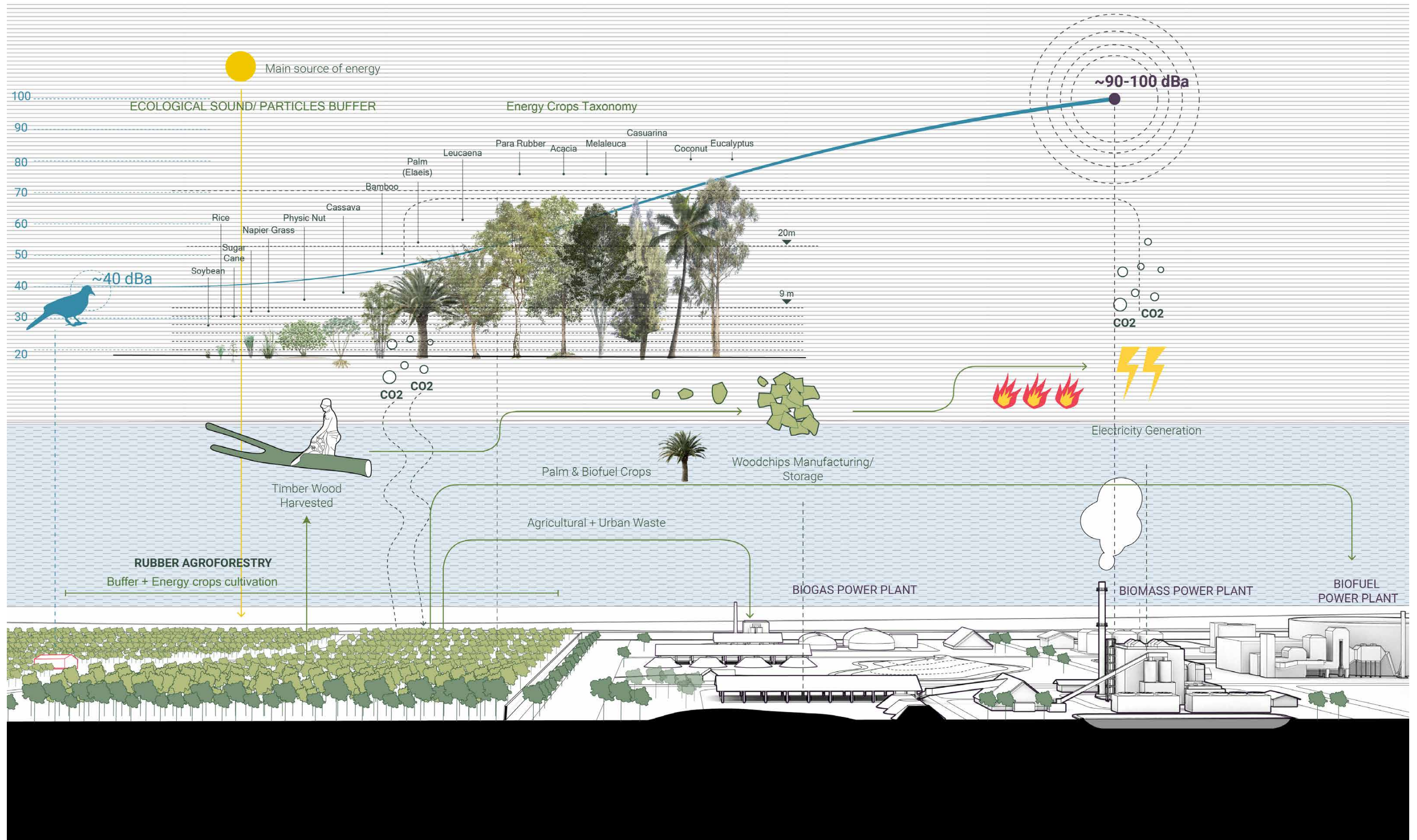




Community-based Biomass Power Plant Scheme

The community-based biomass power plant is a new policy piloted by the Provincial Electricity Authority (PEA) under the Ministry of Energy.⁶⁶ The concept involves a public-private partnership between local communities as the supplier of biomass resources and the private investor to invest and develop the plant. The state will then buy the electricity through the feed-in tariff system. The project aims to decentralize energy productions, giving autonomy to the community towards both energy security as well as enhance their agricultural incomes. While there are limitations to the concept, it seems to be a promising strategy to decentralize and involve bottom-up participation. The thesis argues that this trajectory of development