



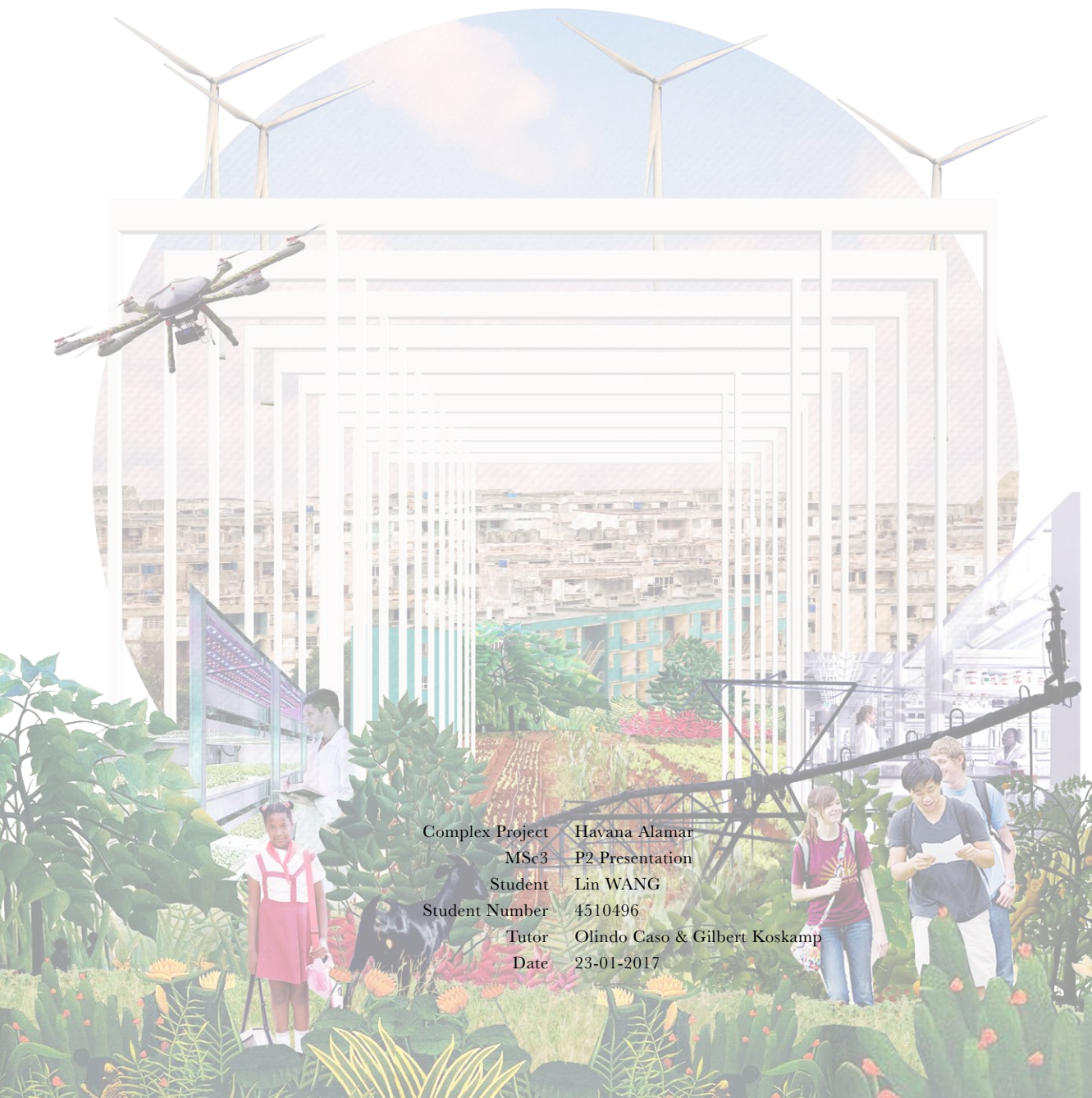
**LEARNING BY DOING IN
CUBAN URBAN IDYLL**

MSC3 COMPLEX PROJECT
HAVANA | ALAMAR

LIN WANG
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A PILOT VOCATIONAL SCHOOL
OF URBAN FARMING IN ALAMAR



Complex Project Havana Alamar
MSc3 P2 Presentation
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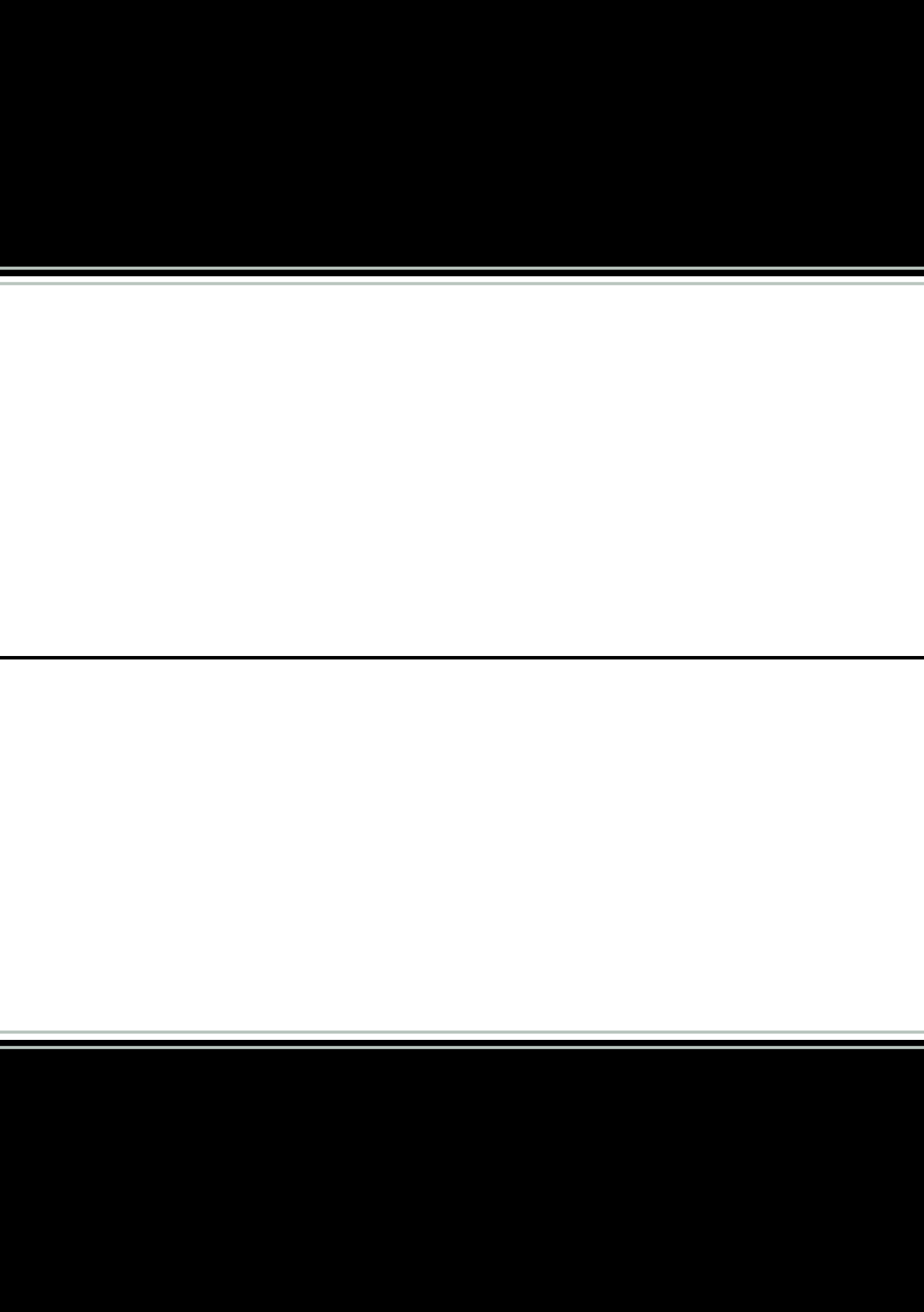
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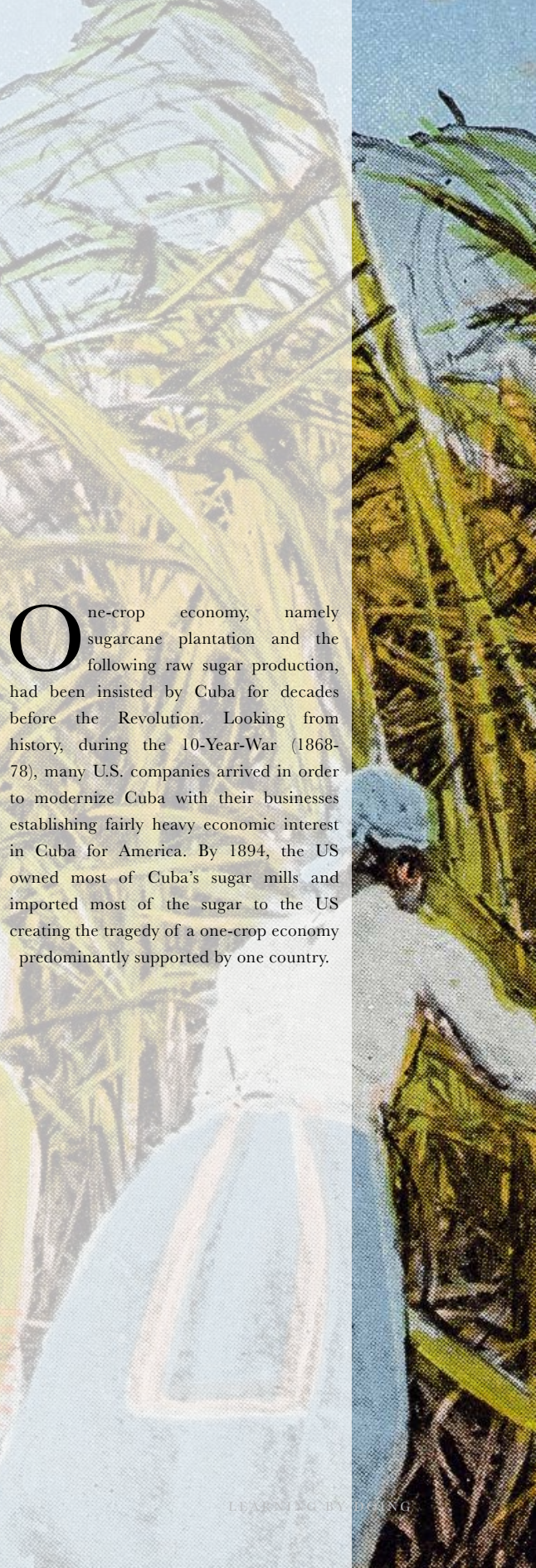
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P R E F A C E
START FROM SOIL

ONE-CROP ECONOMY

SUGARCANE DOMINATES THE COUNTRY





One-crop economy, namely sugarcane plantation and the following raw sugar production, had been insisted by Cuba for decades before the Revolution. Looking from history, during the 10-Year-War (1868-78), many U.S. companies arrived in order to modernize Cuba with their businesses establishing fairly heavy economic interest in Cuba for America. By 1894, the US owned most of Cuba's sugar mills and imported most of the sugar to the US creating the tragedy of a one-crop economy predominantly supported by one country.

ONE-CROP ECONOMY

SUGARCANE DOMINATES THE COUNTRY





Railways, machines and livestock are all for sugarcane production. The USA literally took charge of Cuban economy. The mono-economy system roots the tragedy of Cuba. Later on, the Green Revolution in 1950s totally changed the conception of agriculture, namely industrialising the whole sector, including Cuba. The yield had been improved a lot while the pollution and damage of the natural environment were also inevitable.



SUGAR PEAK

SOVIET PROPAGANDA



After the Revolution and the economical embargo from the USA, the socialism system took in force in Cuba. The Soviet Union and the socialist Communist-bloc countries became the most reliable partners of Cuba. The political propaganda in Russia shows the woman taking the sugarcane while the Cuban male taking the weapon. The position of sugarcane in Cuba is shown evidently that the sugar really support the country.



The cover of TIME shows the essential role of sugarcane in Cuba, the background behind the new Cuban leader, Fidel Castro. Agriculture thus had been injected into political meaning as the sector is always the foundation of the country as well as the representation of one branch of sovereignty, food sovereignty. With the subsidies of fertilisers, machines and other technologies, the Soviet-style ranch occupied the most of Cuban agricultural production.

Cuba exported the sugar mostly to the Soviet Union with a relative high price. As the payback, the Soviet Union exported the oil to the country. The profit of Soviet Union is obviously not from economy aspect but politics. It is actually the price for 'socialism' to some extent. The destiny of Cuba was tightly binding with the Soviet Union.

In 1970, Cuba reached its sugar peak. However, the result was not sustainable and hurt the enthusiasm of social-politics in Cuba. The government pushed the farmers to improve the yield, which was not reasonable and based on truth. The goal of 10 million tonnes of sugar production hardly realised ever.



SUGAR PEAK

THE SOVIET SUBSIDIES OF FUEL AND FERTILISERS



CUT OFF THE COUNTRY

THE COLLAPSE OF COMMUNIST-BLOC



“**B**y 1962, Cuba effectively was a Soviet satellite. Cuban agricultural policies followed the Soviet model—large monocultural state farms were highly mechanized and heavily reliant on chemical fertilizers and pesticides. Cuban agriculture used more fertilizer and nearly as many tractors per hectare as that of the United States. The Soviet Union subsidized this industrial model by trading its oil, chemicals, and machinery for Cuban sugar at preferential rates.”



“**T**hen, in 1989, the Berlin Wall fell. Almost overnight US\$6 billion in Soviet subsidies to Cuba disappeared. At the same time, the US trade embargo tightened, and Cuba was plunged into an economic crisis. Gross domestic product (GDP) shrank by 25% between 1989 and 1991. Cuba entered what is euphemistically called the “Special Period.” Special, indeed: Oil imports (and consequently fuel) fell by 50%; the availability of fertilizers and pesticides fell by 70%; food and other imports fell by 50%; and most devastatingly, calorie intake fell by 30%. Further exacerbating the economic crisis, in 1992 the United States passed the “Cuban Democracy Act,” which prohibited assistance to Cuba in the form of food, medicine, and medical supplies.”

SPECIAL PERIOD

TOWARDS ORGANIC



Without subsidies of the Soviet Union and the Communist-bloc, Cuba was cut off as a literal 'island' with no outside support. With out fuel resources, the machines from the Soviet Union were out of use and stored in the factories. The farmers called back their cattle out of the mountains to cultivate the farmland like decades before.

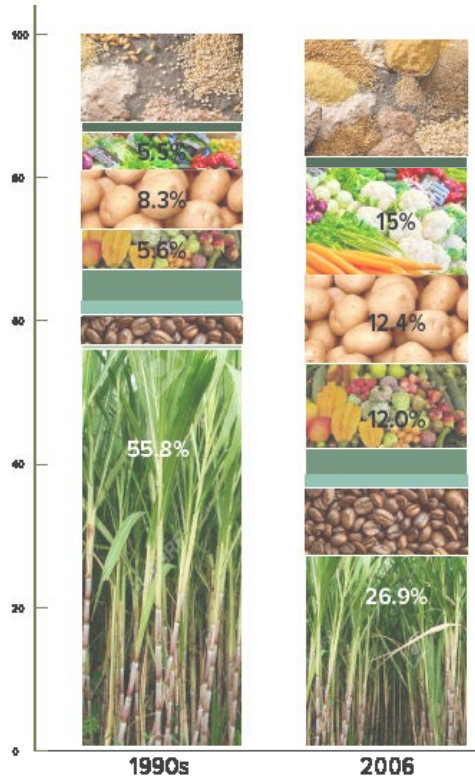
WITHIN THE CITY



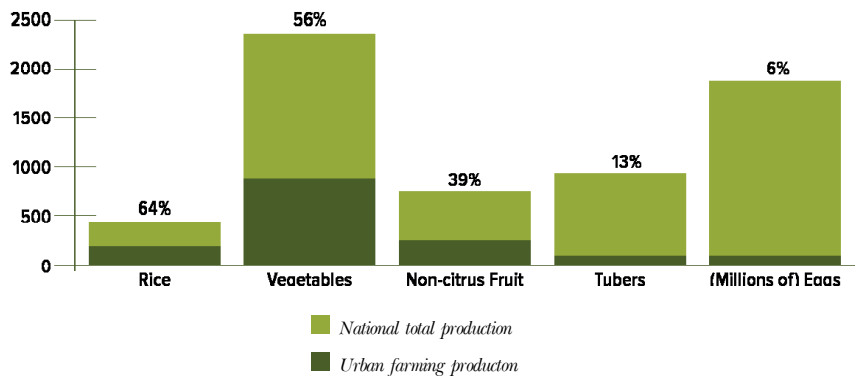
Without the fuel, the transportation system broke down. The food can not be delivered into the city efficiently. That's how the urban agriculture took place in Cuba. A series of policies and encouragement were carried out by Cuban government. In 1993, the agronomercados was also legalised. The market-oriented food production stimulated the development of urban agriculture in Cuba, especially Havana.

ACHIEVEMENT

CLAIMING BACK FOOD SOVEREIGNTY



Cuba's agricultural land crop share changed within 20 years



Production of urban farming and total in 2000

Generally speaking, the climate and environmental conditions in Cuba provide a lot of possibilities to develop a multi-crop economy. Rice and maize are the principal cereals grown in Cuba. Major oil crops are groundnuts and coconut. With a tropical climate and a year-round growing season, many varieties of fruits and vegetables are grown. Roots and tubers and tropical fruits are staple foods in the Cuban diet. Oranges and grapefruit are the most important commercially grown citrus fruits. Vegetables, cereals, fruits and tubers contribute more and more nowadays in Cuban diet structure, especially the rice and vegetables which are due to the urban farming production. Nowadays, urban farming plays a more and more important role in feeding Cuban people.

In Cuba as a whole, agriculture is now practised by some 40 000 urban workers on an area estimated at 33 500 ha. It includes 145 000 small farm plots, 385 000 backyard gardens, 6 400 intensive gardens and 4 000 high-yielding organopónicos, which are explained more later.

Reference:

<http://www.fao.org/ag/agp/greenercities/en/GGCLAC/havama.html>

Cuba's Food & Agriculture Situation Report by Office of Global Analysis, FAS, USDA, March 2008

The diagram is included in the Group Book.

THE CUBAN WAY

COMPARING TO THE HIGH INPUT TO REACH ORGANIC





In Europe and the USA, the urban agriculture sector is usually a high-input industry with the high-tech support, usually located in a high-density urban area, for example, the rooftop in Brooklyn, as well as abandoned highways, balconies and the rooftops. The high density of these crowded cities leads to the development of urban farming into a vertical way, which means the technology requirement is brought to an even higher level. Basically speaking, the urban farming in developed countries generated from the consciousness of sustainability and alertness from climate change. It is a higher level of self-sufficient, or even a game only for middle and higher class to experience the idyllic life in the chaotic urban life.

Thus, the organic products from urban farming are usually expensive and labeled as a healthy lifestyle like a product to sell. The devices and facilities supporting the organic urban production also cost a lot of money. The hydroponics and indoor illumination, and so on, lead to a huge amount of expenses, can only be afforded by rich people, broadly speaking. The spirit of this kind of urban agriculture is apparently not the essence of Cuban style.

Japanese urban farming activities even go more extreme and advanced, occupying the well-decorated indoor spaces, sometimes even in the most dense city over the world, Tokyo. The luminous environment is artificial while the ventilation is mechanical as well. It is obvious a high-input industry and more demonstrative. This kind of urban farming is no longer aiming for producing but somehow acting. The workers dress up and participate in the agricultural activities. It seems that it takes a lot of resources to stimulate the natural environment in a interior space in the city. In this case, urban farming becomes a real luxury but not a way towards self-sufficient and sustainability.

Different is the urban farming in developed countries and high-density areas from the urban agriculture in Cuba. The spirit or the essence of the special production activities is determined by the economical foundation like every aspects else.

*Source: Pasona Tokyo Headquarters,
Tokyo, Kono Designs.*



THE CUBAN WAY
COMPARING TO THE HIGH INPUT TO REACH ORGANIC



THE CUBAN WAY

THE SPIRIT OF PRACTICE AND SELF-INNOVATION





Cuba's urban farming generated from a very tough condition of the country, namely the so-called Special Period after the Soviet Union collapsed in 1991. In the old times, Cuba insisted a single-crop economy, exporting raw sugar to USA, and after revolution, the Soviet Union. As payback, the super power exported energy resource and other crops to the small island in the Caribbean Sea. The subsidies from the Soviet Union and other socialist countries made Cuba survive. However, things totally changed after the Christmas in 1991. The country was cut off.

The lack of import for food and oil made Cuba into a very difficult dilemma from a very basic level of survival. Cuban people need to, and have to, live by themselves without any subsidies from their no-longer-existed socialist 'brothers'. The machines could not be used due to the lack of fuel. The chemical fertilizers were cut off because there's no factory in Cuba producing them. With the deep influence of the American Embargo, Cuba people decided to grow their own food in a primitive and thus organic way. Animals are used to cultivate the farmlands. Earthworms can be activation of the land fertility. In order to save the cost from transportation, urban and suburban areas were cultivated into farmlands.

Urban agriculture thus developed rapidly during the Special Period. Thousands of gardens, farms and even micro-gardens came out in less than 10 years. The farmers and urban farmers make full use of what they have to make simple tools and innovate by themselves. The theoretical aspect is supported by the institutions, research centers and the agronomic universities while the practical aspect is executed by actual urban farmers, forming a farmer-to farmer learning cycle. From this perspective, urban agriculture in Cuba is more about practice, no matter with advanced technology or a single prefabricated floor plate abandoned besides the front garden. The urban agriculture in Cuba literally grows from the soil and the toughest condition. Necessity stimulated the boom of the sector. It is all about self-innovation and a persistent and dauntless spirit.

STARTING POINT

CITY OF ITS OWN IDENTITY



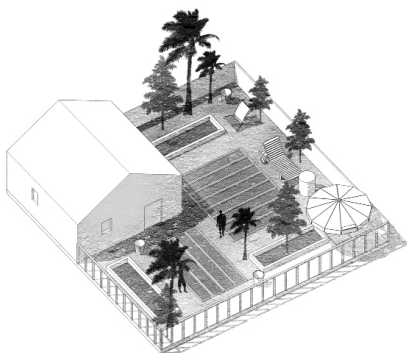
Alamar is a centrifugal and autonomous area with acceptable [public] connections to the city centers, for now namely Vieja and Vedado, of Havana. Potential to be one of the poly-centers in future Havana with its own identity and quality, Alamar is more likely to be the city of Cuban people thier own, rather than a city for tourism and financial activities like Vieja or the Port Mariel west to Havana. The greenery shapes Alamar as a residential area surrounded by nature and agriculture, forming a distinct living quality, of which most part is functioned as urban agriculture. Of course, it's superficial but obvious. For the future of Alamar, it should neither be designed into a modern city in so-called international style nor be transformed back to a colonial style, but based on its own architectural language with more vernacular approaches and identification. The future of Alamar should merge with evident character of the future Cuba and present the spirit and mentality of Cuban people.

The landscape in Alamar can be a key issue to let all these goals come into being.

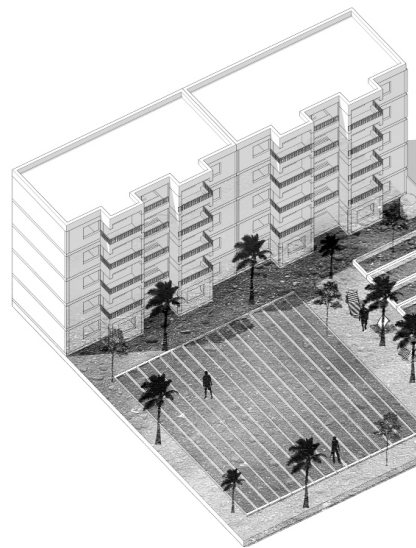


STARTING POINT

DIVERSITY OF DIFFERENT SCALES

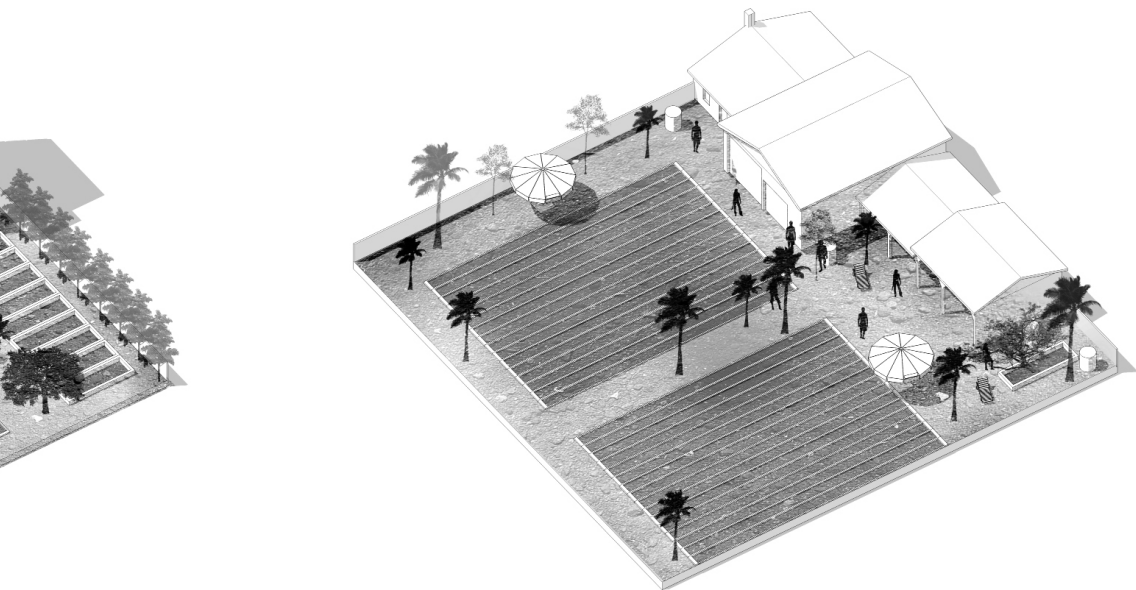


Patios | Typically less than 1,000 sqm



Huertos Intensivos | 1,000 - 5,000 sqm

There are three types of urban agriculture in Alamar. Unlike dense Vieja or Vedado, the urban condition in Alamar provides a possibility of develop a larger scale urban farming project. From patios to Organoponicos, the differences are mainly about the size and the technologies they apply. This also influences the food supply chain of different types.



Organiponicos | 2,500 - 20,000 sqm

Organiponicos Vivero in Alamar is one of the most advanced and pioneering urban farm in Alamar. There's not only experimental technologies but also social connections with the community. The farm was founded in 1997, when Cuban government started to encourage the sub-urban agriculture and the decentralise the farms.

This direction is now carrying on with the economical reforms.

Alamar, which was once the largest social housing project in the world, is based on a top-down strategy and a bottom-up construction process. The architectural language from Soviet Union dominates the area, leading to a disappearance of local identity. The residential blocks are rigid and within one module while the spaces in between are chaotic and informal. The contrast in between leads to the reality that the spaces are fragmental and wasted to some extent, disordered and unfinished in the end. Thus, the temporary structures and the wild landscape shape the unique character of Alamar. The animals wander around the wild grassland near the coastline while the oil testing industrial construction is working hundreds meters away. The construction was built for testing the oil storage on the northern coastline by foreign companies. Alamar was hit most because of the lack of oil during the Special Period while there's actually oil in the sea right besides the area. It seems ironic. In the meantime, the contrast between nature and industry, wild and artificial, ordered residential blocks and their disordered orientation is right becoming Alamar's attractions for me. Exploiting the special quality on site is basically my starting point of the intervention. Squeezing all the contrasts together will form a special experience physically and mentally.



STARTING POINT

CITY OF ITS OWN IDENTITY



STARTING POINT

CITY OF ITS OWN IDENTITY



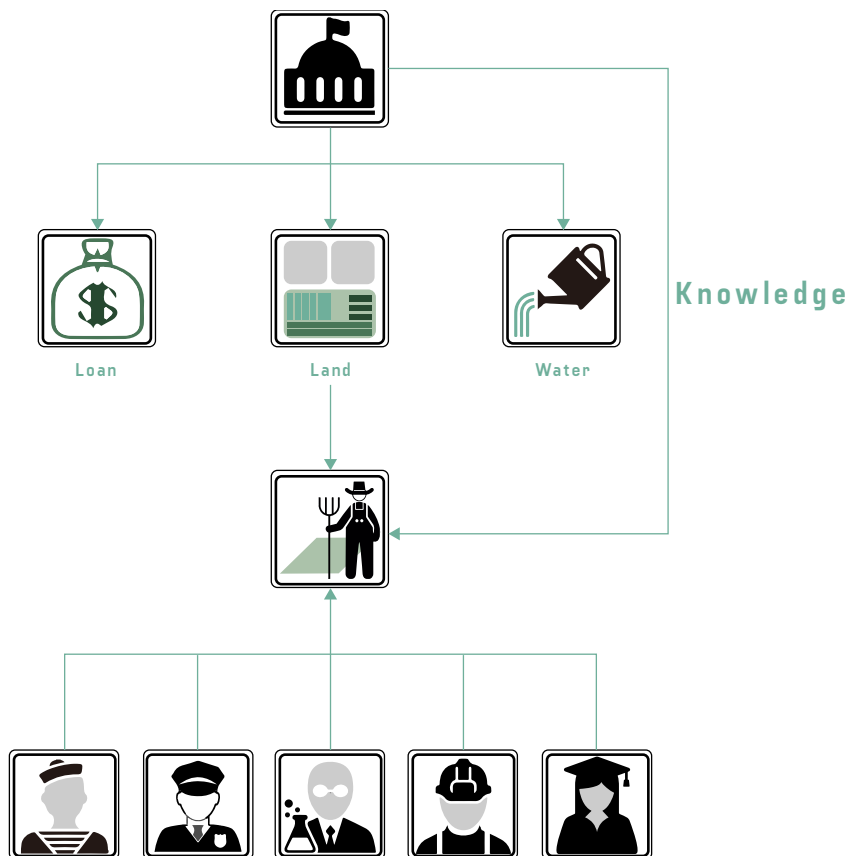


Urban Agriculture as a part of the landscape, plays a important role in the social aspect in Alamar. Idyllic and full of rich flavor of life, urban agriculture shows the most valuable part of Alamar. The farmlands hidden between the residential buildings are obviously the most potential identity for the whole community and neighborhood. On the one hand, urban agriculture in Alamar is local and emerged into daily life. On the other hand, the sector itself owns a huge background related to historical moments in Cuba and even the implication for the future direction of the country. It can be a chain linking all the ambitious and enthusiasm from the country scope to community scope.

STARTING POINT

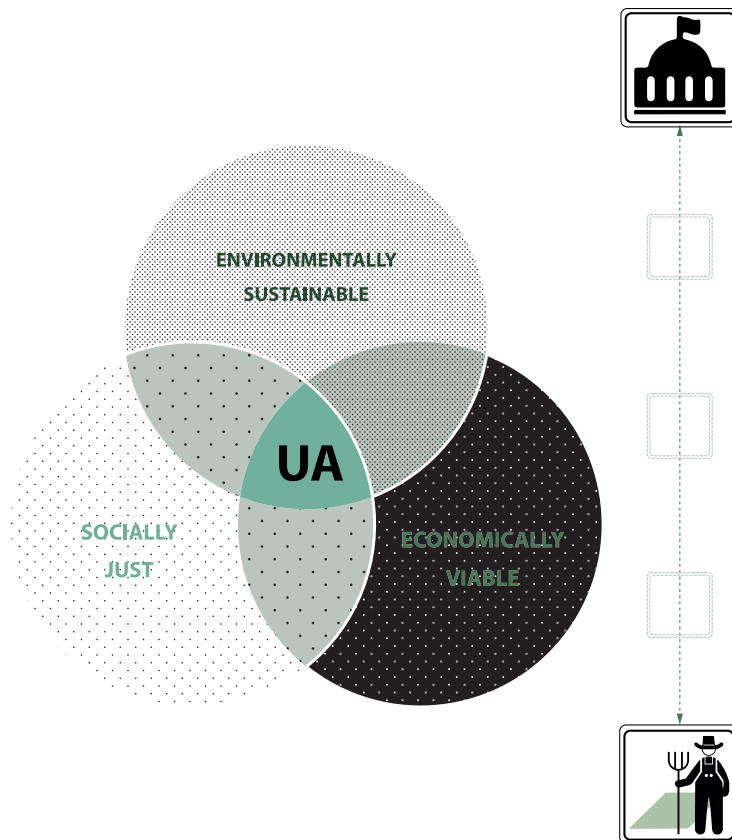
URBAN FARMING AS A BOOMING POINT

The Belt Linking Different Kinds Of People



Urban Agriculture as a part of the landscape, plays a important role in the social aspect in Cuba, especially Alamar. It provides jobs and combines different people work together while owning a big 'family' support from the state. The educational activities are also Urban agriculture is also related to the economical aspect of Alamar, which is actually a very important joint on the food chain. The commercial activities relying on urban agriculture spread all over the country in different scales and methods. Environmentally, the organic and sustainable approaches that Urban Agriculture applies during the producing process are obviously the most important characteristics of the whole sector. All of these remarkable advantages cannot leave the sound and complete national support system of knowledge and skills as well.

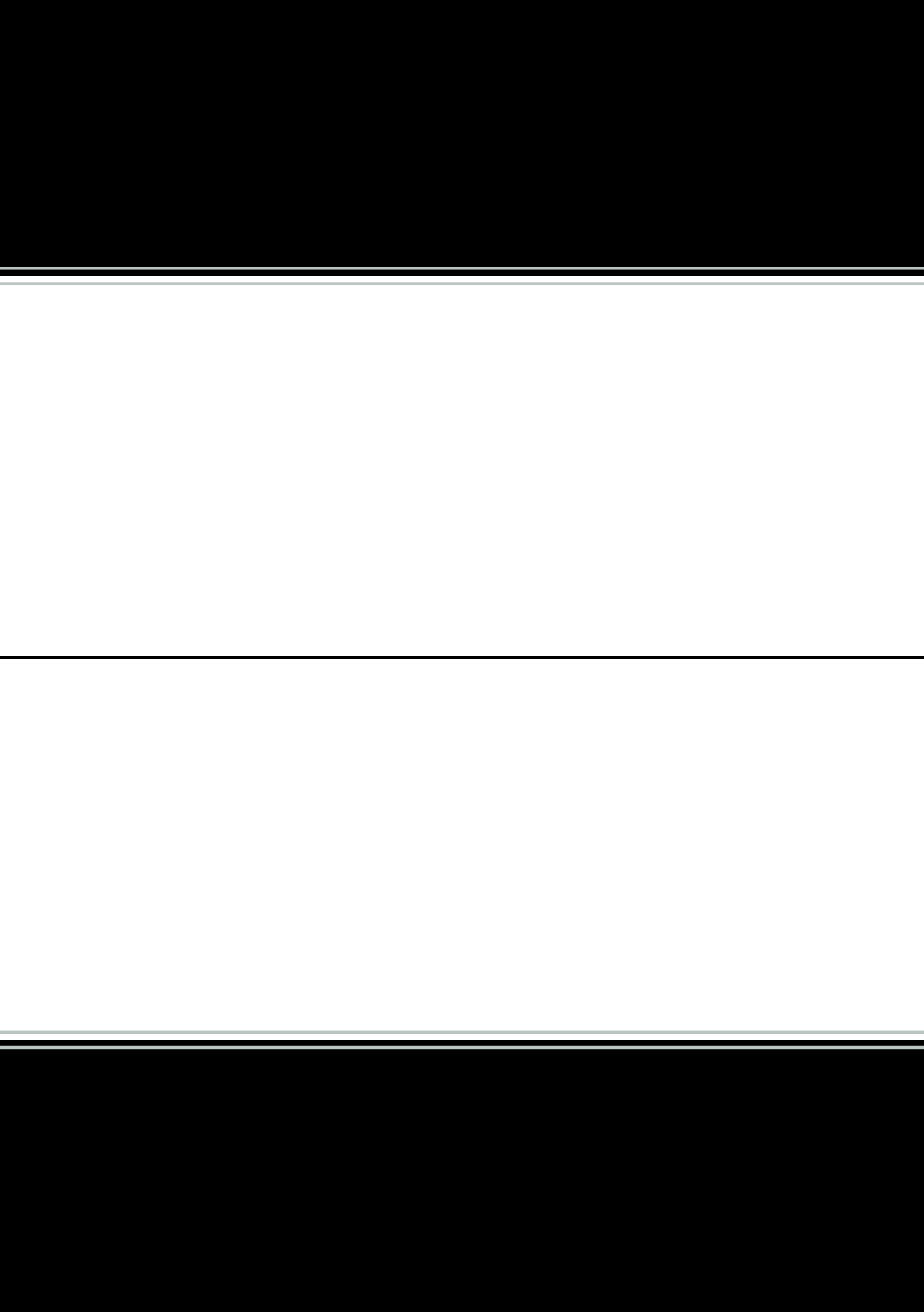
Multi-dimension Benefits Executed by the Whole Society



UA is also the combination of top-down state support and bottom-up citizen participation. There's a complex of chain holding Cuba to become one of the region leader of urban agriculture. The country do gain a lot of glory by urban agriculture, as well as achievements.

But what about its future? Is the green the future?

Will Cuba's step-by-step economical reforms change the future of urban agriculture? Will it live stronger or decrease with the globalization, market-oriented economy and the exploitation of the petrol on the northern coastline? The setup of the worldwide politics is starting to change and reconstruct, what is waiting for Cuba in the near future? It remains a big question mark for all of us.



01

PROBLEM STATEMENT
AND
RESEARCH QUESTION

DILEMMA

WHAT CUBA IS FACING

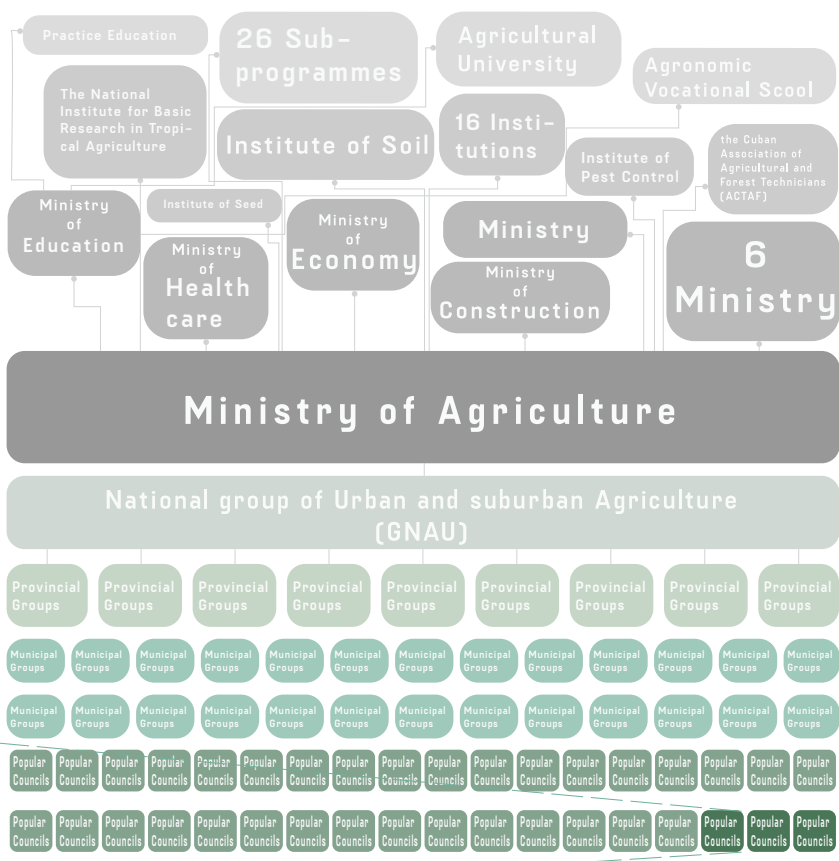
CURRENT DILEMMA

BETWEEN KNOWLEDGE AND OUTCOME

Micro Branches Of Knowledge And Technical Support As A Result



Although the state owns a complete system supporting the sector, the UA store in Alamar is in poor condition and the shelves are kind of empty. The implements are limited and in low quality. Like Isis said in Veviro, 'we have a lot of knowledge but the market is empty'. It limits the possibility of starting one profitable urban farming programme from zero. The young people could not find a way to undertake the issue in a convenient way.

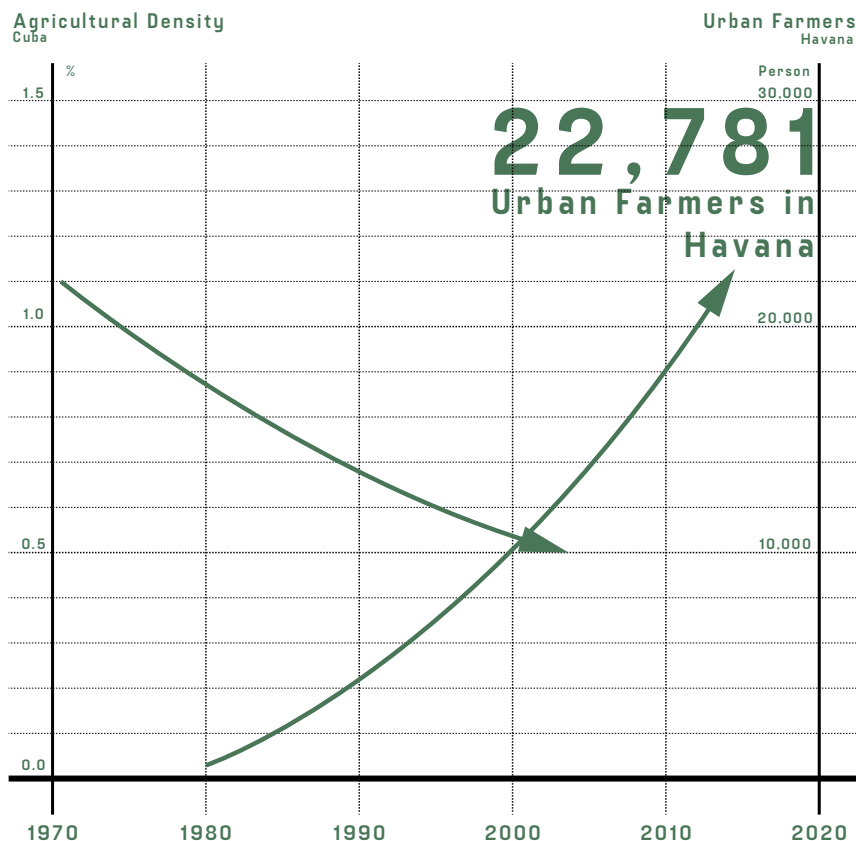


The decentralization of the technical support owns a lot of beneficial while the final branches in each area only own very few equipments and poor knowledge aid or help. In Alamar, Organiponicos Vivero takes the role of knowledge spreading and technological experimental. It might shows the inefficiency of the Cuban bureaucratic system. The latest knowledge and techniques needs very mature farm holders as an media to spread, which increase the complexity of the system.