should be emphasized within the context of Chana, where rubber biomass is available and will be improved through agroforestry practices.

⁶⁶ Ministry of Energy, 2020



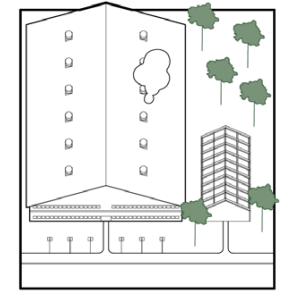
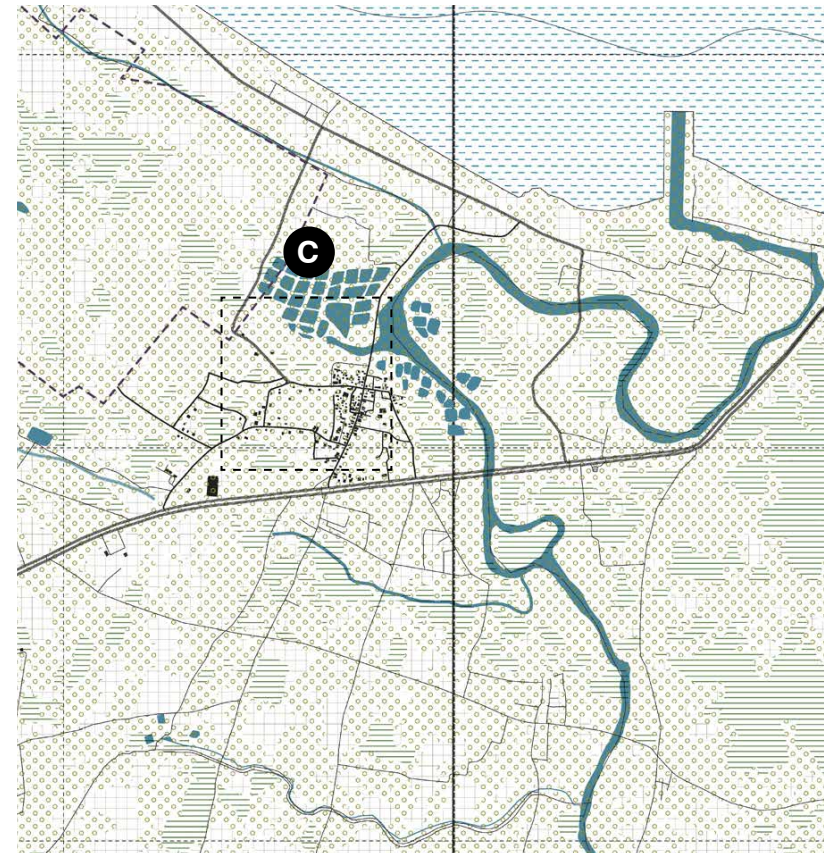
03 INNOVATE & RESTORE

The third program proposes to position here the light industries, which mainly consist of bio-based processing facilities and greenhouses that aim to produce value-added products from locally harvested goods. In addition, the research facilities are also designated here to drive indigenous innovation from these resources.

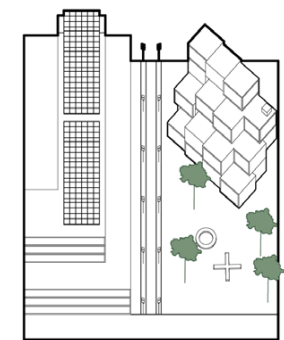
In addition, to generate more jobs, the industries could function as an incentive to restore and regenerate degraded mangroves here by integrating silvo-aquaculture shrimp farms.