CURRENT DILEMMA

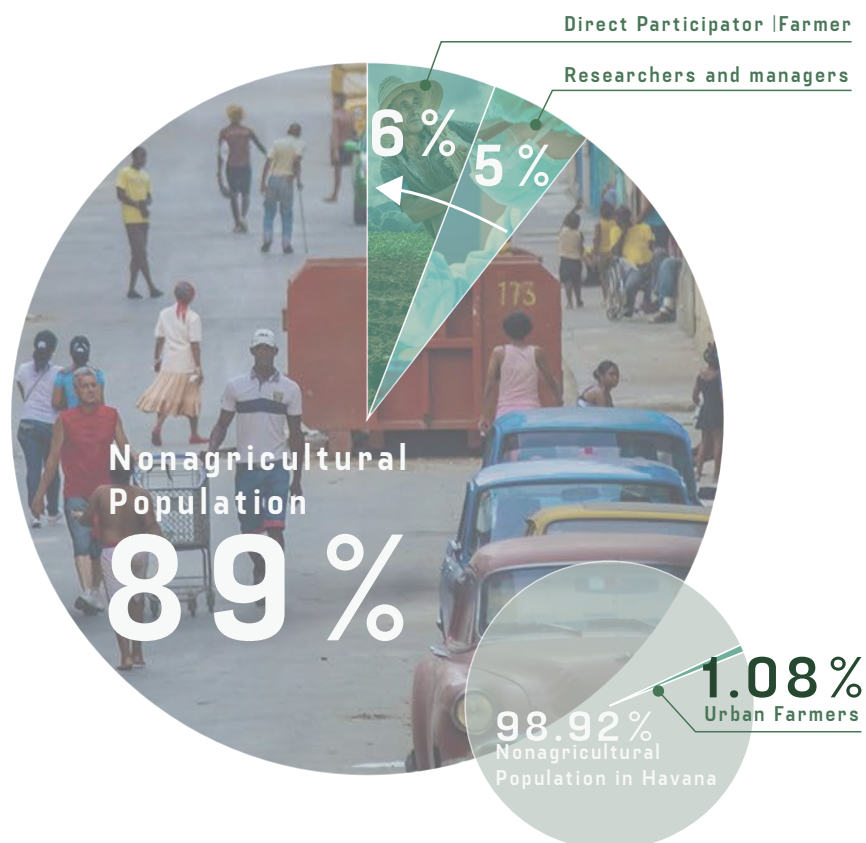
BETWEEN THEORY AND PRACTICE

Lack Of Labour Force And Uncommon Agricultural Population Proportion



Source: Lopez, 2004 and Clouse, 2014

The agricultural density of a population is the number of farmers per unit area of farmland. Agricultural density is a useful statistic for recognizing trends in population growth, development, and stability. From 1970 to 2003, the density in Cuba falls dramatically due to the influence of the special period while the urban farmers owns a boom. In 1989, there's no documented urban farmers while in 2014, only the number of urban farmers in Havana raised up to 22781. Statistically, the agricultural population transferred from traditional agriculture sector towards urban farming field.



Source: Funes-Monzote, 2009 and Clouse, 2014

However, the lack of labour force in agriculture sector is obvious indeed. Based on the data, only 11% of Cuban people participate in agricultural production while 40% of them are actually researchers, scientist, managers and market-related staffs, which do not participate in farm work directly. Less than 6% of Cuban people work as farmers and 1.08% of Havana people work as urban farmers, much less than expectation. The true ratio is around 9%. In other Latin American countries, the agricultural population occupies from 9% to 13.5% with the mechanical and industrial agriculture production.

CURRENT DILEMMA

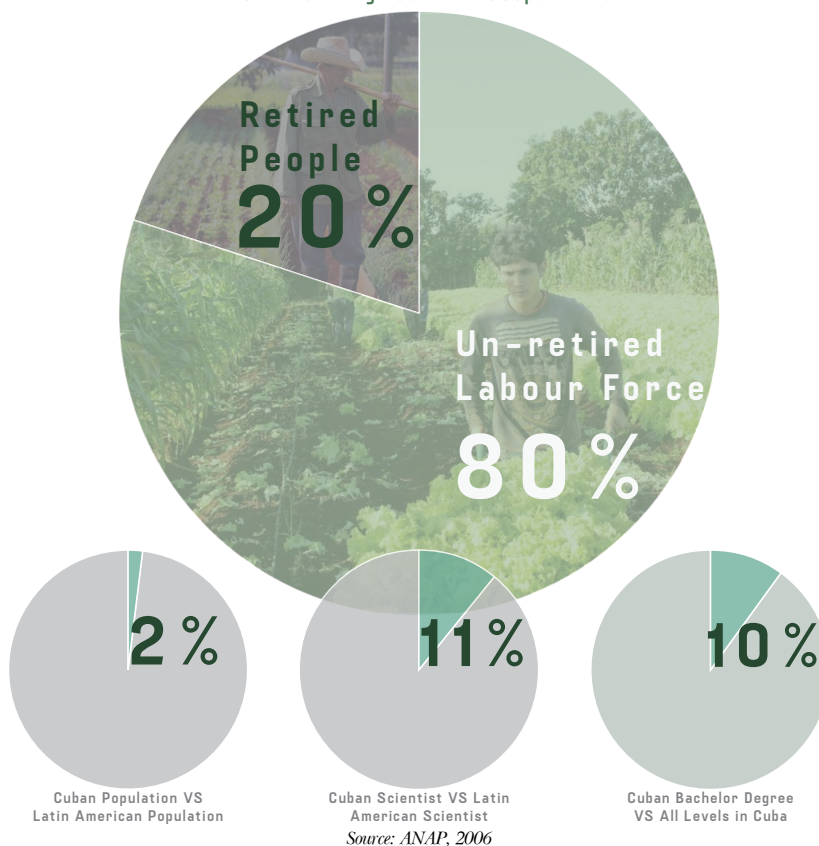
BETWEEN OLD WORKERS AND HIGH-EDUCATED YOUTH

Threats From The Population Aging In The Rest Few Years



Although the farmers earn sometimes as three times of the salary as doctors in Cuba, as well as owning a lot of welfares, younger generations are still not willing to work with soil. What the younger generation wants is a richness in material life, such as clean office space, personal computers and even Internet technology. The curiosity and eager for the novel things in the world draw their most attention but not the 'grand-pa style' farm work. The average age of the workers in Vivero is over 50 years old, which means that the sector might be threatened in 20 years because of the lack of labour force if the condition remains the same. The farm work for urban farming is still regarded as a kind of 'avocation after retirement' for many Cuban people.

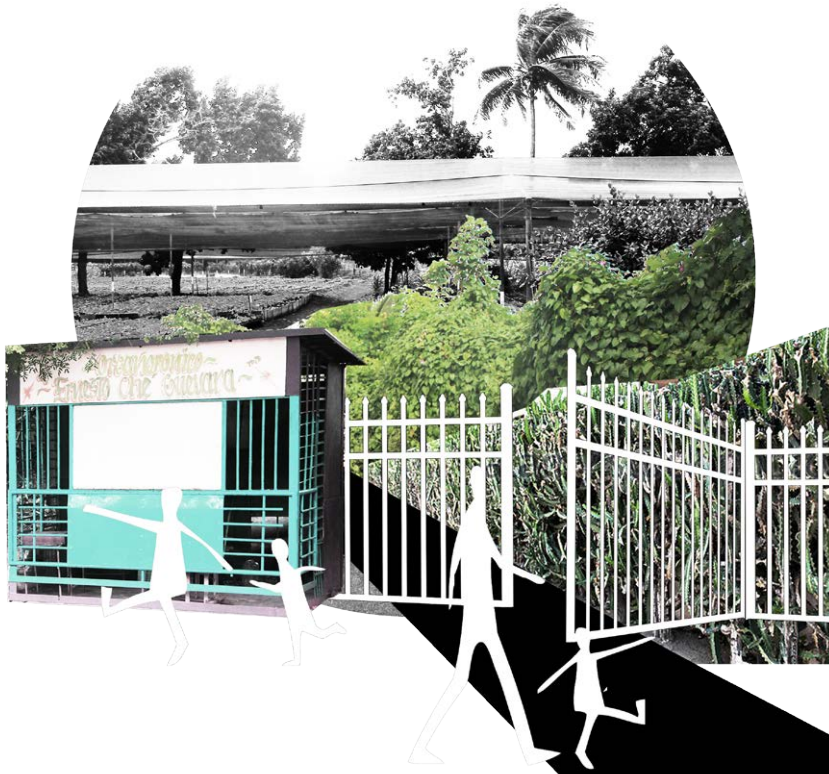
Workers in Agricultural Cooperative



The lack of labour force, namely aging of the participators is shown evidently by the statistics. It presents that one fifth of farmers are retired people or going to retire. Young people are engaged to the tourism sector or to a more theoretical aspect, such as being researchers and scientist, due to the hard working condition on farmlands and their high education level. They are willing to enjoy whether clean and relaxing working environment or abundant profits as tourism can bring to them. Even Cuba owns a very good and complete education system in agriculture, even providing master courses for international students, some of the graduated students still choose to change their direction of career and find another kind of job, leaving the farms and laboratories. Thus, urban farming is very hard to attract young people to take part in nowadays in Cuba. Based on the current condition in the country, urban farming is still a way of being self-sufficient but not being wealthy or self-owned career.

CURRENT DILEMMA

BETWEEN QUIET GARDENS AND VIVID COMMUNITY



Physical barrier is also an evident problem for the disconnection. Although urban farmings are fully spread in Alamar and form the main structure of the area, the fences, walls and high tree walls block the visual connection between the farmland and the public space in Alamar. The diversity of activities are hidden behind the fence. Apart from the entrances, the only intersection of the gardens and the community is the selling point and the commercial activities. The walls as protection are necessary, however, also breaks the outsiders observe the production routine and interesting activities inside. It seems to become a paradox between the relative private farmland and the public



Not only Organiponicos, the Huertors belonged to primary and secondary schools are not available to the public due to the practical production requirement. In Alamar, there are 9 school Huertors in total, which are undertaken by only one farmer now. Thus, the education for these small gardens can not function very well as expected. In fact, all the students in primary and secondary schools are required to participate in agricultural education and gardening activities as a course and need to gain credits. However, based on the reality in Alamar, the Huertors can only provide very basic practical activities for students, but no professional practices. The goal of this kind of education is for popularisation of urban farming and probably aiming for raising the interests of the teenagers. It is more like a experiential education but not a real skill-learning curriculum. The professional skill training and theoretical research process starts at least from high school period in Cuba.

POTENTIAL

WHAT CUBA CAN RELY ON

CURRENT POTENTIALS

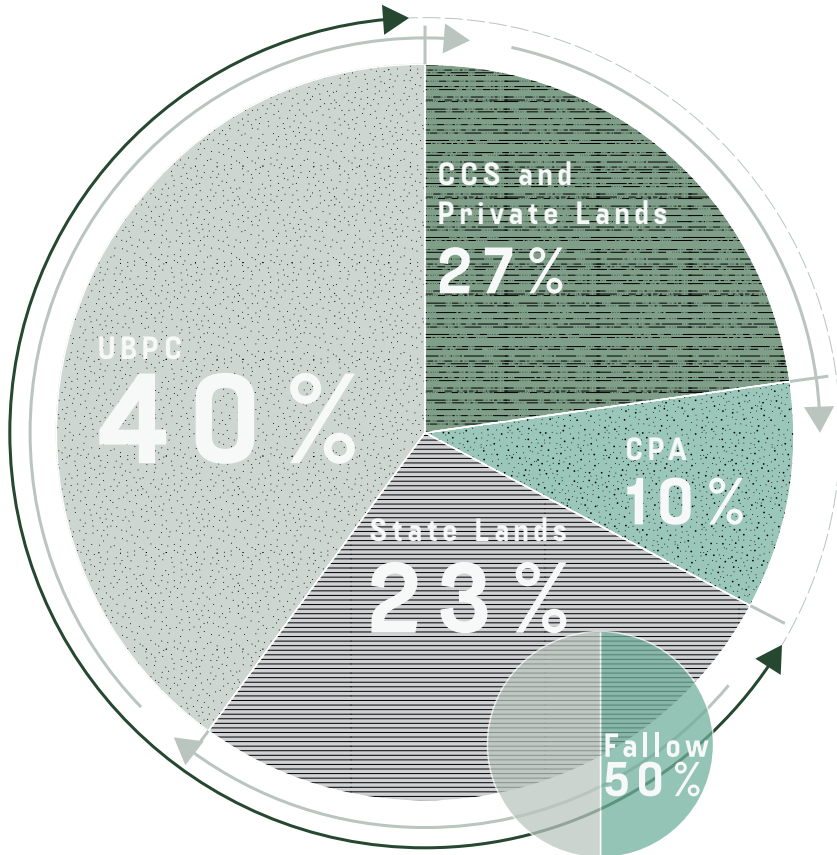
AGRARIAN POSSIBILITY



109,000 km² Land
660,000 Hectares of
Farmland

Source: Nova González, 2009

With the economical reforms step-by-step applied, the classic socialism system starts to shift. Nowadays, 30% of the farmland are fallow or abandoned, which shows a great potential for further development and even redevelopment. Recent efforts to advance a decentralized model of suburban agriculture in Cuba represent a gradual, but positive, step towards market socialism. The principal operational structures in the model of suburban agriculture currently being encouraged by the Cuban government are small scale,



63% Public-owned
37% Small-farmers-owned

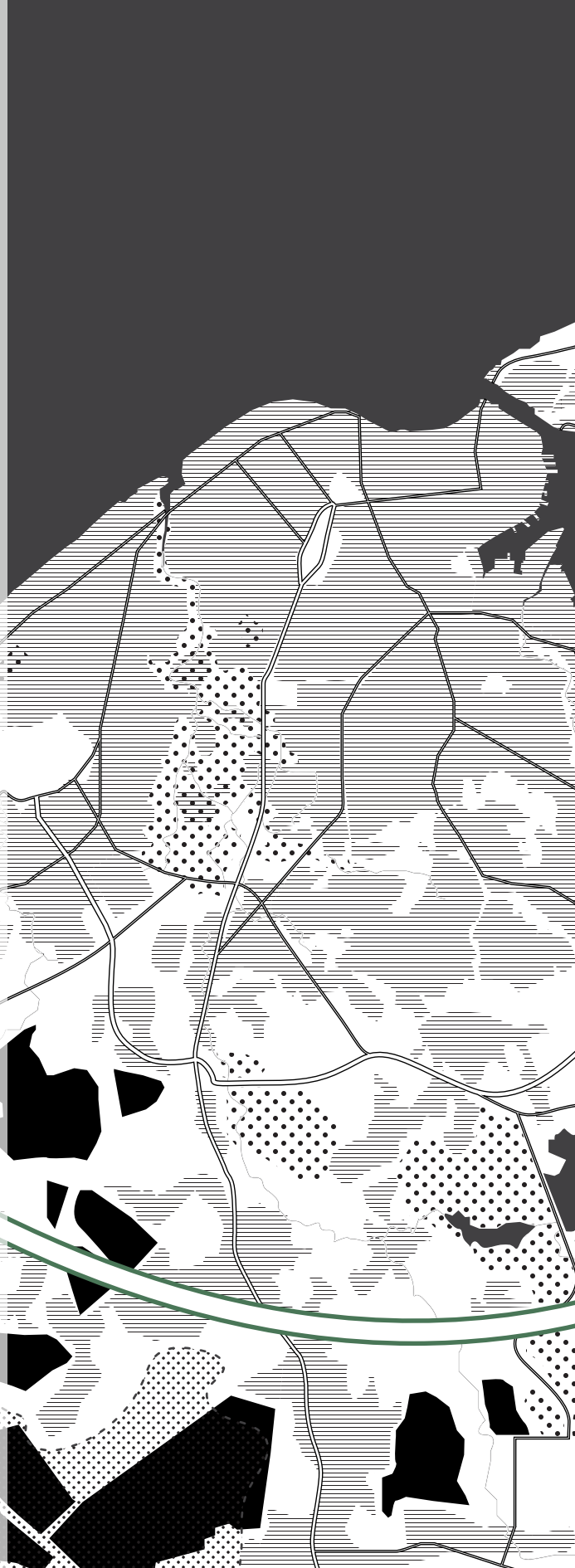
Source: ONE, 2010

eco-friendly, privately-owned farms or *fincas* located a few kilometers from urban centers (Hagelberg, 2010). Cuba's suburban agriculture strategy aims to reduce the distance between producers and consumers, curtail fuel consumption, and reduce Cuba's dependence on imported food and fuel (Hagelberg, 2010). The suburban area is compared with traditional agriculture, based on the definition, it is right what Organoponicos in Alamar is.

“Recent efforts to advance a decentralized model of suburban agriculture in Cuba represent a gradual, but positive, step towards market socialism. In contrast to the more centralized model of urban agriculture implemented as a response to the “food crisis” of the early 1990s, the principal operational structures in the model of suburban agriculture currently being encouraged by the Cuban government are small-scale, eco-friendly, privately-owned farms or fincas located a few kilometers from urban centers (Hagelberg, 2010). Cuba’s suburban agriculture strategy aims to reduce the distance between producers and consumers, curtail fuel consumption, and reduce Cuba’s dependence on imported food and fuel (Hagelberg, 2010). While the emphasis of this alternative mode of production is on energy conservation and sustainability, the development of local and regional market-based coordination mechanisms can play an important role in the success of this strategy.

The relatively low agricultural yields in Cuba’s agricultural sector point out to the need to improve total factor productivity. To achieve this goal structural measures that allow greater integration of technology and foreign capital should be considered, along with labor market reforms that improve the relationship between results and earnings, and policy transformations to allow greater participation by the Non-State sector, especially private farmers, improved access to credit financing and diversified sources of capital, including private investment, and greater availability of essential agricultural inputs and supplies such as fertilizer, fuel, irrigation equipment, machinery, seeds, etc.”

Source: González-Corzo, M. A. (2011). Update on Cuba’s Agricultural Sector. CUBA IN TRANSITION, ASCE, Vol. 21, 301.



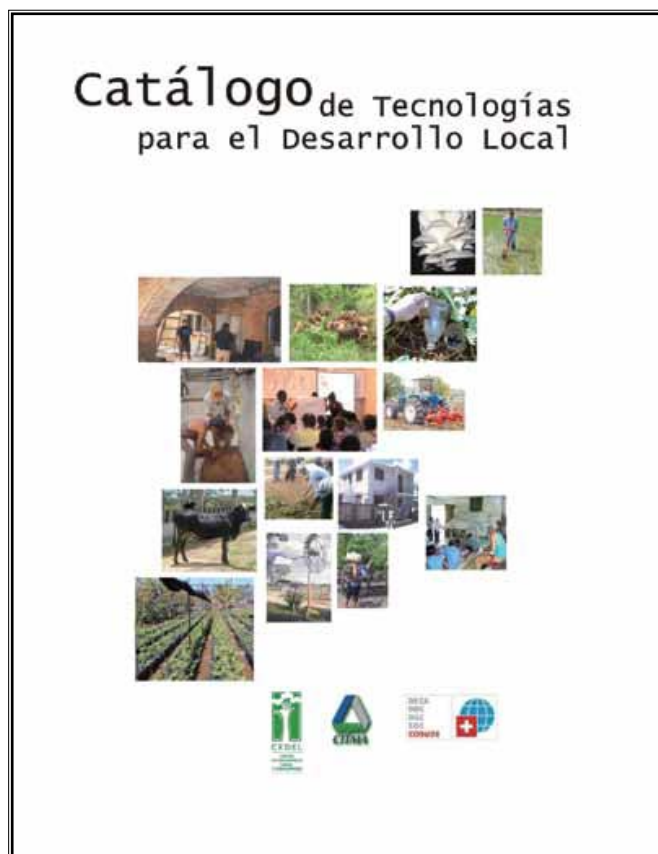
CURRENT POTENTIALS

DECENTRALIZED AND SUB-URBAN



CURRENT POTENTIALS

BOTTOM-UP INNOVATION



Reform and innovation from bottom up is another remarkable achievement of Cuban urban agriculture, and it becomes the most attractive and potential characteristic. A lot of innovations by simple farmers are included as a publication named *Catálogo de Tecnologías para el Desarrollo Local* and are recognised. The creativity of farmers are stimulated and plays a very important role in the sector. There's no precedents in the world similar to the Cuban condition. Thus, the farmers, researchers and scientists somehow literally started from zero. The catalogue consists of over 200 items of innovations, not only about agriculture and stock farming, but also water resource, renewable energy and even architecture.



Innovations such as rice husking machine designed by Silvia and rice planter transformed by bicycle from Roberto are all generated by very ordinary farmers. The 'machines' are renovated by very simple materials, such as daily facilities and abandoned construction material. The simple version of irrigation system was made by plastic bottle that we can find in every supermarket. Vestina and his husband collected 106 kinds of rice seeds. And built a seed bank. They are aiming for finding a way to preserve the seeds which is very difficult in practical condition. All these contributions are allowed to apply for patents and thus can be protected by the related laws. The enthusiasm of innovation is thus activated and enhanced. The research centres and agronomic universities can provide theoretical supports for these farmers. Farmers are the protagonists in the big show.

Studios of the local people are hidden behind the banana plantations in the green belt of Alamar. The studio we visited can be regarded as a personal Wunderkammer of the owner. All the materials are abandoned before and then gathered from the neighborhood. The owner reuses these poor resources and builds a workplace, for stocks such as dogs and pigs. On the table, the to-be-renovated chair is waiting for his creator. Every item on site can be transformed into something meaningful and usable by the Cuban people's hands. Self-innovation is really everywhere in Alamar's personal studios.



CURRENT POTENTIALS

BOTTOM-UP INNOVATION

Personal Studios Hidden In The Green

CURRENT POTENTIALS

BOTTOM UP INNOVATION

Processing The Material Grown On Site



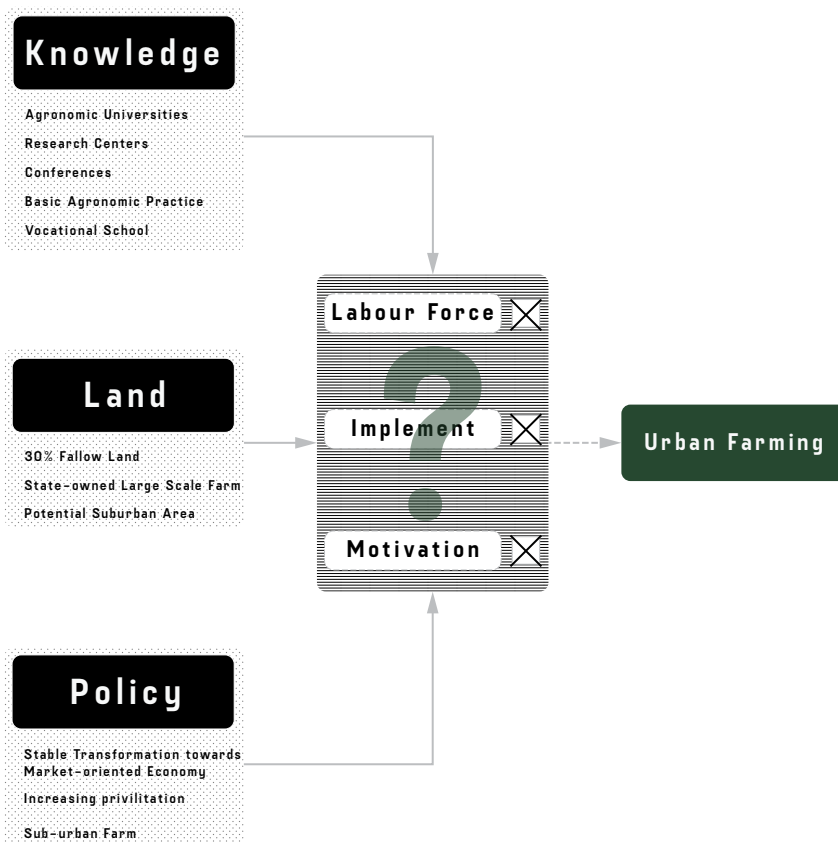


Practical workplace is everywhere. In the Organipónicos Vivero, the renovation and production activities are happening as well. Not only abandoned materials, such as the prefabricated components transformed into the container for soil cultivation, but also the material grown from the farmlands, are the resource for processing into productions and construction components. The farm itself can be regarded as a self-sufficient cycle because it not only costs energy but also produce resources. The processing of these raw materials can add value to the agricultural production and form a complete chain for the farmland, leading the simple agricultural activity into a profitable project.

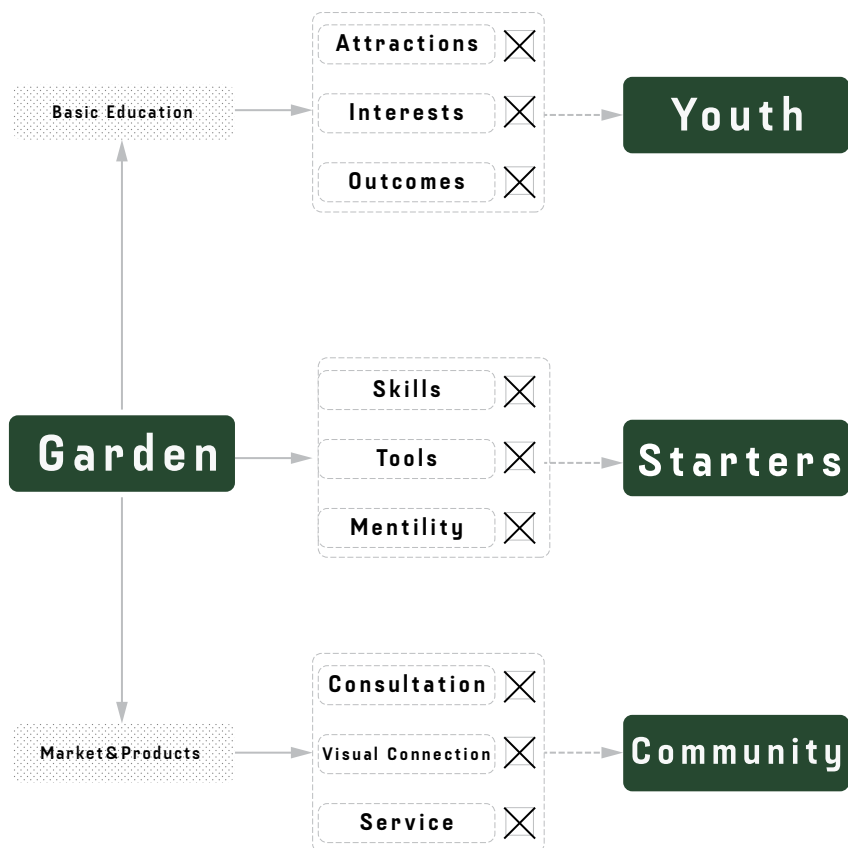


THREE DETACHMENTS

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The main detachments or dilemma is between the existing resource of developing suburban or more intensive urban agriculture, namely the knowledge support, the available farmland and the policy for allowing small-scale private farm. Cuban people is lack of tools to transform what they have into actual value to make their life better. The lost enthusiasm for younger generation shows the sector cannot provide their basic need, namely money and expectable future. It seems that all the materials and recipes are ready however there's no fire and wok to cook them into a wonderful cuisine.



Community can be a strong support however, there's lack of transparency between the community and the farmland. The routine of the agricultural activities are hidden behind the green walls or the barriers around the urban gardens. The younger generations cannot really get a touch with the attractive daily life in the garden. Linking the chain between the garden and community, as well as community and youth who is the potential group for the participants, is very important from a bottom-up perspective. The potentials show a great opportunity only if we re-link the chain together.

RESEARCH QUESTION

The core research question:

By what means can the knowledge of the organic urban agriculture be carried on over generations by creating an effective interaction between generations, the farmland and the community as well as the materials and the value from them with architectural languages?

The question can be deconstructed into the following sub-questions:

How to build a linkage between the materials, resources for production and a profitable career based on urban farming and activate the startup process?

How does the support facility helping to start up the urban farming career can be attractive for younger generation?

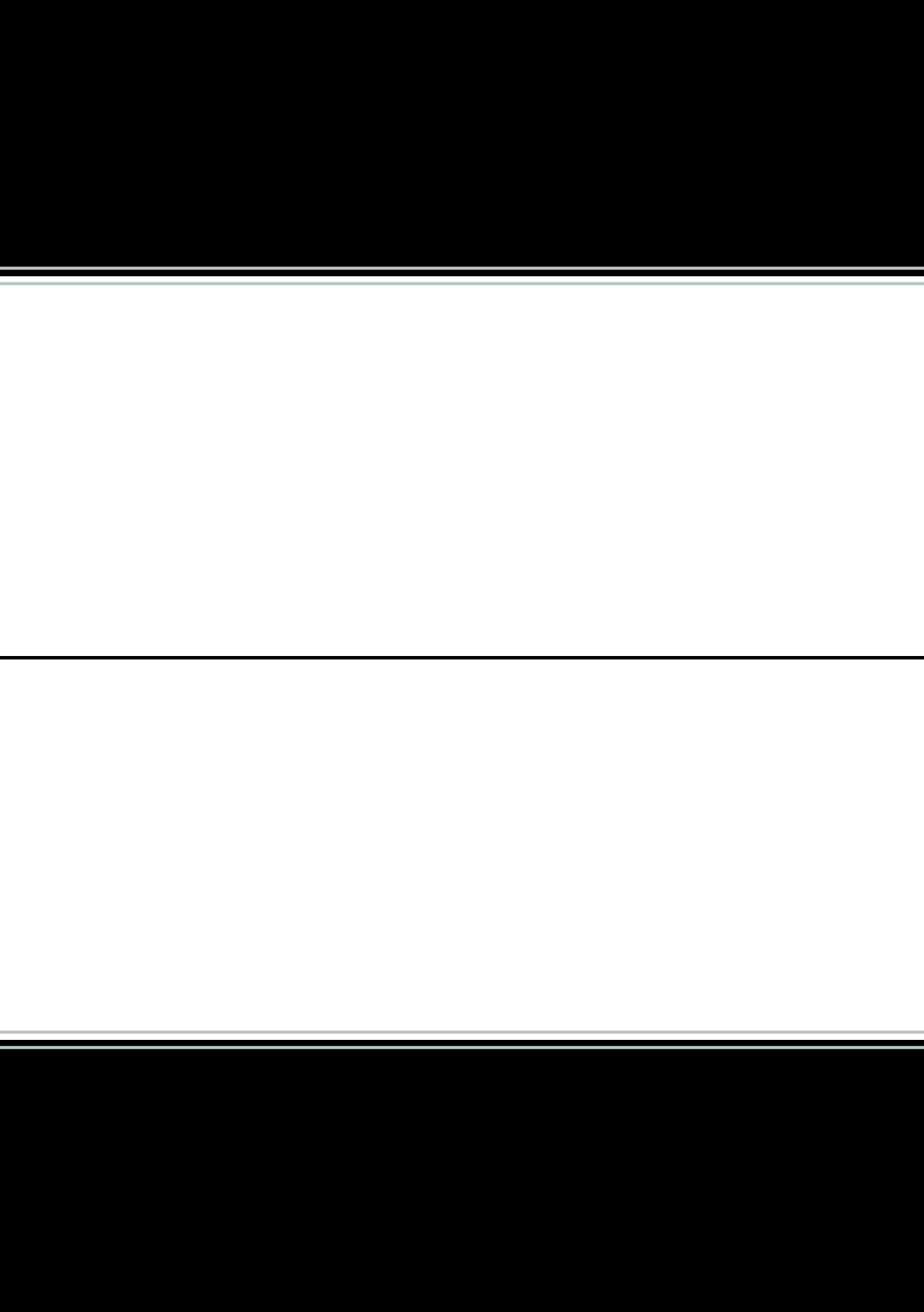
How does the supportive facility link the communal life and the farmland?

The problem cannot be solved only by architectural approaches. To make the arguments more tangible, the question can be translated into practical architectural questions as below:

How does the to-be-built project deal with the relationship between the agricultural landscapes?

What is the distinction between a typical supportive (usually social and cultural projects) building and a productive facility? What's the different requirement of the spatial quality?

How can we deal with the surface between the production, knowledge education and the communal public life?



02

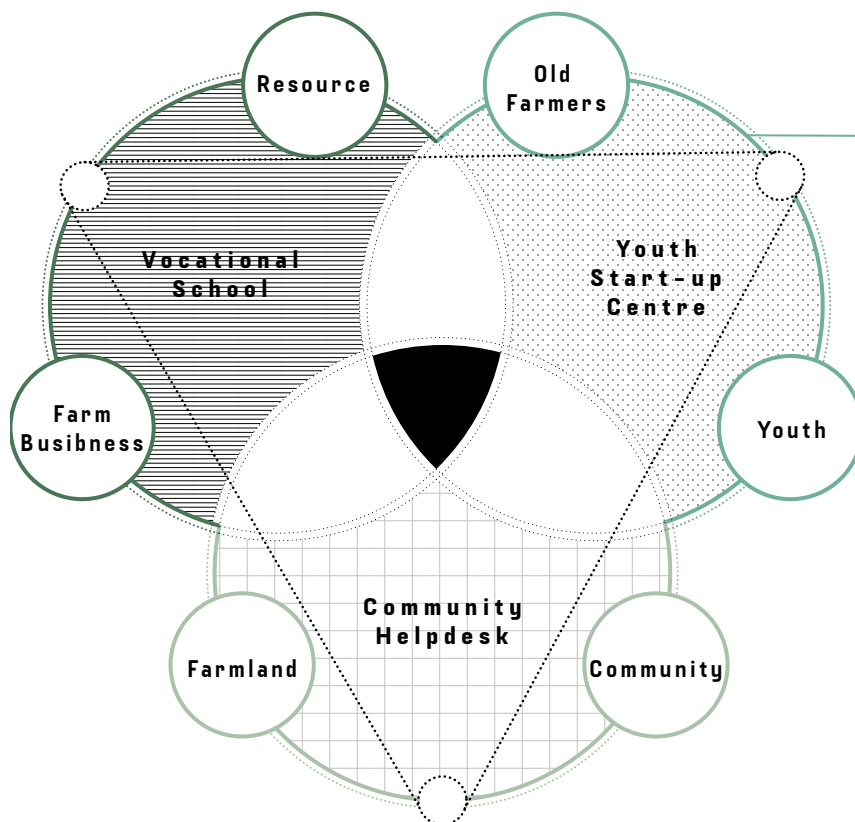
STRATEGY GENERATION
AND
URBAN ANALYSIS

EDUCATION PHILOSOPHY

DEFINITION OF THE SCHOOL

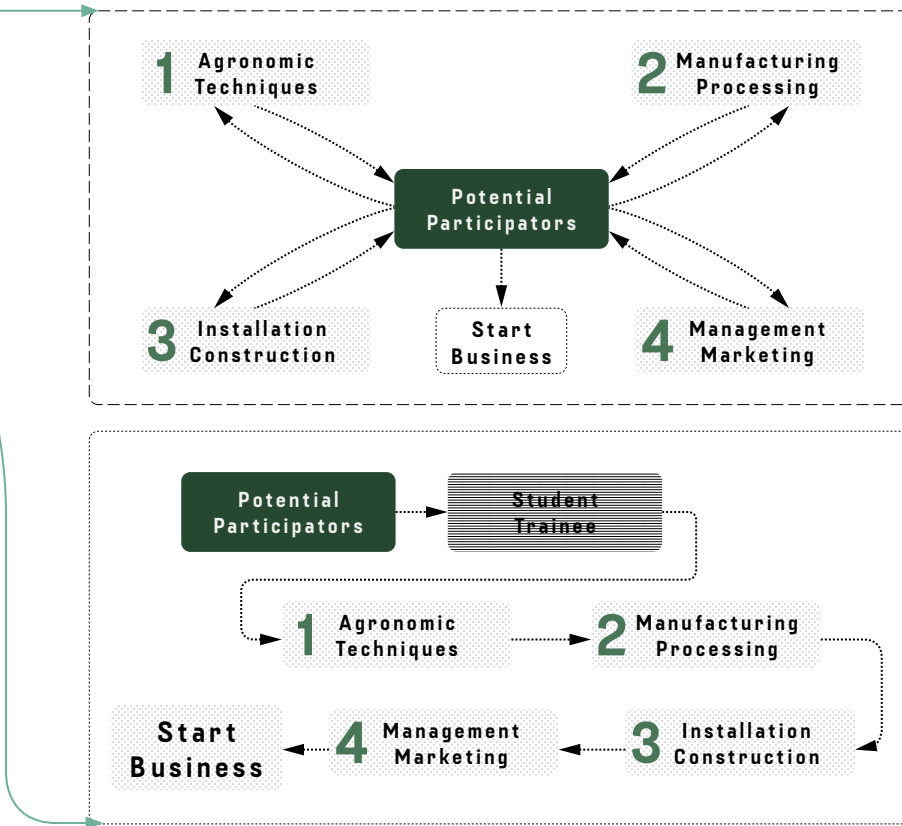
OVERVIEW STRATEGY

BUILD THE CONNECTION



Connect the gaps by filling the missing issues | The vocational school, community and youth centre is the three lost chain of the gaps. The complex of functions combined together is to interact with each other and work better for spreading the skills of urban agriculture to the younger generation and gaining the support from the farmers in the very basic community of Alamar. The complex is aiming to squeeze the three function aiming for different target groups together to create a knowledge flow through different generations. Making the school from the tower of ivory to the communal daily life is significant to the constancy of urban agriculture in Cuba.

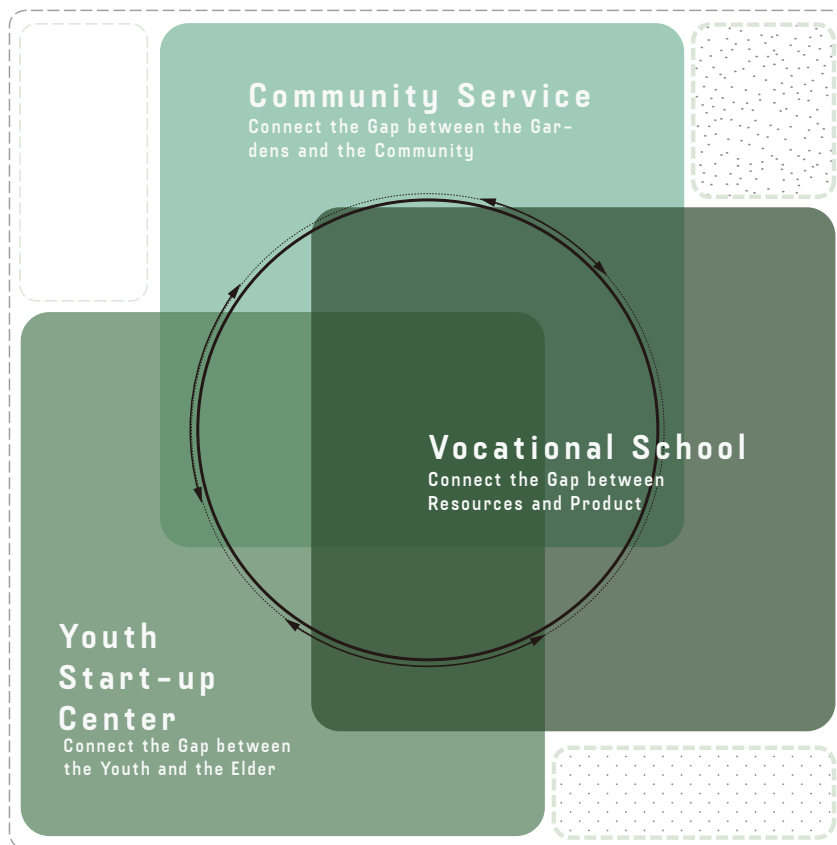
CHANGE THE ROUTINE



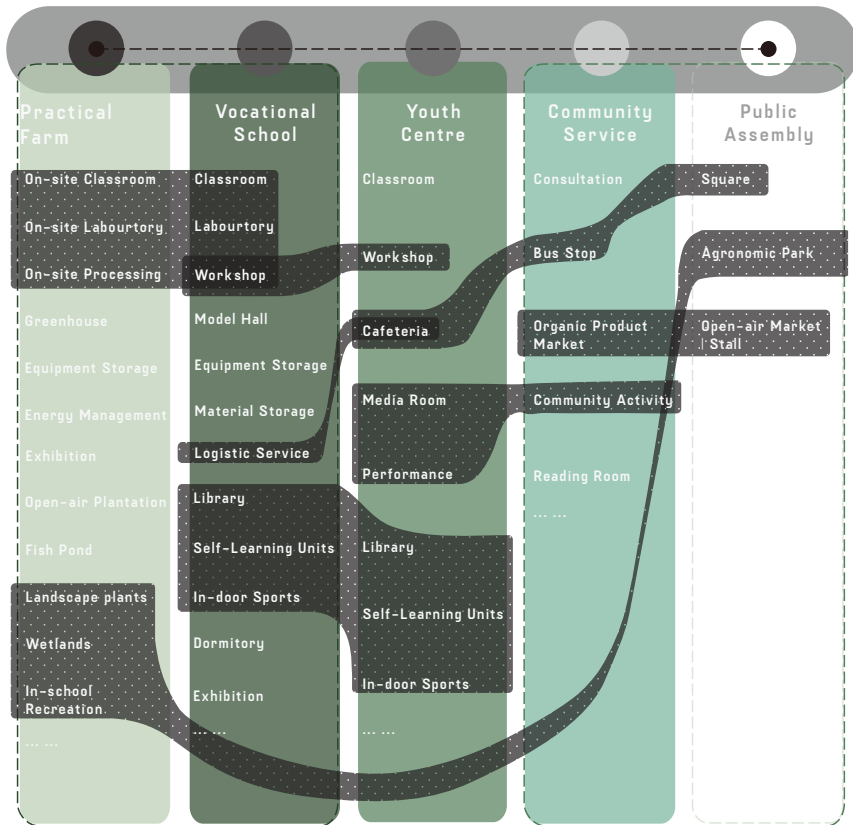
Give a man a fish, he eats for a day , Teach him to fish, he will never go hungry. The school is based on the practical making process and less theoretical research comparing to the other agronomic schools existed in Cuba. The education philosophy of this vocational school should really link the school with enterprises or starting-up process, namely learning by doing and from learning to working. The school consists of every step for building an urban farm and how to make profits from it. It follows the routine of starting a farm of ones' own. Owning the spirit of Cuban urban agriculture, practice and self-innovation is the core of the education goal for the school.

PROGRAMMATIC STRUCTURE

FROM SPECIALIZED USE TO COMMUNAL SERVICE



The importance of three main functions owns an hierarchy inside. The vocational school dominates the whole complex while the community help desk and the youth centre is only the expansion and even outcome of the school. Thus the three functions can be emerged together and forming a different inner relationship in between. The 'bugger zones' and public spaces that the building define are also considered as one of the components for the complex.




The voids and volumes forms a gradient from noisy to quiet functionally. The general functional composition of these elements shows a lot of overlaps in between, which means that the functions can be linked or shared by some kind of ‘buffer zones’. The mixed-use complex somehow can be further developed into a joint-use model, which means the interactions between different functional spaces can be even more. It will increase the intersection of the agricultural activities and the public life, creating a good communication in between so as to popularise the newly-developing business of ‘private *fincas*’ further more.

PROGRAMMATIC POSITION

THE WORLDWIDE PRECEDENT

City Farmer News
New Stories From Urban Agriculture Notes



NAVIGATION
Home
About City Farmer
Contact
Archive of all articles
Buy a Farm Home
Composting
Green Bin Clearing
Multi-family, Business and Institutional Composting
Wormcomposting

The New York City School of Urban Agriculture opens
1.6.2017 by Michael Levantson

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Recent Posts
Urban Agriculture in Helsinki, Finland
Afghanistan: I can grow vegetables to feed my family and from the surplus I can even make a small profit
A Look At 11 Community Gardens Around Oakland, CA Florida

Launch of Farm School NYC
Just last week an alliance of local, institutional and fund-raising organizations are pleased to announce the official launch of Farm School NYC: The New York City School of Urban Agriculture. The school will offer a unique, community-based certificate program with requirements beginning in January 2017. The mission of Farm School NYC is to provide comprehensive professional training in urban agriculture, which is a growing positive local action on issues of food access and social, economic and environmental justice.

'Family Planted' Vancouver features 'Vancouver's Compost Demonstration Garden'

HOME PROGRAMS BLOG ABOUT US CONTACT US



Permaculture & Ecovillage Immersion (affiliate program)

Newsletter >> CONNECT & LEARN

Name:

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Permaculture School Programs >> JOIN US!

Permaculture & Ecovillage Immersion - 9 weeks June 10 - August 11, 2017

Permaculture Design Course - 18 days June 12-30, 2017

Ecological & Natural Building Workshops August 15-20, 2017

Permaculture School >> OUR PARTNERS

SOIL
SCHOOL - INTEGRATED LEARNING

Learn more about our partners

Lunatic Farmer >> GET THE FREE VIDEO

Date: June 10-August 11, 2017
Location: Earthaven Ecovillage | near Asheville, NC ~ USA
Certificate: Includes Permaculture Design Certificate (PDC)
DISCOUNT >> Mention "Permaculture School" & you SAVE \$100!

Acquire skills. Empower yourself. Awaken connection.

68

In many developed countries such as the USA and Australia, the urban farming schools and curriculum, even the certification system, are starting to draw people's and social attention. The agricultural type is mainly permaculture, which is organic and environmental-friendly. The courses are both on-line and on-farm due to the flexible and convenient on-line communication system in these countries, which Cuba doesn't have these kinds of advantages for now. The urban farming school is not general workshop anymore but formal education with certification.