The enhanced watershed would provide ecological services for the water treatment and generate biodiversity suitable for research and raw materials agri-food processing and food sources for the community.

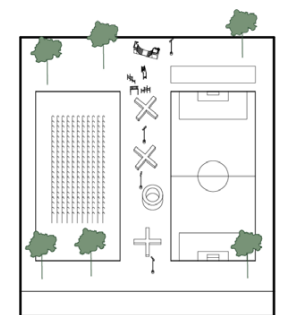
The amenities program from the industries could be placed between the two as a shared amenities by both industry and the local; these spaces could offer dove-related activities and other recreational programs.



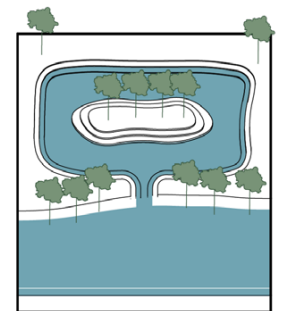
Processing Plants



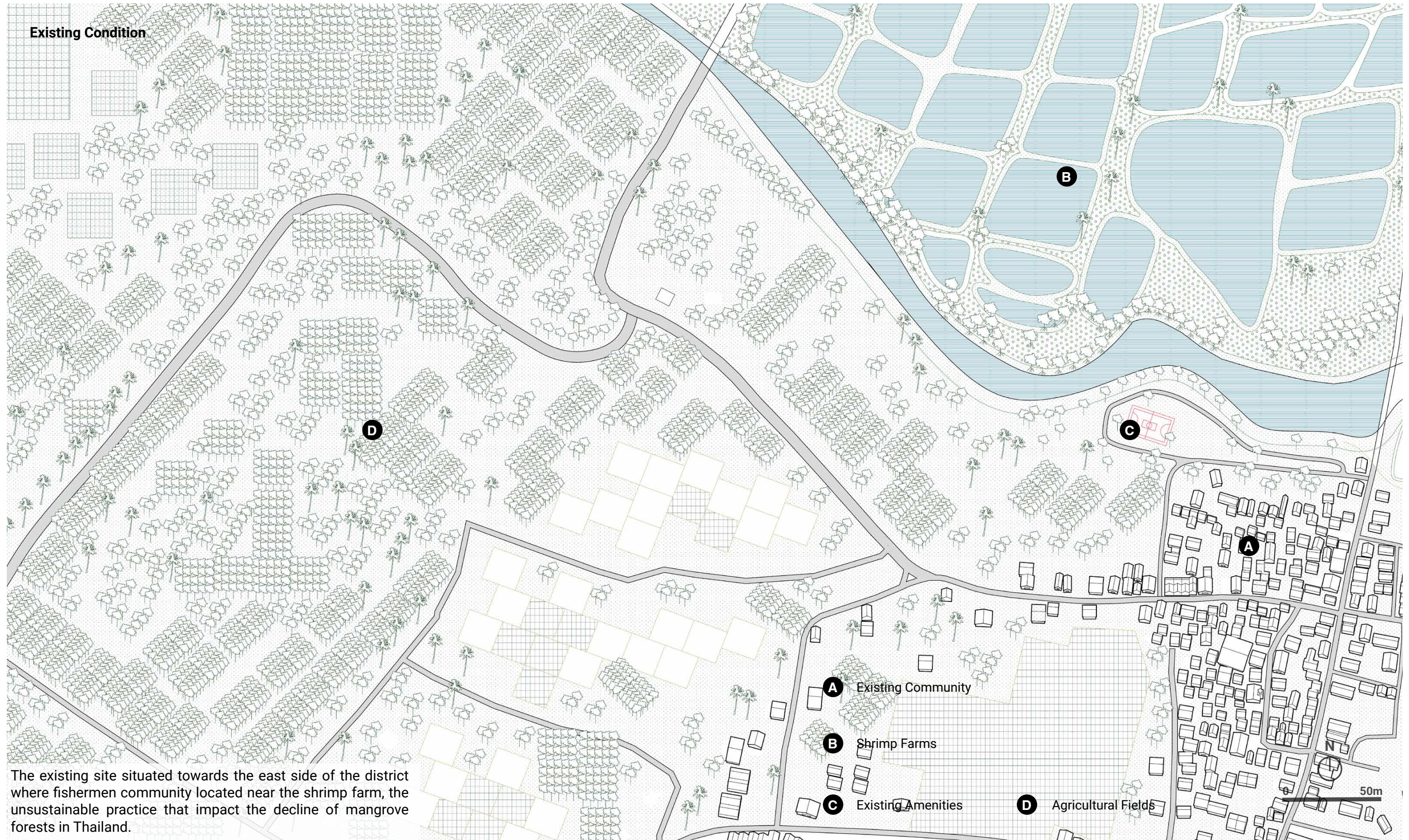
R&D Facilities



Shared Amenities

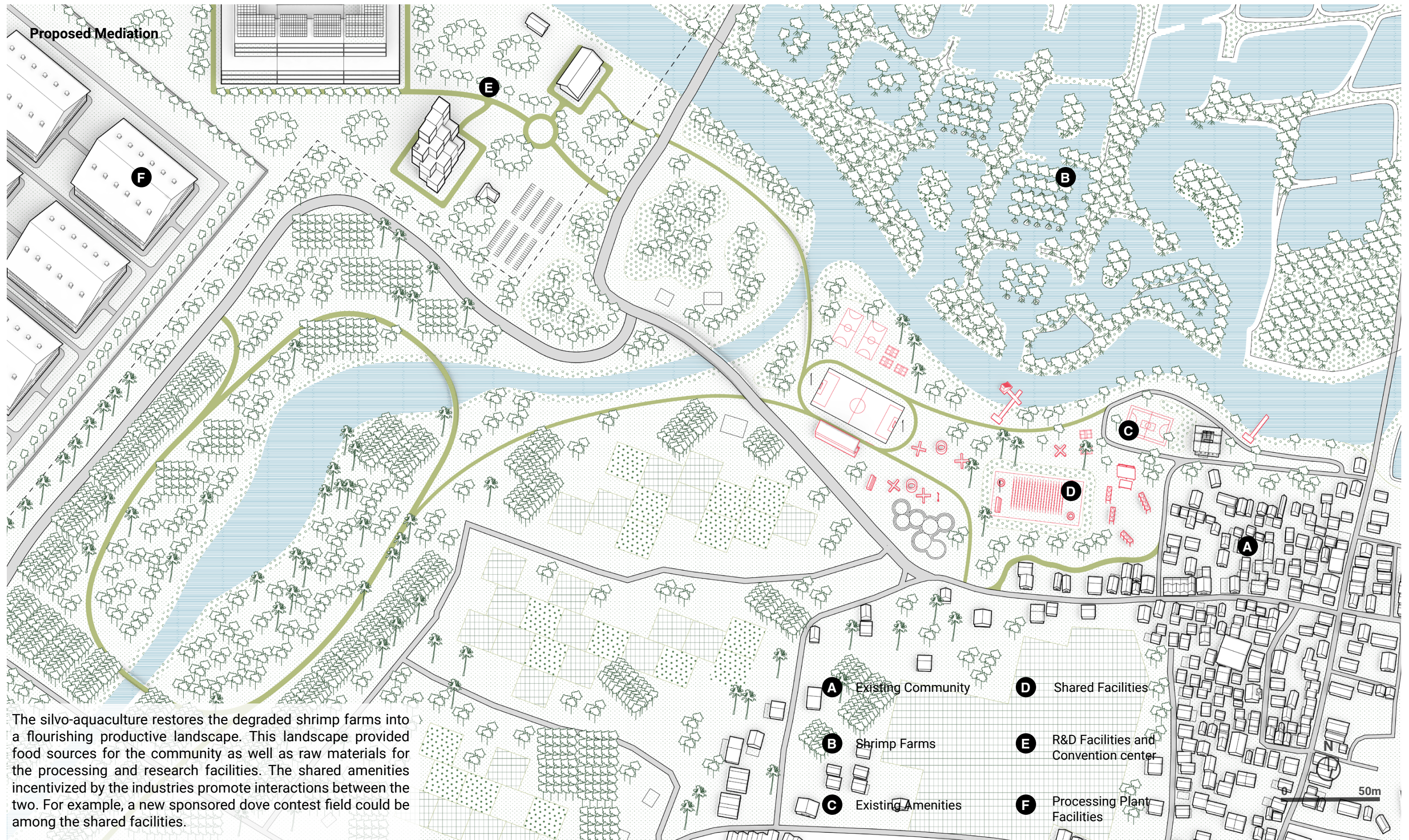


Silvo-Aquaculture

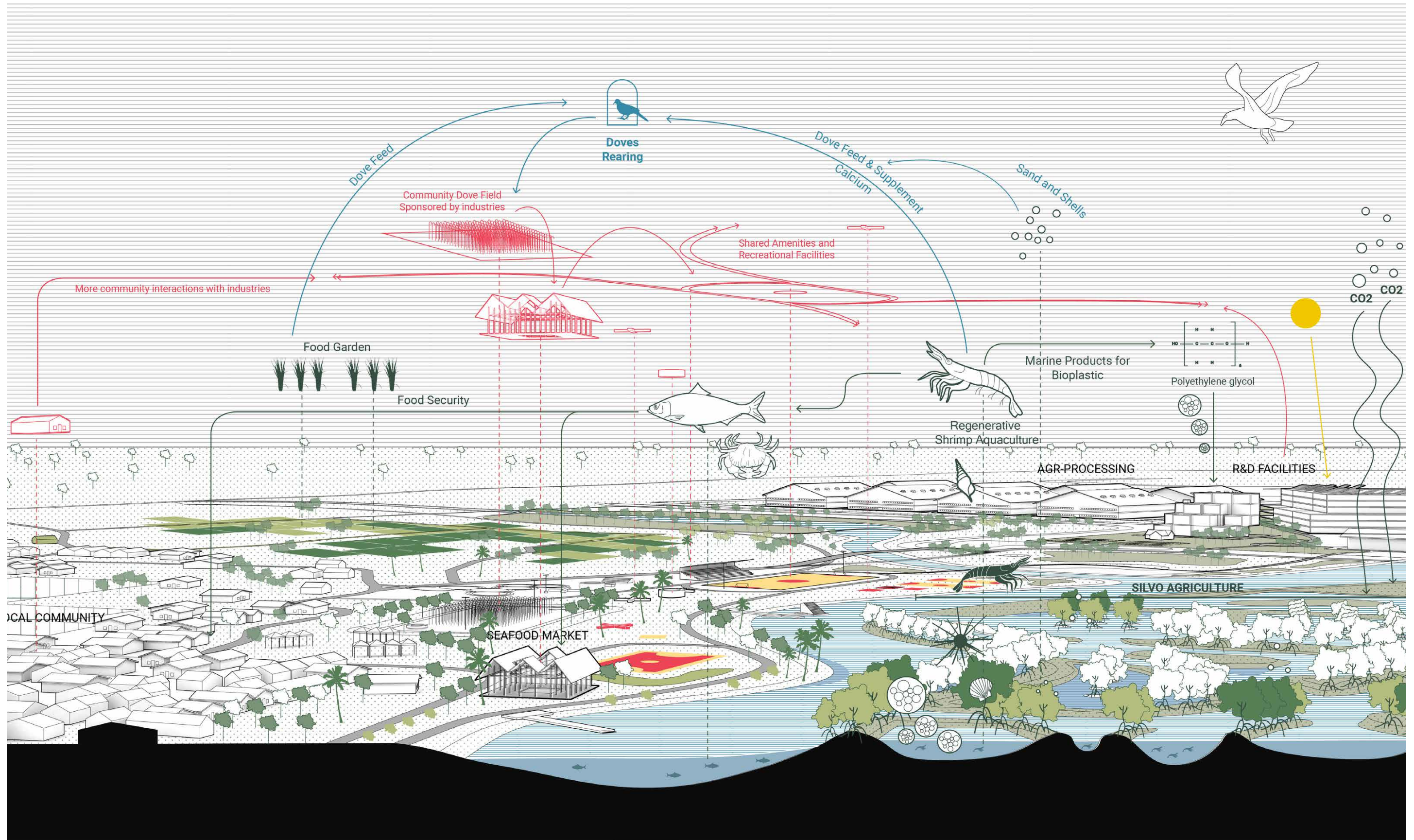


Existing Condition

The existing site situated towards the east side of the district where fishermen community located near the shrimp farm, the unsustainable practice that impact the decline of mangrove forests in Thailand.



The silvo-aquaculture restores the degraded shrimp farms into a flourishing productive landscape. This landscape provided food sources for the community as well as raw materials for the processing and research