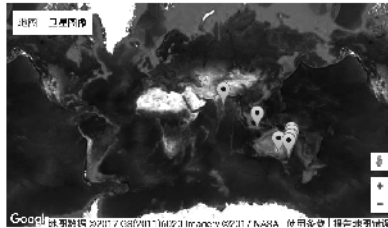
How To Start A Farm: Farming Training Programs

Online Farming Training

Beginning Farmer Resource Center: Cornell University, Based in New York

- Interactive 5- to 7-week courses connect you to the information and people you need to start a successful farm business or diversify your farm

PA member event listings



Permaculture in Action course

WHEN: Moncey '6 January 2017 (Fri) - Friday 20 Jan Jan 2017
TIME: 8:30am to 5:00pm
WHERE: Zuylen Farm 1196 Sandhill Rd. The Clonmel

Permaculture Design Course

WHEN: Moncey '6 January 2017 (Fri) - Friday 3 February 2017
TIME: 12:00pm to 2:00pm
WHERE: PRI Sunshine Coast 82 Golden Gully Rd. Kin

BECOME A MEMBER AT PA

We're a creative permaculture so why not join?

HOW CAN I BECOME A MEMBER?

SUBSCRIBE TO OUR NEWSLETTER

Not ready to be a member? That's OK, stay in touch by subscribing to our newsletter.

First Name:

Last Name:

Email address:

Yes, I'd like to receive your newsletter

I'd like to receive your newsletter

Sign Up

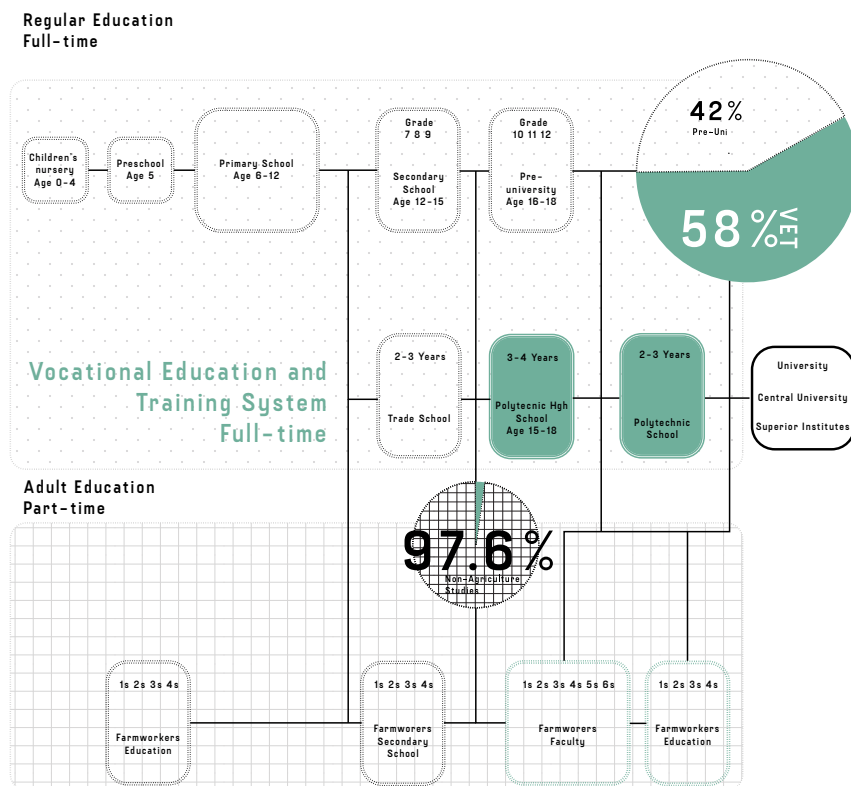
Source:

- <http://www.cityfarmer.info/2010/10/04/the-new-york-city-school-of-urban-agriculture-opens/>
- <http://thepermacultureschool.org/programs/permaculture-ecovillage-immersion/ps/>
- <http://farmmarketingsolutions.com/how-to-start-a-farm/farming-training-programs/>
- <http://permacultureaustralia.org.au/events-3/>

PROGRAMMATIC POSITION

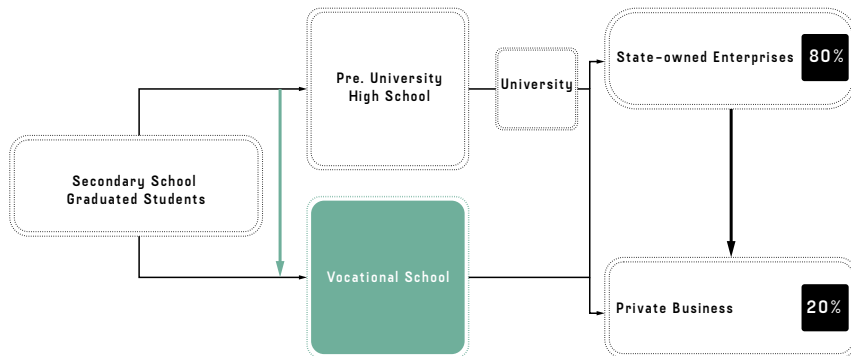
THE EDUCATION TYPE WITHIN SYSTEM

The VET system and labour market in Cuba



“In accordance with policies adopted by Cuba over the last few years, the recently concluded academic year maintained the focus on prioritizing the development of vocational education. Thus 42% of students finishing middle-school will continue their studies in pre-university high schools, while 58% will enroll in different vocational education programs.”

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“**T**he Labour Market and Vocational Education and Training All work-related activities in Cuba are organized around the economic and social values of the socialist state. **So far, a trained and skilled labour force in Cuba that is geared towards corporate needs is not yet existing** (Cunha & Cunha, 2004). Rather, vocational training takes after the Soviet model, which was based on schools that worked in conjunction with enterprises that provided the internships for trainees. (Höhns, 2004; Wallenborn, 2010). Moreover, the temporary opening up of Cuba to private initiative and foreign enterprise (mainly in the tourism and transport sectors) in the 1990s had no major influence on the system of vocational training. Those recruited for private enterprise came either from the informal labour market or from the economy of extended family. This informal labour market contributes to a high mobility of skilled workers who are drawn to the foreign-currency economy.

Economic changes and problems are most apparent in agriculture, where private companies play a significant role. Private farmers, approx. 20% of the

total rural population, produce 70% of the food consumed in the country. The remaining 80% of the land belongs to **the government or state-controlled cooperatives and have a very low rate of productivity**. Cuba is, therefore, dependent on importing two billion dollars of foodstuffs a year to boost its own production. At its annual congress the Cuban farming community announced efforts to ease restrictions on private farmers. Now the supplying of private farming companies with operational resources, e.g. fuel, fertilizer, spare part and others should be organised by the private market. How far-reaching beyond the agriculture sector these economic changes will be is still unclear. According to a speech of the state president from spring 2010, the government announced that it would be relaxing state control of the labour market and predicted more than one million workers from the unproductive Cuban companies will **lose guaranteed jobs in state companies**. One of the announced solution for this upcoming social problem is the creation of more opportunities for private enterprises. In this period of economic upheaval, **vocational training has been given more state attention in order to „train the future workers that this country needs** (Franquiz, 2008).”

Source: <http://mgmt-class.com/cuba/>
<http://www.jcefs.com/wp-content/uploads/PDFs/09-1-09.pdf>

PROGRAMMATIC POSITION

THE EDUCATION TYPE WITHIN SYSTEM

Secondary school students in agriculture course in 1970s



“Connections between school and work; the Cuban rural schools also function as agricultural enterprises and students are expected to work there for three hours a day. Urban schools, too, are connected to the agricultural operations and students are required to work on the farms for up to 7 weeks in a year (Agüero Contreras et al., 2001; Singh, 1998; Watts, 1989)

As already mentioned, vocational training is located at the intermediate level of the Cuban education system. Primary and secondary schooling support the technical vocational training (Enseñanza Técnica y Profesional, ETP). It orients from a polytechnic view with a strong emphasis to combining study and work, especially agricultural activities. Students therefore spend long periods involved in productive labour (Harten, 1998: 862). Cuba also has a very high number of academics and the numbers exceed those enrolled in technical fields. In 2009-10, only 2.4% of students enrolled in agricultural studies, 7% in the technical sciences in comparison to 24.8% enrolled in the social sciences and humanities. These numbers however lead to considerable social and economic distortions given that the graduate will not get acceptable jobs in the state economy. Problems could then arise if there is a surplus of academics and not enough workers, an actual problem in the agricultural sector (Eckstein, 1997; Gasperini, 2000).”

Source: <http://www.jceps.com/wp-content/uploads/PDFs/09-109.pdf>

PROGRAMMATIC POSITION

THE EDUCATION TYPE WITHIN SYSTEM

Instituto Politécnico Agropecuarios Cuba



The agriculture schools in Cuba are mainly located in suburban or rural areas. The schools on the filed is basically the prototype of school architecture at that time after the Revolution, thus owning the similar architectural language to the schools in Alamar, the Soviet Union style. The outdoor corridor, elevated ground floor and the prefabricated structure are the main characteristics of these schools.

Agriculture University of Havana



The Agriculture School of Havana is the same of those agriculture schools. The university is located in the suburban area near San José de las Lajas, a small city in the interior of Cuba. The university is a comprehensive university with agronomic degrees based on the traditional soviet mechanical agricultural production methods. Although nowadays the agriculture in Cuba is turning to organic farming countrywide, the hardware of agronomic education still remains the separated layout in a large scale.

PROGRAMMATIC POSITION
TRADITIONAL LABOUR EDUCATION





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Labor Education. The main task of the course is: to encourage the preparation of students for their incorporation as citizens to the social and labor life of the country. To achieve this it is necessary to exploit all the current means, and ways available to the teacher. Education in the course of new articles, maintenance and repair work of the constructive process concept electricity , work with different elements of nature , restore and combine them into paper , cardboard, textiles, plastics , wood , metal , and others, such as branches, leaves , seeds , stones, snail possibility, etc., and therefore a large knowledge production, agriculture or services.

Source: https://www.ecwred.cu/Educaci%C3%B3n_Laboral

PROGRAMMATIC POSITION

NEW WORKSHOP SCHOOL

Learning by doing in the “Ugo Luisi” in Santiago, Cuba

According to Graciela Casales García, General Deputy Director of the Workshop School Ugo Luisi, belonging to the Office of the Curator of the City (OCC) of Santiago de Cuba, the 111 students now studying in the center “learn by doing” slogan precisely accompanies decent process in place. During the two year duration of each specialty in this institution, learners are prepared as restorers from the practical and theoretical subjects such as drawing, materials and construction techniques, types and architecture of the city, and technology. The practical part takes the longest, responding to the principle of learning by doing, said Casales, adding that in the week, students receive two days of classroom lectures or eight hours sitting knowing the theory and three days of workshop, total 21 hours of practical classes.

Graduates of the School Workshop Ugo Luisi are ready to be inserted in the state labor market and in particular daily conversed with them and urge you to form work teams where students of all specialties incorporate and seek their options employment, he said.

Each new course enter the institution 60 young people, after a registration process that the second half of June is performed. Porting the health check, certification of completed studies notes, identity cards and photos, is a requirement prior to the interview that is done every young to know their interests. In July the final selection, a total that sometimes exceeds two hundred published. The school is offering two specialties: carpentry and masonry-decorated. The others depend on the needs proposed by the government in the

territory and the OCC, and these are plumbing, electrical, gardening, painting and blacksmithing work. What are the benefits for students of the School Workshop Ugo Luisi your institution belongs to the OCC?

“Being restorer is not a job that everyone learns, because a deep knowledge and skills to maintain a work and that this amount is as close to its original form it takes. That knowledge is not simple carpenter or a bricklayer, is taught here in this center, which aims to make young people admitted to restaurateurs. The benefit is precisely there, the OCC is responsible for heritage conservation of material and immaterial city, and is where the work of graduates from the school workshop is inserted. We are also supported with resources, means of protection for students and improving the material conditions of the center.”

Currently the students and teachers of the “Ugo Luisi” are responsible for the restoration of the old Clinic Los Angeles, today Maternal South Hospital, which is inserted into the constructive intervention of Monumental Area July 26, the 60th anniversary of assault on the Carlos Manuel de Cespedes barracks in Bayamo, and Moncada, in Santiago de Cuba. Bottino also work in the pharmacy, building located on Calle San Basilio and that was centuries ago example of the pharmaceutical system of the city, by the introduction of new scientific and technological

“The masterpiece of Ugo Luisi” because it is the first property whose restoration depends entirely on the students and teachers of the institution, sentenced Casales.



*Text and photo: José Roberto de la Cruz
Link: <http://www.museoetnografico.com>*

MATERIAL IN ALAMAR

ABANDONED 'TREASURE'





Alamar is a place where is full of wasted materials due to the damages of hurricanes. The constructions at the seafront were destroyed into pieces of raw materials which can be re-used as agriculture implements or the construction on site.

Alamar owns a tradition of 'self-innovation', containing inside the small shed near the social housings. In the sheds, there are object repairing, re-assembly and re-use etc. Like the old bike can be transformed into a planter, Alamar people is doing the same thing. The experienced worker in Alamar is another resource for the 'learning by doing' education for urban farming as kind of communal and local support.



MATERIAL IN ALAMAR

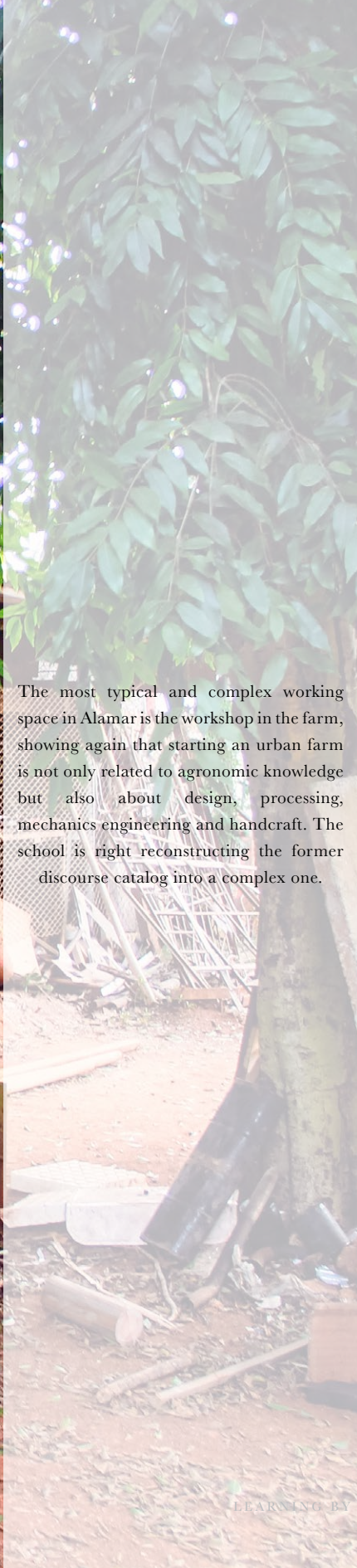
A TRADITION IN ALAMAR.





CUARTO de
RIEGO
NO PASAR



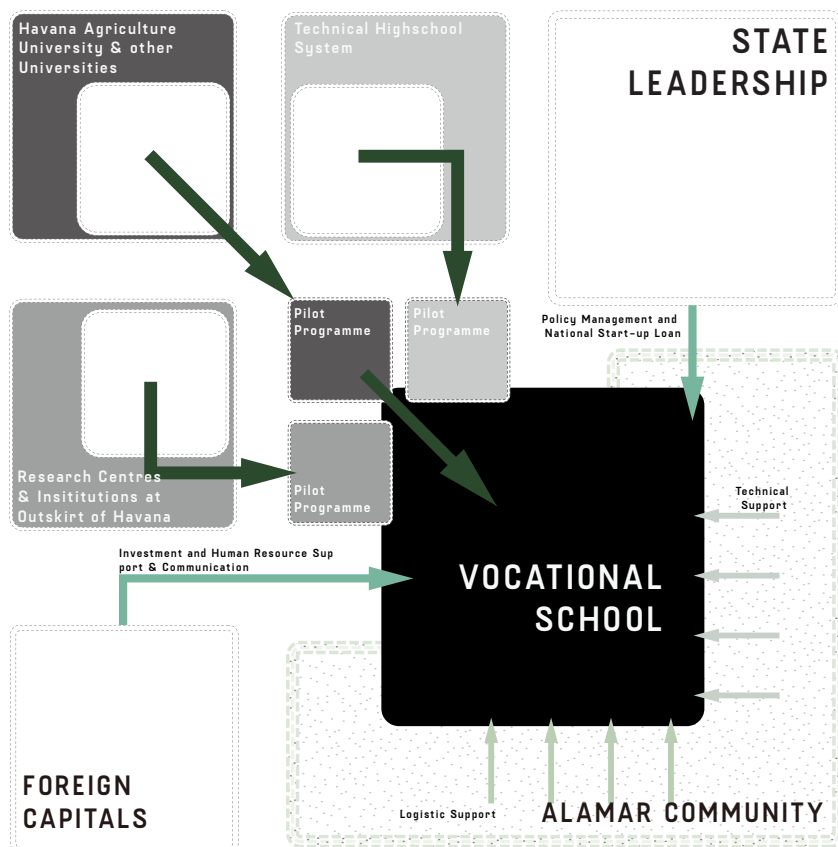


The most typical and complex working space in Alamar is the workshop in the farm, showing again that starting an urban farm is not only related to agronomic knowledge but also about design, processing, mechanics engineering and handcraft. The school is right reconstructing the former discourse catalog into a complex one.

PROGRAMMATIC STRUCTURE

INTERACT WITH CITY

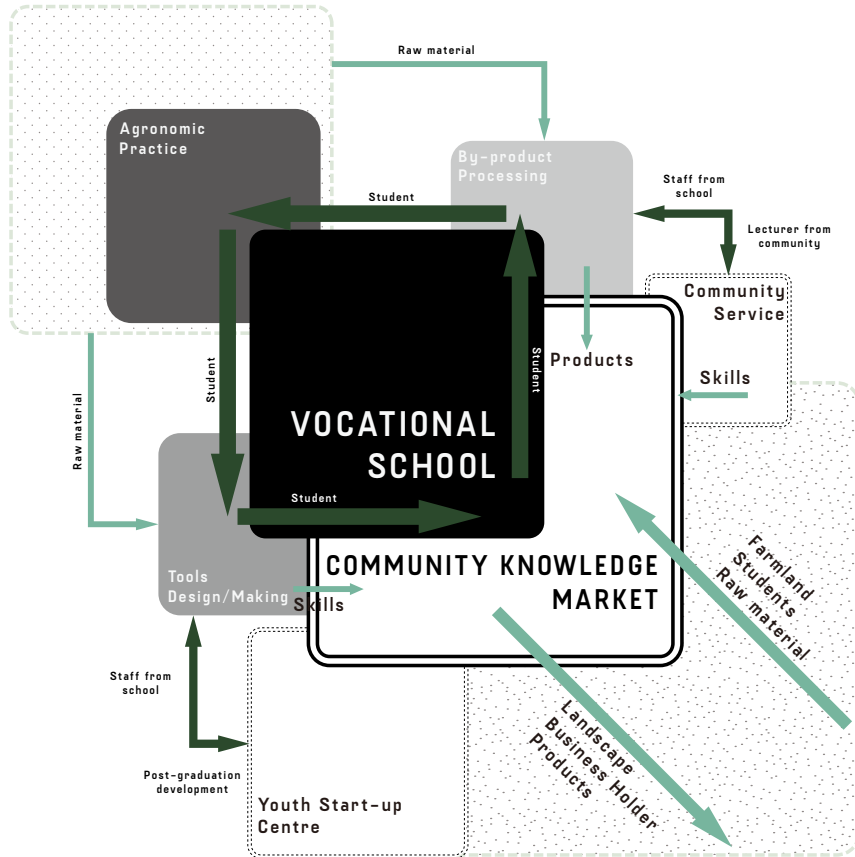
A joint pioneering programme supported by institutes and research centres in the city



Thus, so as to achieve the expectation that the school should be built based on the working process of starting and running an organic urban farm, the school should be supported by several different institutions of different majors in the country, as a pilot one. In the meantime, the school will be also supported by the local people with their skills, traditions and raw materials, namely resources from different perspective.

INTERACT WITH COMMUNITY

A help desk centre for the community and the catalyst for start-up personal career



The school is like a machine that both process the students and the raw materials respectively into a business and skill holder and products. The three departments are agronomic practice, by-product processing (adding value) and install (implement) design and making. Within the departments, there are different topics but flexible. From this perspective, the vocational high school is more similar to the superior education that the knowledge is tightly following the trend outside school, namely advanced and experimental technologies or the latest bottom-up innovation.

LOCATING THE PROJECT

WHERE THE SCHOOL ROOTS IN

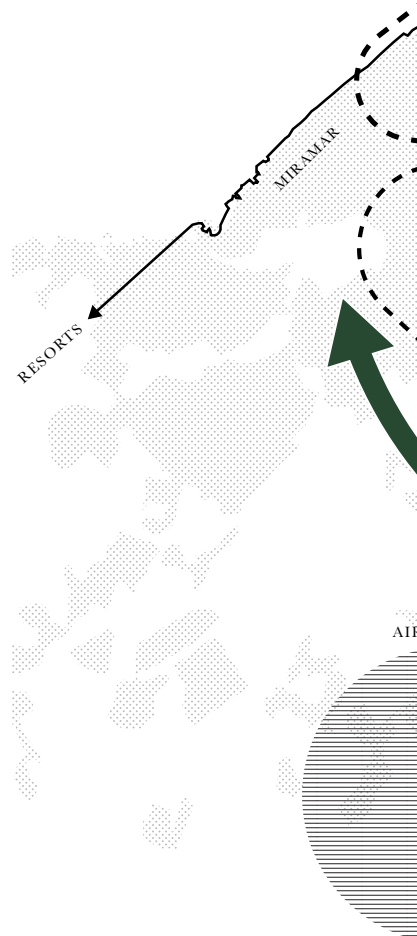
FUTURE SCENARIO

MANIFESTO AS A PRINCIPLE

‘Cuba is on the brink of yet another drastic social, economic and political chance as the result of decentralization and privatization process next to re-enforcement of international relations. The risk of this process is that the political and economic power will shift from the centralized state system to foreign capital instead of the Cuban people. Areas in inner Havana, such as Vedado and Vieja, will profit from these international interests while neighbourhoods unattractive for foreign investment will suffer neglect and degradation. This will result in growing differences between the working class living in the city border areas, like Alamar, and the Habanero’s of touristic areas. Alamar is one of the places where a new period of disconnection, a new ‘Special Period’, is lurking. While being disconnected from Havana, Alamar has to rely on it’s own potentials and challenges present on different levels. I.e. the disconnection with tourism, the green belt in between Havana and Alamar next to the lack of social and urban connections are potentials as well as risks.

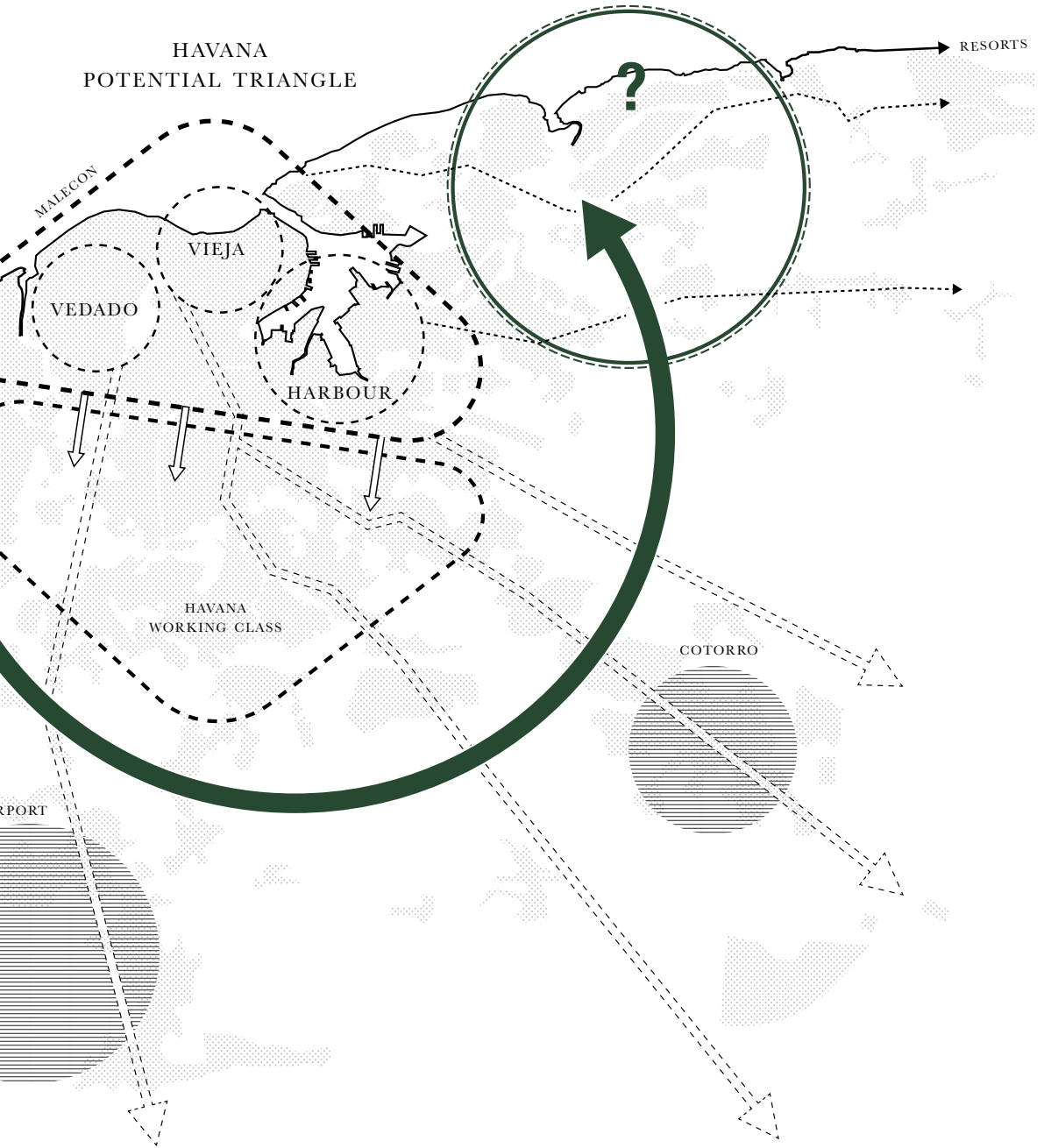
The risks that occur on an urban scale are also applicable to inner scale of Alamar. Built on the ideologies of the revolution, the new town is missing every part of luxury. Houses built in different development stages, surrounding the basic needs as hospitals and minor shopping districts, are lacking urban development. The coastline of Alamar is not overcrowded by tourists, but is also not attractive to locals. Diversity in the broadest sense is what Alamar craves. The future of Alamar depends on the exploitation of it’s potentials, as those can be applied to strengthen focus within and simultaneously maintain the interrelations with the close surroundings as well with Havana. To prevent future social and economic degradation, Alamar should built upon local potentials of tangible and intangible characteristics in order to create a self-sufficient community while strengthening its value for the rest of the urban region.’

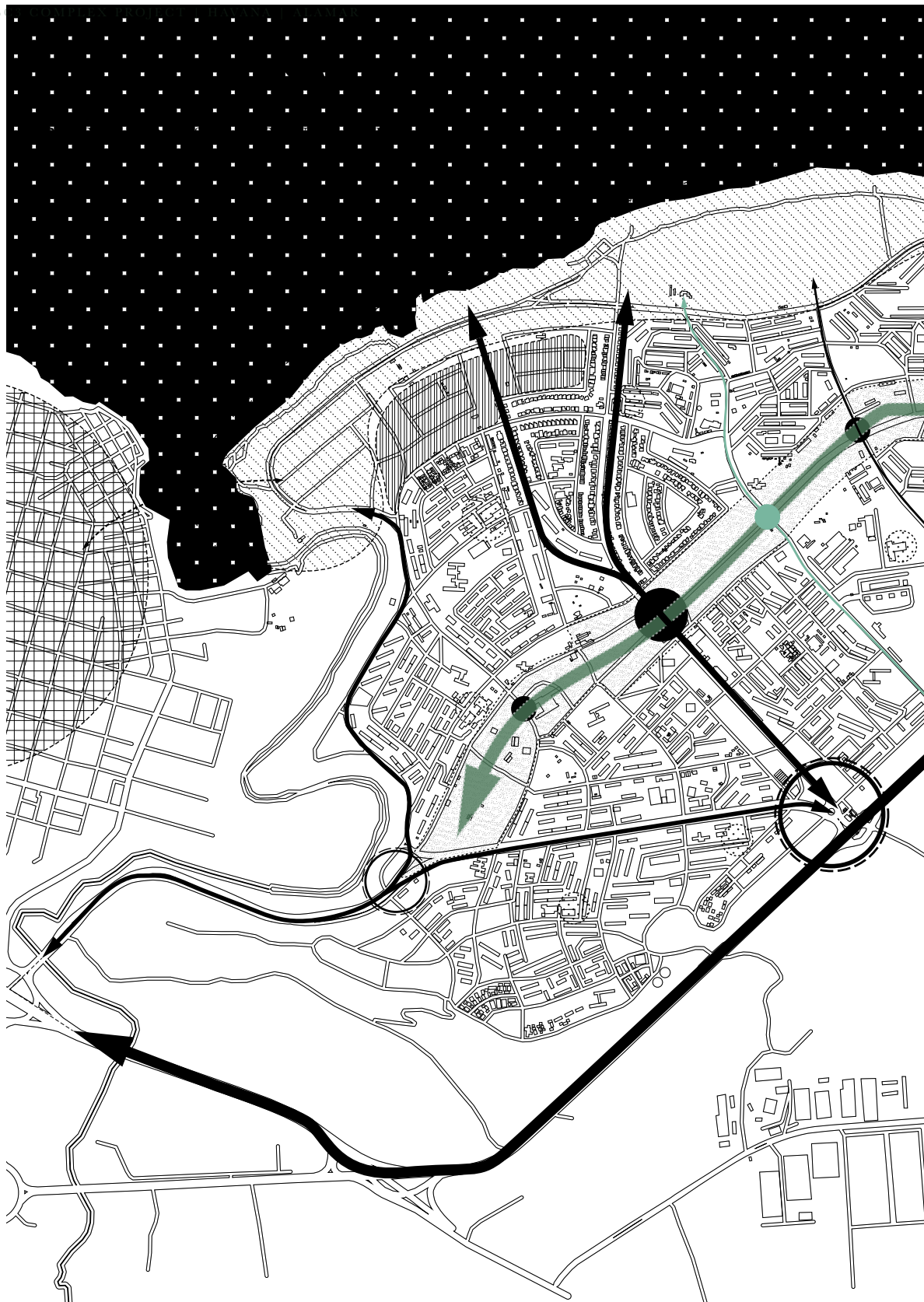
Interventions shall be injected into Alamar to serve the area and its neighborhood mainly. Cuban people, not foreign tourism, is the target group for most of the interventions. The ability of production from the mental and physical level and the value within shall be activated and stimulated by the interventions. In the meantime, Alamar should also be connected with the rest of the city, especially the outskirts in the ‘Cordon of Havana’, creating a support system for the city centre, which means the intervention should be really functional but not that iconic and symbolic.

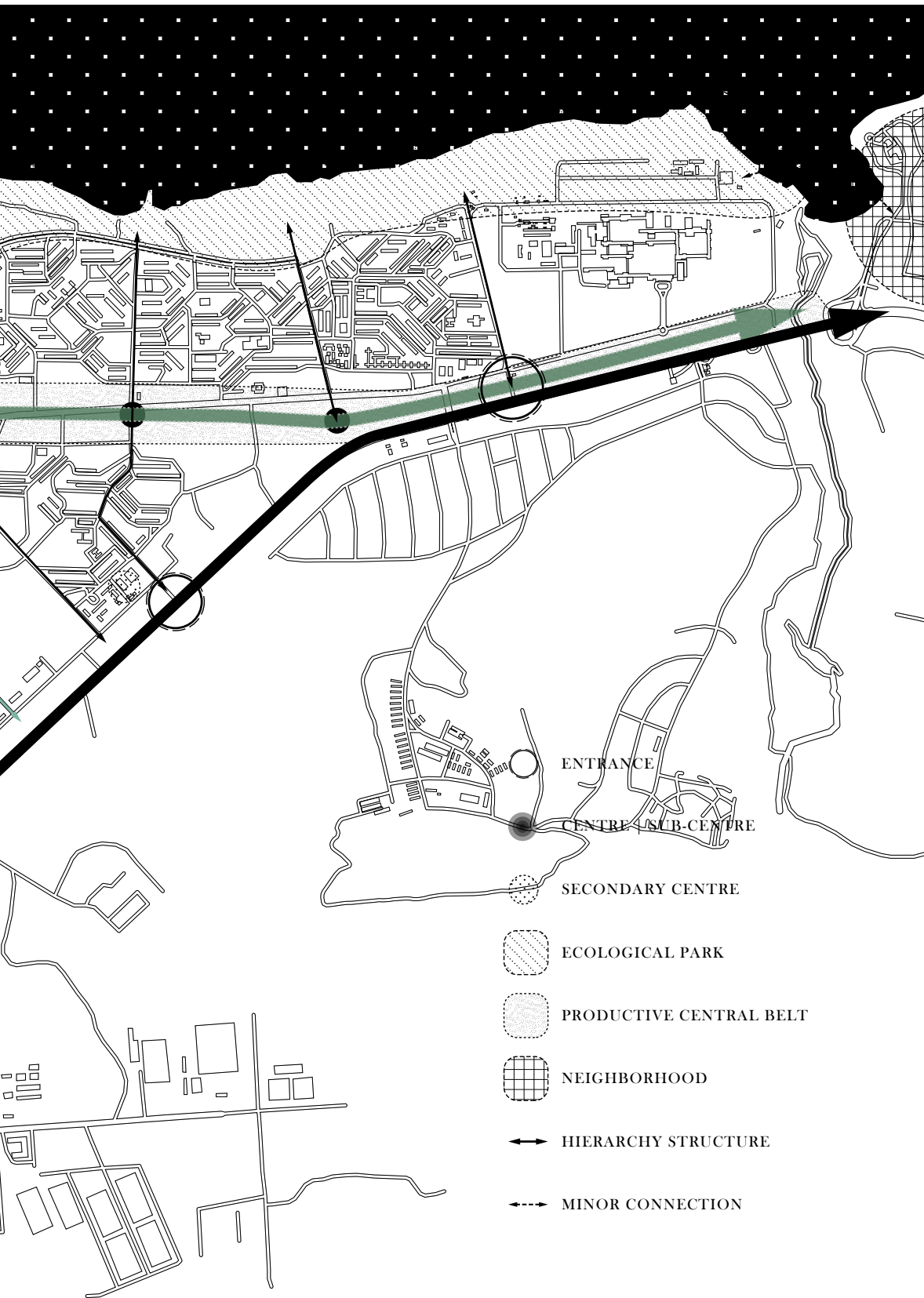


HABANA DEL ESTE
ISLAND OF HAVANA

HAVANA
POTENTIAL TRIANGLE

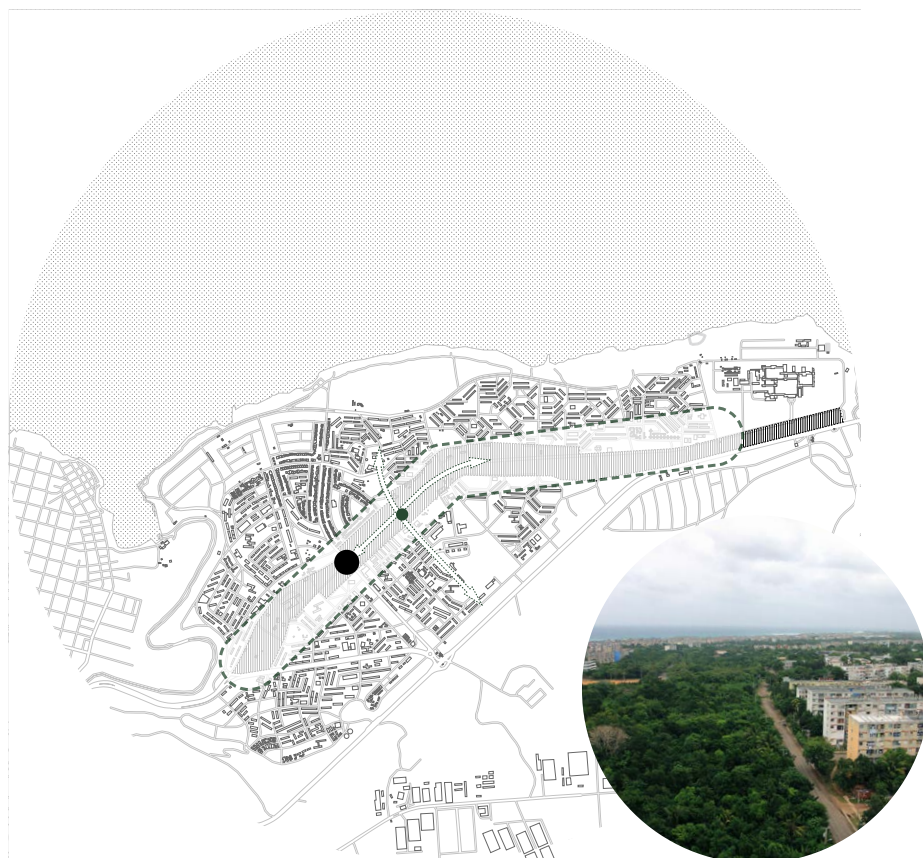






URBAN ANALYSIS

NOT CENTRAL AT CENTRAL BELT



In the future, half of the central belt will be public functional buildings related to organic production and community life. The education building should not be at the centre of Alamar but a quite independent and quiet place.

TRANSPORTATION HUB



The place should also be well-connected to the outside area as well as inner part of Alamar with public transportation to provide convenience to the students from neighbourhood.

URBAN ANALYSIS

BALANCED POINT FOR COMMUNAL SERVICE



The public and cultural facilities are very unbalanced in Alamar. The east part of Alamar is called Seberia because of the mono-functional layout and lack of educational, cultural and commercial facilities. The place should be at kind of balanced point, at least not increasing the agglomeration even more severe.

YOUNG LIFE BREATH



The place should be full of dynamic atmosphere, rather than a mono-functional one. Different public functions, including the type of landscape, will bring different kinds of people. The condition will help to form a lively picture with the school in the future, with vitality and better quality.

URBAN ANALYSIS

CONSTRUCTION CONQUERED THE GREEN BELT



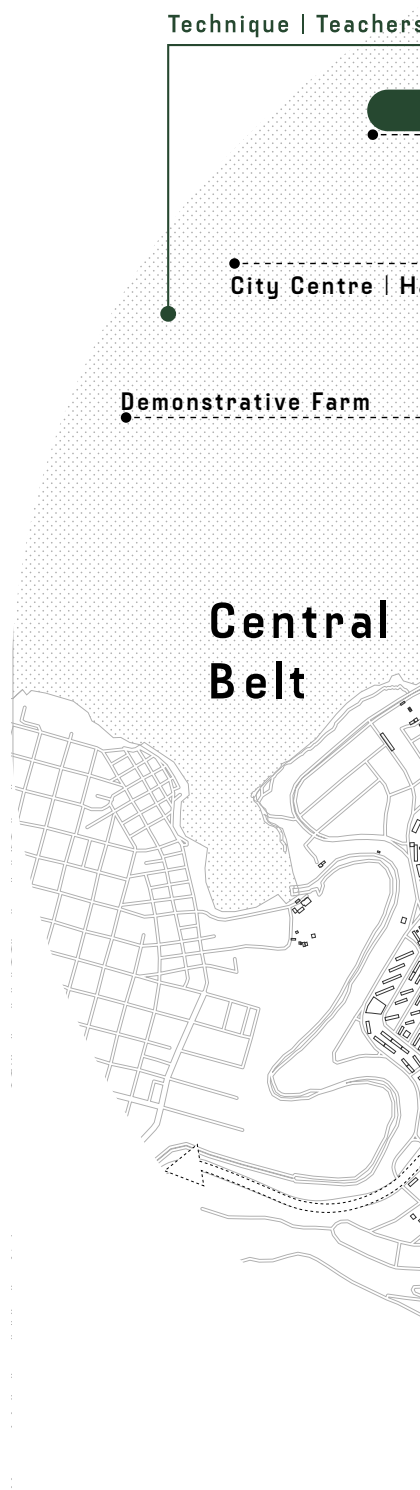


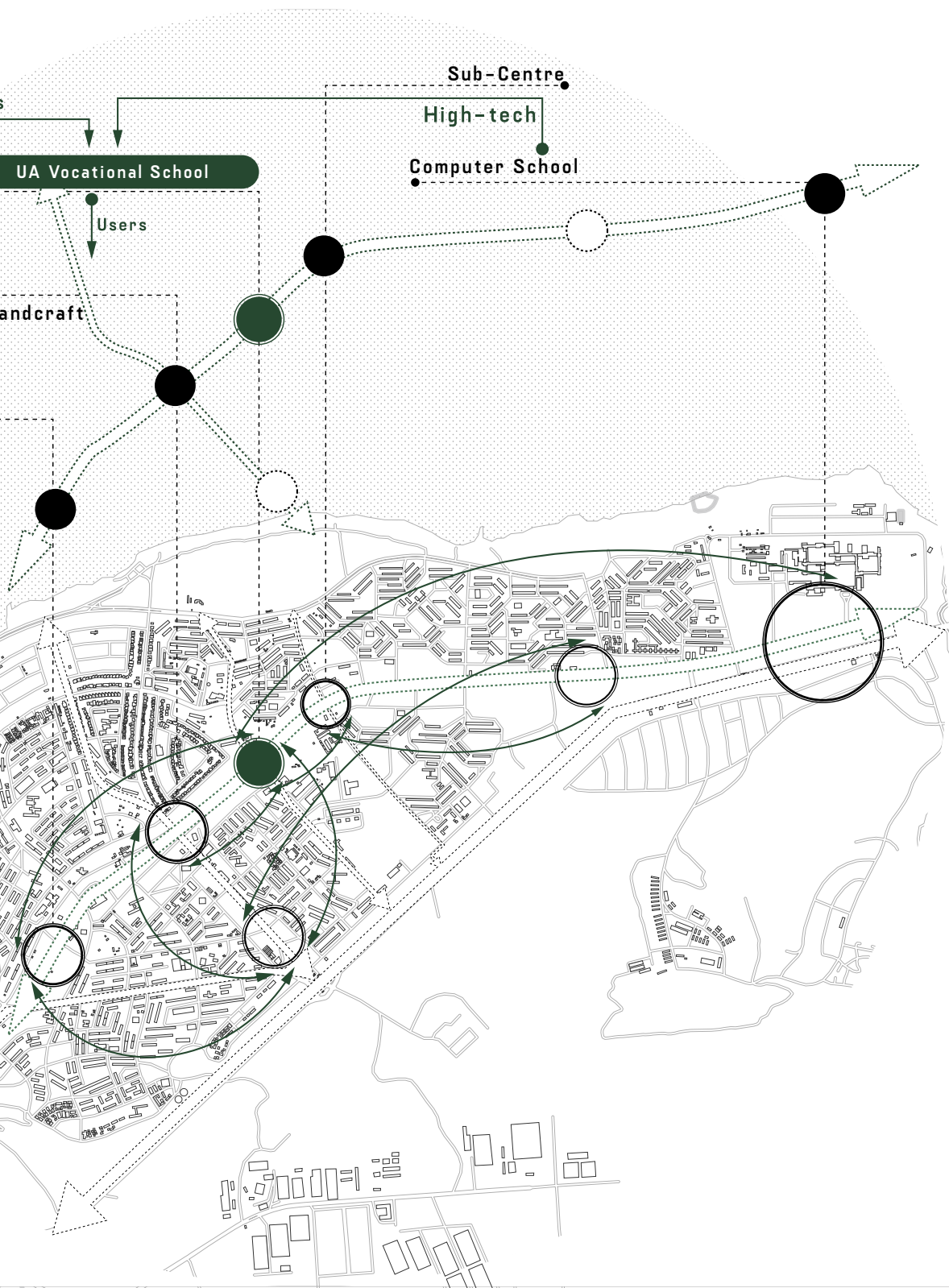
New social housings are being built at the cenral belt in Alamar, conquering the greenery more and more. As one of the treasure in Alamar, the greenery should by kept based on a plan to shape the city better. Locating my project at the other side of the belt shows my attitude that the city plan should always take landscape and greenery into consideration and control the spread of housings strictly according to the plan. The city need some space to breath, with those trees, plantations and farmlands.