facilities. The shared amenities incentivized by the industries promote interactions between the two. For example, a new sponsored dove contest field could be among the shared facilities.



06 Reflections



A Zebra Dove (*Geopelia striata*) in a bamboo crafted cage (image taken by author)

In the prologue of *Mushroom at the End of the World*, Anna Tsing begins with a question, "what do you do when your world starts to fall apart?" then she answers, "I go for a walk, and if I'm really lucky, I find mushrooms."⁶⁷ Imagine the same question asked to the residents of Chana. Among many answers, one would be, "I go play with my doves, and if I'm lucky, they sing back." If looking at the precarity of mushroom picking an invitation to reimagine capitalism, this thesis proposes to look at the dove culture also as an invitation to reimagine the development in the Chana district.

Chana's development plan became a contentious topic widely caught by the media's attention in 2019. The discussions revolve around the narratives of conflicting tensions between centralized state and local oppositions, development and Nature, progress and culture. The conflict represents the epitome of urbanizing challenge in the south of Thailand, a region with abundant resources and culture, yet a significant development project rarely moves beyond an impasse. Through urbanism and design discipline, the thesis attempts to mediate beyond this impasse by making visible the critiques of centralized planning and the nuances of the local context.

By understanding the different forces within the contextual conditions, the thesis contributes to the development towards different degrees of mediations. First, it casts the importance of Chana district as geographically a potential site to mediate the region's deep-rooted cultural conflict. Thus, it reinforces the plan as an important opportunity to drive the region in a better direction. Second, it brings forward the importance of the dove culture as a gateway to understand the local conditions. Identified as the local mediator, the dove and its socio-ecological connectivity to the region's economy could potentially negotiate the path of development. Lastly, the thesis aims to contribute towards expanding discussions for the ongoing process of Chana development under the urbanism and design discipline. As one of the challenges of this particular

⁶⁷ Tsing, 2015

development is the lack of data and information on the local grounds, the thesis is in the process of developing into a website. The website is a 'mediating' experiment to educate the public and share its finding, drawings, and other relevant resources.

Finally, the thesis acknowledges that more research and analyses are needed towards reimagining a better development model of Chana as social inequality, and ecological disruptions are increasingly intertwined in the challenges of urbanization. The thesis advocates towards having empathy as one of the guiding compasses of development. While the thesis touches on the initial possibilities of holistic development where synergistic prospects between industries, ecological regeneration, and cultural preservation could be made possible. It hopes that the study could prompt this empathy by projecting the voices of the people on the grounds, and especially from the sounds of the doves themselves.



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