FUTURE SCENARIO

PRODUCTIVE CENTRAL BELT AND ECOLOGICAL CORRIDOR

The vocational school shall be a very important node on the central belt. The former green built is split into two, the productive building belt and the ecological corridors, namely the recreation park with agricultural landscape distinct from the seafront ecological park.





FUTURE SCENARIO

WHAT'S GOING TO BE IN LANDSCAPE?

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Surrounded by the greenway, the future main road, the ecological agricultural park and the future handcraft centre at the heart of Alamar, what kind of educational building should there be? There are two main relationships that I need to deal with, namely between architecture and building, and between 'learning' and 'doing'.





FUTURE SCENARIO

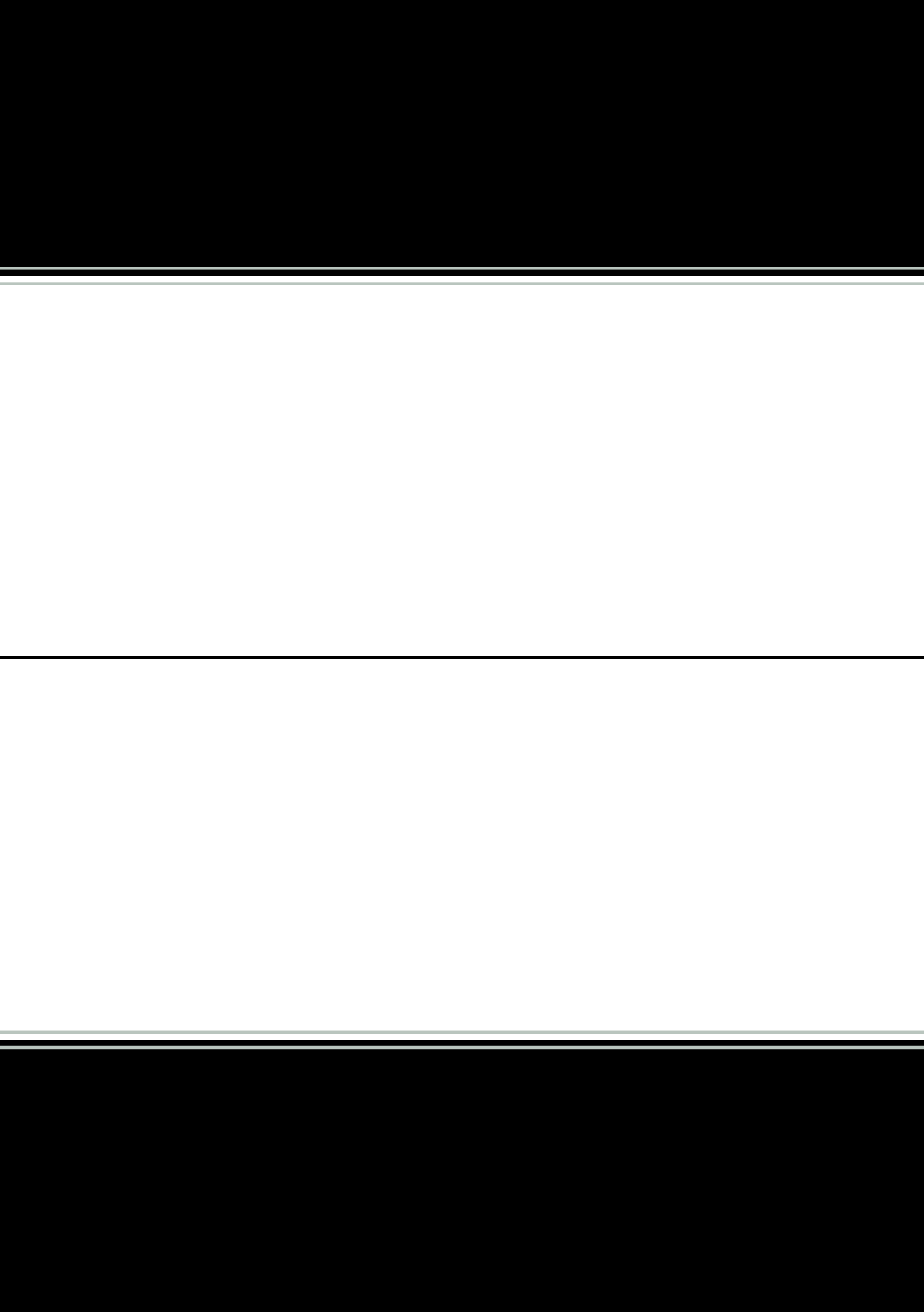
TOWARDS AN OPEN WORLD

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03

T Y P O L O G Y S T U D Y
A N D
P R O J E C T I Z A T I O N

T Y P O L O G Y C O M P A S S

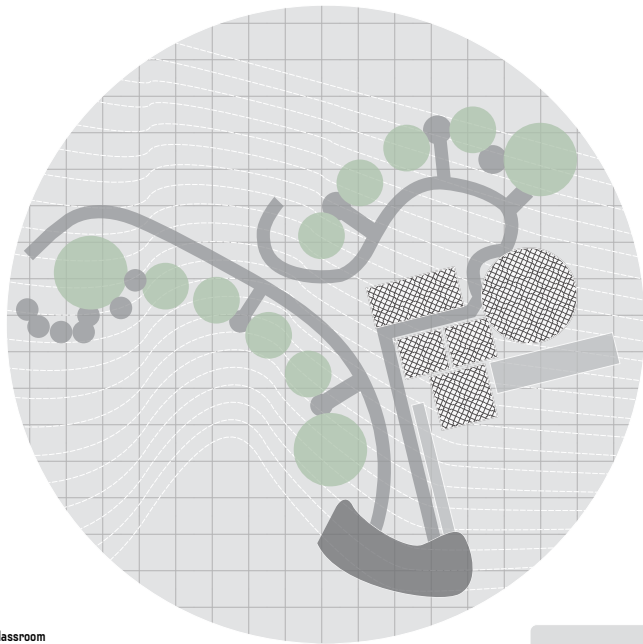
F U N C T I O N A L C O M P O S I T I O N

VOCATIONAL SCHOOL IN CUBA

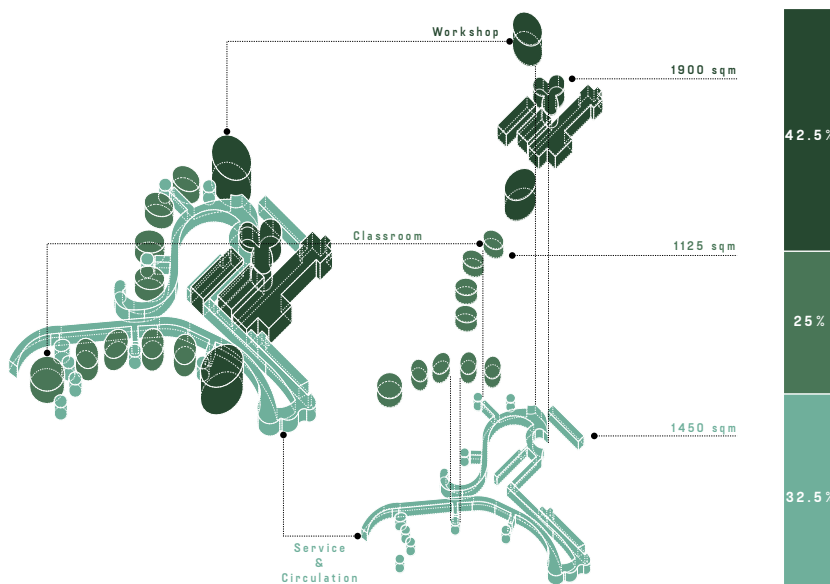
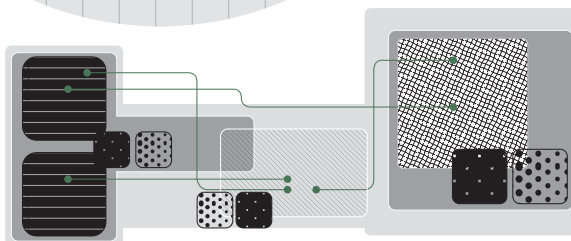
TEACHING SPACE COMPOSITION | LINEAR

Fine Art School of Cuba, Havana

In the area, there are 6 primary and secondary schools in total, each of which was built by the prefabricated technique just as the housing projects. Some of the schools are elevated from the ground due to the technical possibility of prefabrication, in order to avoid the topography differences on the site. In the main time, the open 'ground floor' can provide a shaded space for the students. Basically the school usually consists of several lines of classrooms and service rooms, conjoined by a orthogonal open floor plan, namely an open-air corridor, into a whole. The big demand of shaded open-air space is an apparent character in ordinary Cuban schools if we look into limited amount of pictures. The architectural language in school design is generated by the tropical climate, which means frequent rainfalls in wet season and strong solar radiation in the dry season. The huge area of shaded open space is also benefit for natural ventilation, which forms a very primitive but efficient way in passive sustainable design.



-  Special Classroom
-  WC
-  Water
-  Workshop
-  Functional Cluster
-  Assembly
-  Open Public Space | Corridor



VOCATIONAL SCHOOL WORLDWDE

TEACHING SPACE COMPOSITION | LINEAR

Vocational Education Center / Durisch + Nolli Architetti

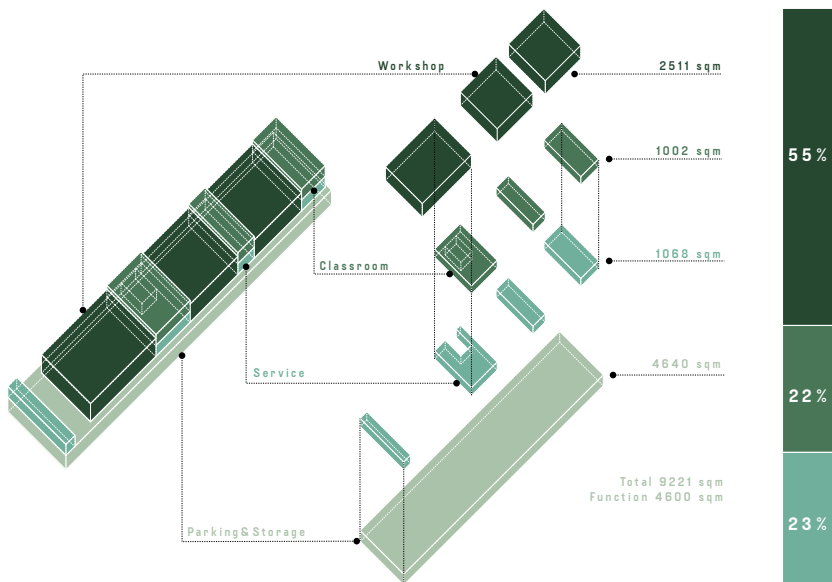
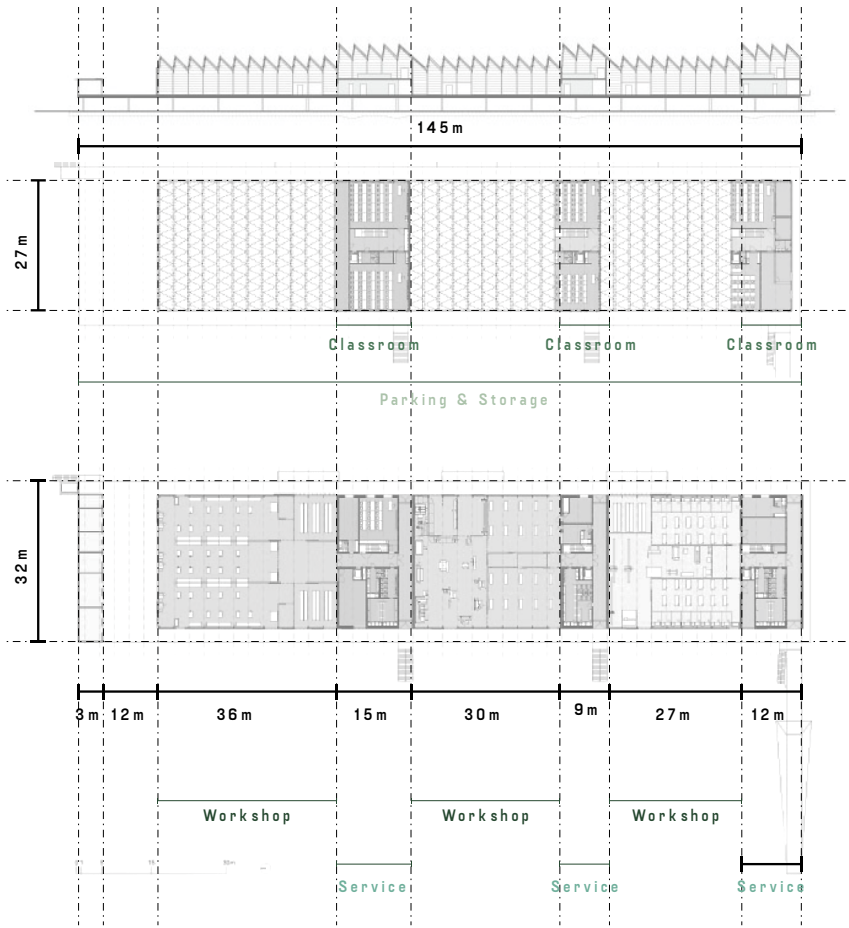
Architects | Durisch + Nolli Architetti

Location | Gordola, Switzerland

Area | 9328.0 sqm

Project | Year2010

From the architect. The project fits the given program in one, single building set at the edge of the plot of land. The building is a single volume, composed of a serial repetition of simple elements. The traditional typology is here characterized by the raising of the complex on a platform and the space below answers the necessity of parking spaces and different storage. The cover space is marked by the way to the parking entrance and, along the West side, by a second entrance for loading trucks and its flexibility for use is outstanding; it offers more outdoor cover spaces than originally requested, that could be used for many activities. The access to the platform is simple, three ramps are located next to the laboratory entrances that lead to the upper level. On the North side a freight lift for goods and disabled people can be found. The volume containing the workrooms and teaching rooms is designed to be simple, flexible, and functional. Somewhat like an industry building where students and teachers can experience a professional environment. The big north-facing sheds guarantee the perfect light for any training activity and the closed working spaces help capture the attention.



VOCATIONAL SCHOOL WORLDWIDE

TEACHING SPACE COMPOSITION | LINEAR

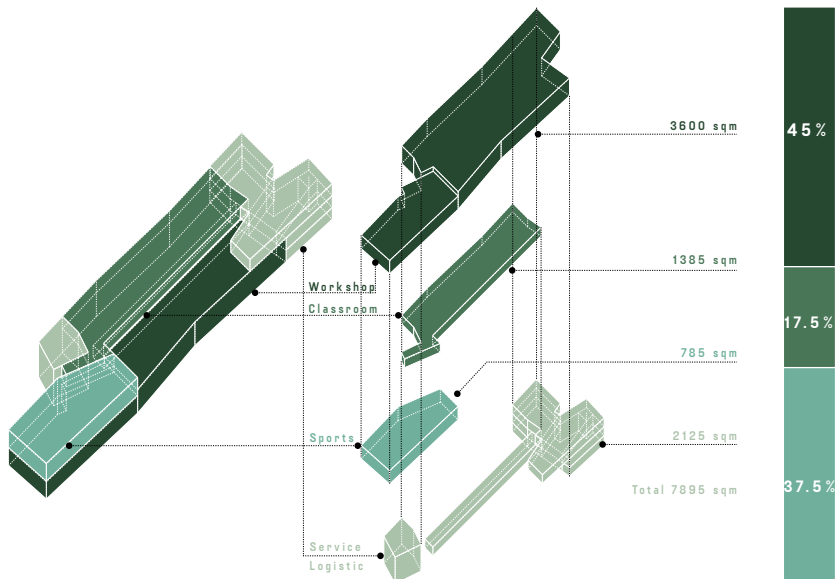
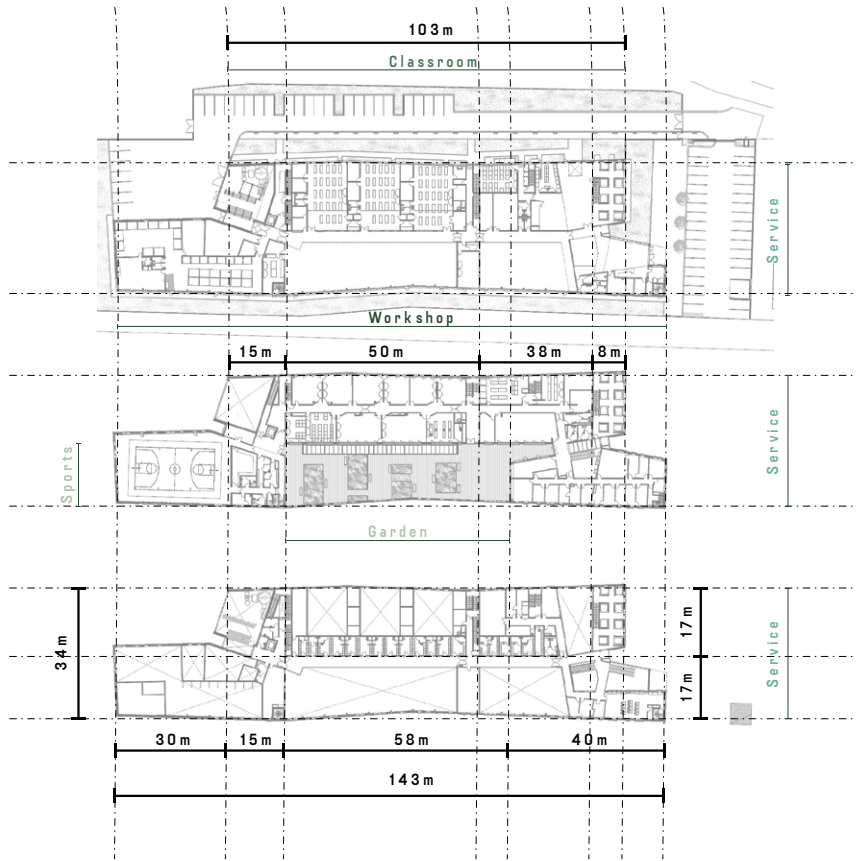
Gennevilliers Training Center | Atelier d'Architecture Brenac-Gonzalez

Architects | Atelier d'Architecture Brenac-Gonzalez
 Location | Gennevilliers, 92230 Gennevilliers, France
 Area | 7895.0 sqm
 Project | Year 2012

From the architect. Like any training centre, this one provides two different types of teaching: vocational training based on woodwork, carpentry and elevator maintenance, and more general education. Vocational training takes place at the bottom of the building because this is also the symbolic basis of the institution. We have tried to provide pleasant, well-lit, practical and welcoming working spaces and have designed them with the wellbeing of their users, i.e. administrative staff, teachers and students, in mind. Using the large foyer as an official reception and exhibition area enables us to present a good image of the institution and of vocational training as a whole.

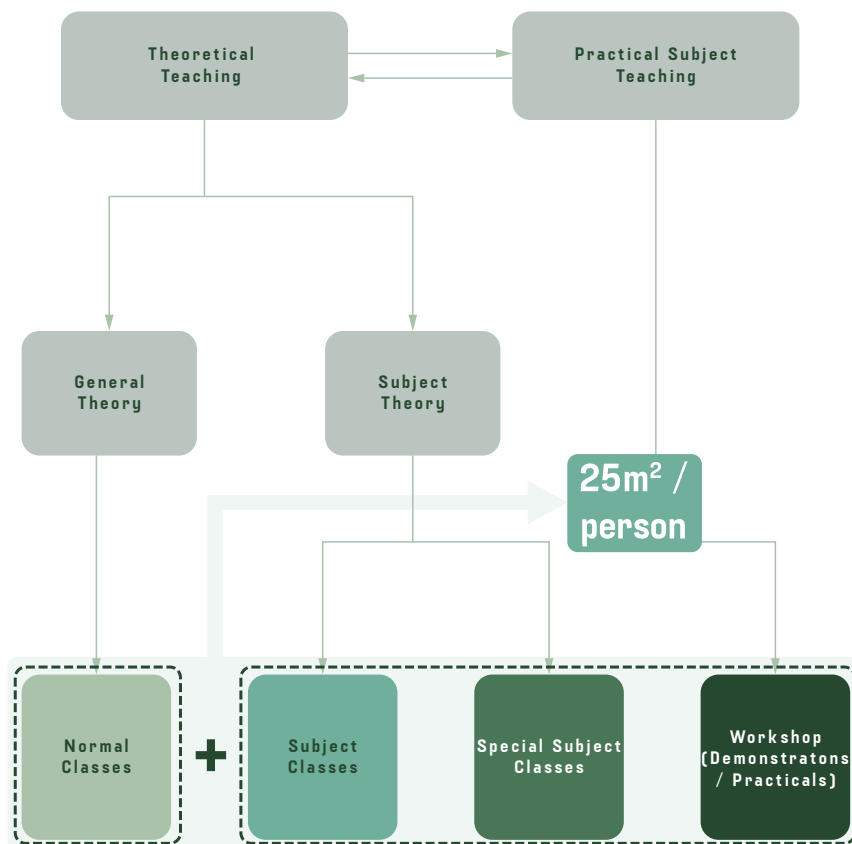
This foyer is visible from the outside concourse through a large pane-glass window that provides a glimpse of its colourful double-height interior. The corner of the "eastern block" has been scooped out to form a porch and guide visitors towards the entrance and the caretaker's office. The monumental scale of the foyer and the grand central staircase orchestrate the movements of students going up or coming down from the cloakrooms, classrooms and workshops.

A first flight of stairs serves an intermediate level housing the cloakrooms, which open out onto a mezzanine overlooking the double-height workshops. This landing also gives access to the resource centre and the library, which are located at a strategic crossroads. The second landing leads to the administrative offices, the recreation area, the sports hall and some normal rooms. The workshop where elevator maintenance is taught is the institutional figurehead and is located at the northern tip of the "western block".



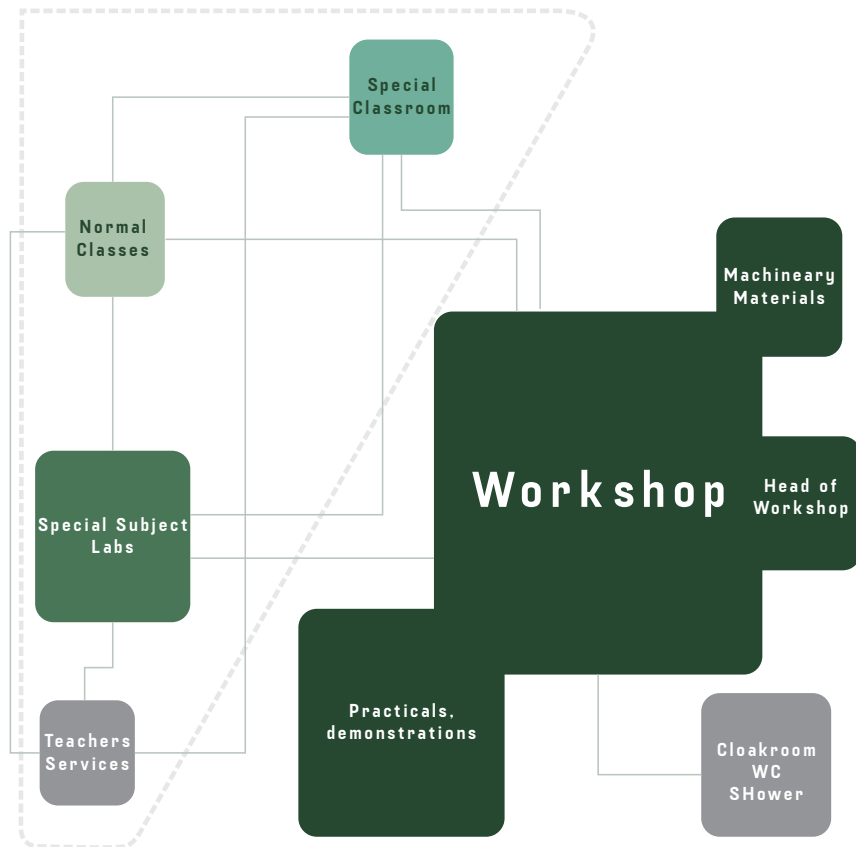
VOCATIONAL SCHOOL

CURRICULUM STRUCTURE



The main difference between normal high school and vocational school is the goal of education. Vocational education aims to a more practical training but rather than focusing on theoretical teaching and researching. The types of classrooms basically forms a gradient from theoretical aspect to practical aspect. In vocational school, therefore, each students requires more area than in normal school. Generally speaking, each full-time student should at least own **25 m²** while part-time, **10m²**.

TEACHING SPACE



According to the types of classroom due to the education typology, the spatial translation is thus different from ordinary high school as well. The main part of the educational space is the spaces for practical training and education, namely **workshops and laboratories**. The special spaces and functions require a relative large amount of space for **logistic and service**, leading to a independent system apart from the traditional learning space.

VOCATIONAL SCHOOL WORLDWIDE

TEACHING SPACE COMPOSITION | ENCLOSURE

Sir Sandford Fleming College - Kawartha Trades and Technology Centre / Perkins + Will

Architects | Perkins + Will Toronto Office

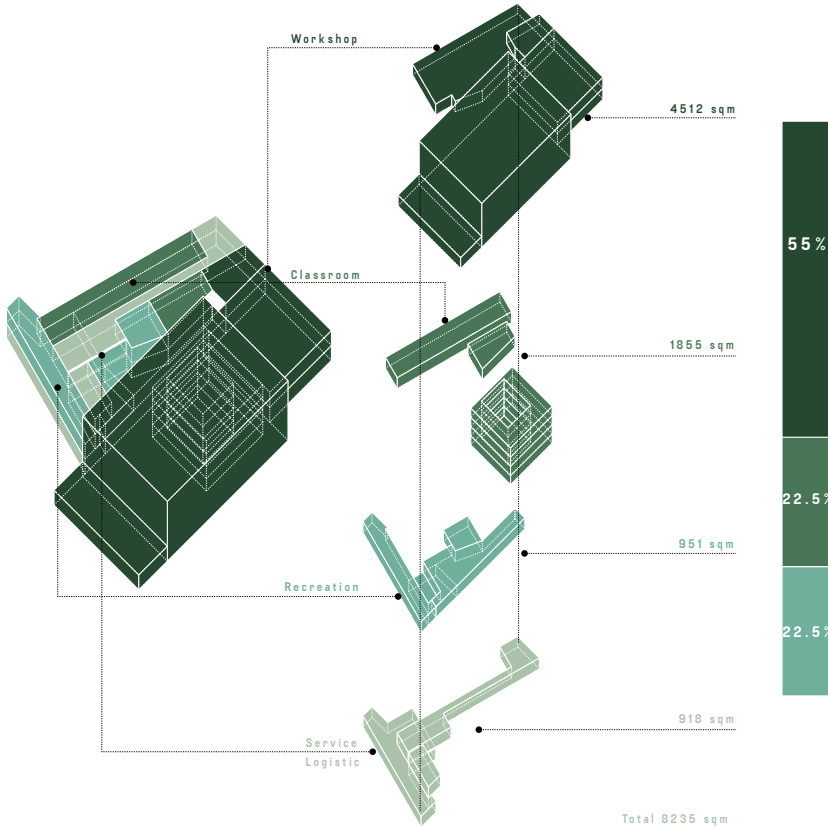
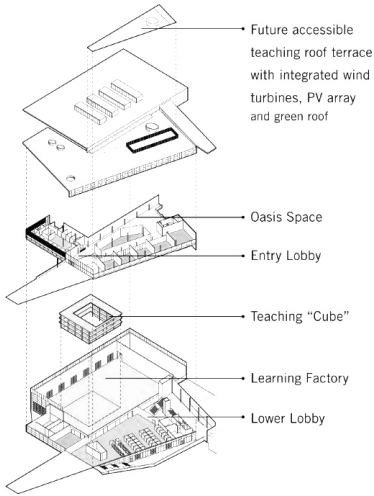
Location | Peterborough, ON, Canada

Architect in Charge | Jan-Willem Gritters (lead architect), Duff Balmer (design principal)

Area | 87000.0 ft²

Project | Year 2014

The 87, 000 sq. ft. multi-level learning center is illuminated by natural light, exposed structural components and open spaces, creating ideal grounds for learning and collaboration - proponents that Perkins + Will find integral to noble design. A series of flexible spaces, including a large 'learning factory' allow each trade to work collaboratively within one large floor space. Within this space an innovative 4 storey teaching 'cube' provides a flexible framework for electrical and plumbing installations and a more direct simulation of actual site conditions. Serving this space, are a series of dedicated workshops, SMART classrooms, and interactive student and office spaces that support a wide range of services and programs; all supported with wireless access, flexible integrated services and reconfigurable layouts. Fostering the visibility of students working in the bustling commons area below, the facility emulates a real-world construction site and promotes the cross-pollination of ideas, while simultaneously providing the technological tools needed for the traditional teaching above.



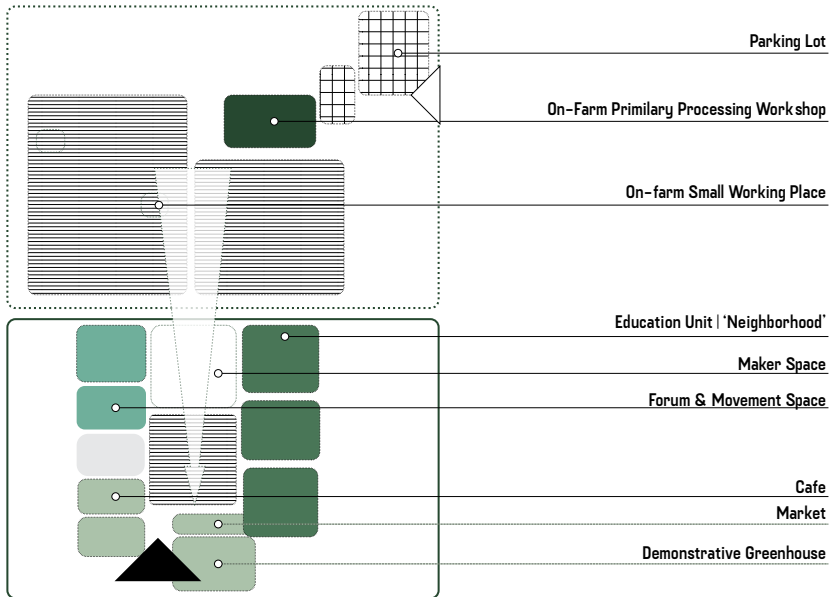
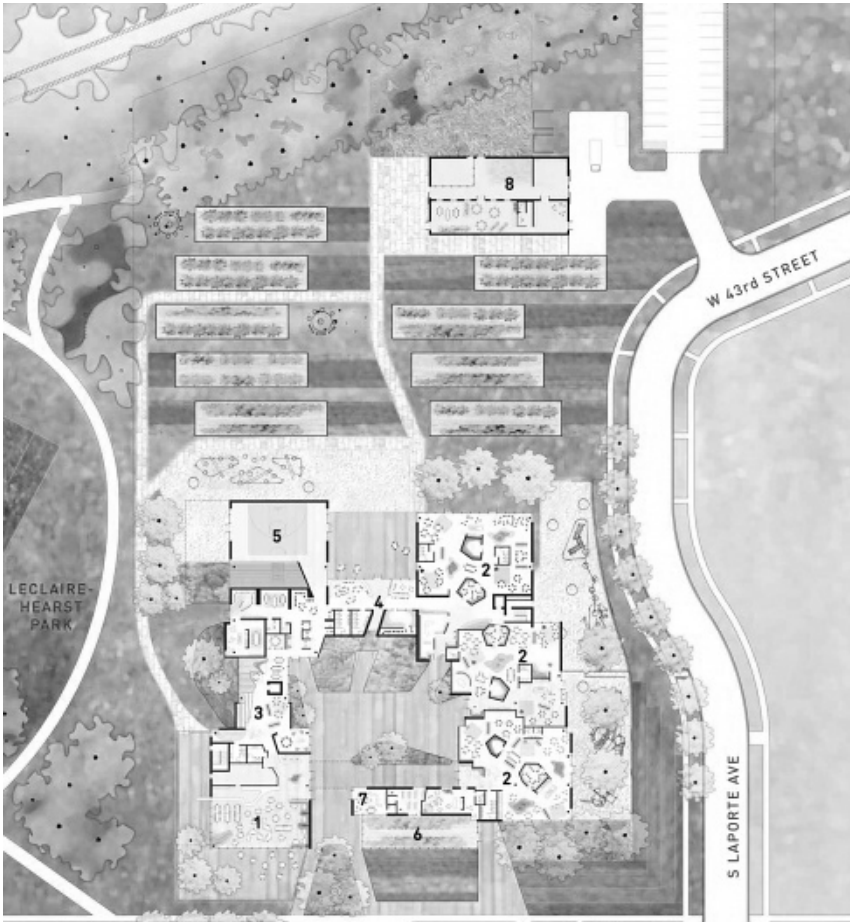
FARMLAND AND BUILDING

FARM/SCHOOL RATIO

Farm School, Chicago | by Studio Gang

In 2015, AGC partnered with Studio Gang to design a new, purpose-built 21st-century learning campus that reimagines the concept of “school” as a place that embraces the innate curiosity of children, the natural systems of the world, and the responsibility to make positive change, instilling in students a mindset of sustainability and wellness. With this new campus, Studio Gang is not only giving AGC’s unique mission a physical form, but expanding the school’s larger vision into a powerful new format: a model for educational innovation that has the potential to ignite a global movement for change. Supporting AGC’s inquiry-based approach to education, the school’s new home is designed as a series of indoor and outdoor learning environments oriented around a central courtyard. As opposed to the traditional barriers of classrooms, these learning “neighborhoods” have fluid boundaries, offering many different types of spaces for both independent and collective learning. This shared learning landscape encourages interaction among students of varying grade levels and brings teachers together for mutual support and collaboration, strengthening the school community.

While each neighborhood is tailored to children within an age group, they are designed to overlap and combine for flexible use and are united by the “Wonder Path” that moves seamlessly from environment to environment, indoor to outdoor, connecting students to a variety of hands-on laboratories and learning stations for making, experimenting, inventing, and playing.



URBAN FARM

FARM/BUILDING RATIO

CORO Project - Phase 1, Thailand | By Integrated Field co.,Ltd

Location: Suan Pheung, Ratchaburi, Thailand

Owner: Coro Brother Co.,Ltd.

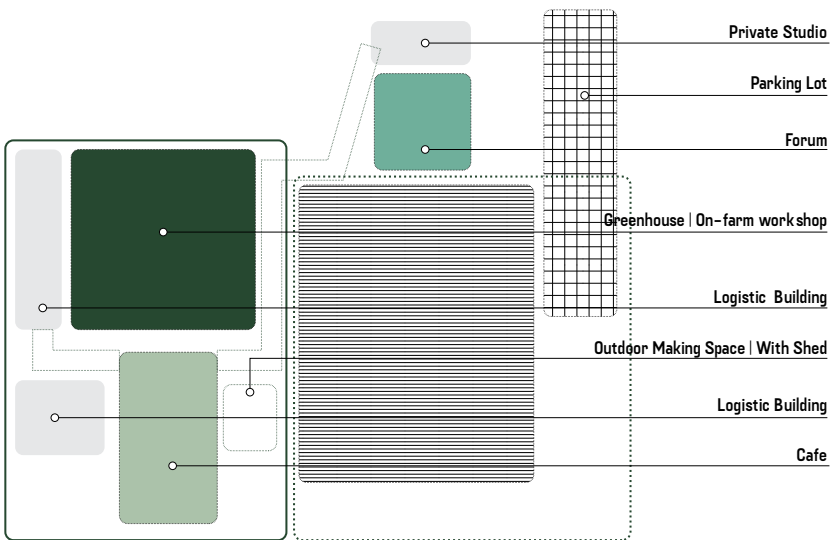
Architect: IF (Integrated Field Co.,Ltd.)

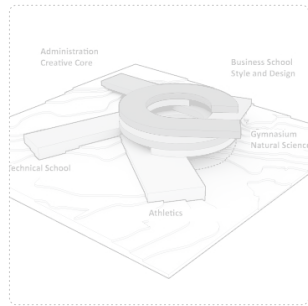
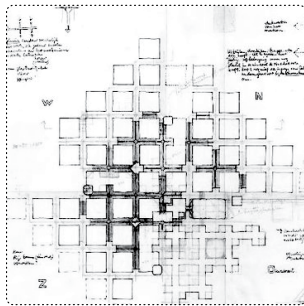
Area Architecture: 1,345 sq.m. □Landscape 8,548 sq.m.

Design: Dec 2013

Completed: Oct 2015

This first development of the Coro project is a place for both plant and human with the design for the capability of supporting different activities responding to different circumstances. The certain dimension of 1.50m, the proper distance of farming, defines a grid system, which connects each building layers from the open space to the enclosed. Structure, skin, services, space plan, and stuff are supporting each other to define different spaces. Moveable surfaces define different enclosure. Modular furniture system defines different planning. Electrical outlets on the grid structure supply different activities and different adjustments.






T Y P O L O G Y C O M P A S S

WORKING PRINCIPLE

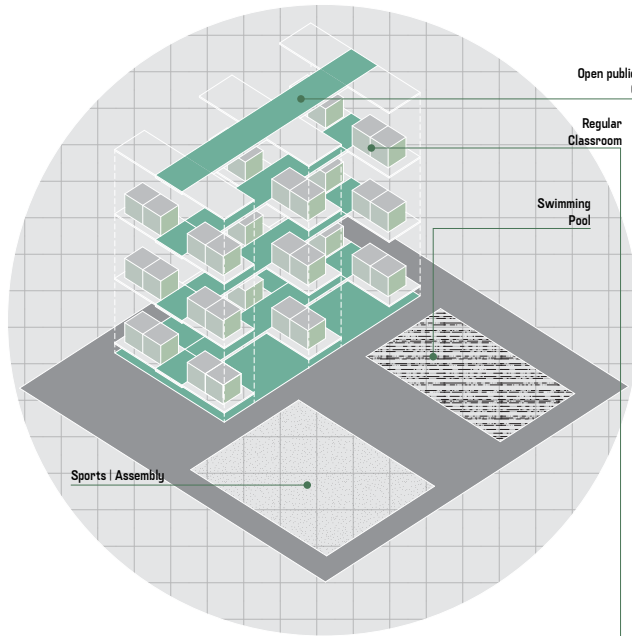
SCHOOLS IN ALAMAR









PROTOTYPE OF CUBAN 'SOCIALIST' SCHOOL

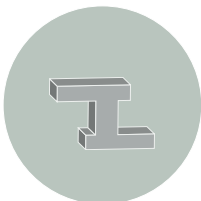
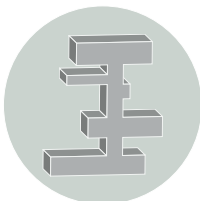
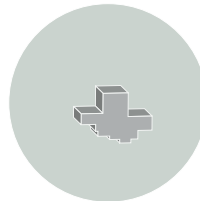
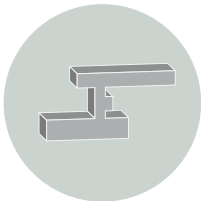
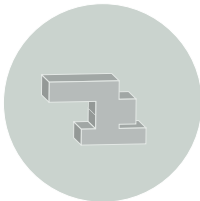
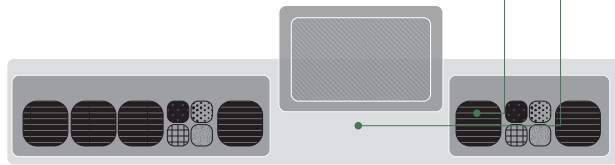
A soviet prototype for regular education



In the area, there are 6 primary and secondary schools in total, each of which was built by the prefabricated technique just as the housing projects. Some of the schools are elevated from the ground due to the technical possibility of prefabrication, in order to avoid the topography differences on the site. In the main time, the open 'ground floor' can provide a shaded space for the students. Basically the school usually consists of several lines of classrooms and service rooms, conjoined by a orthogonal open floor plan, namely an open-air corridor, into a whole. The big demand of shaded open-air space is an apparent character in ordinary Cuban schools if we look into limited amount of pictures. The architectural language in school design is generated by the tropical climate, which means frequent rainfalls in wet season and strong solar radiation in the dry season. The huge area of shaded open space is also benefit for natural ventilation, which forms a very primitive but efficient way in passive sustainable design.



-  Classroom
-  WC
-  Water
-  Teacher's room
-  Storage
-  Functional Cluster
-  Auditorium
-  Open Public Space



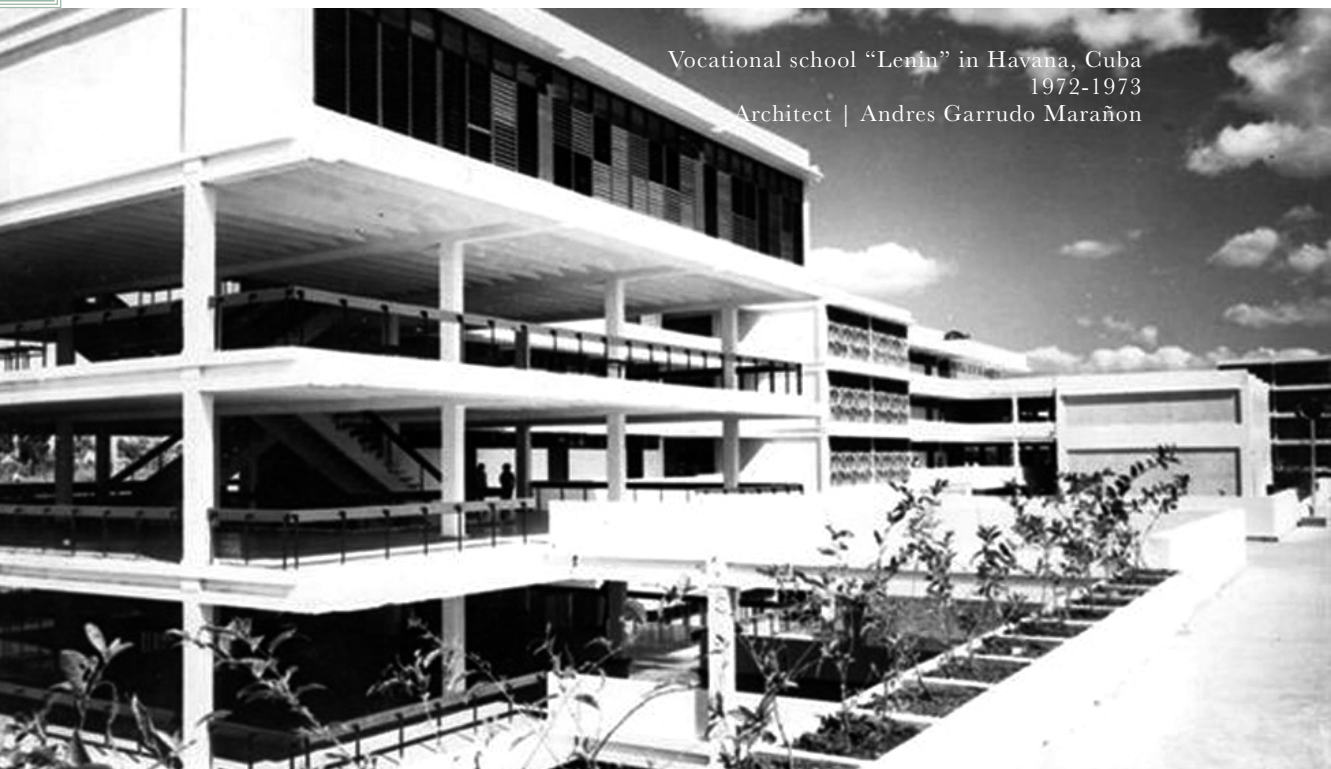
SCHOOLS IN CUBA

CAMPUS IN THE COUNTRYSIDE AS A CITY



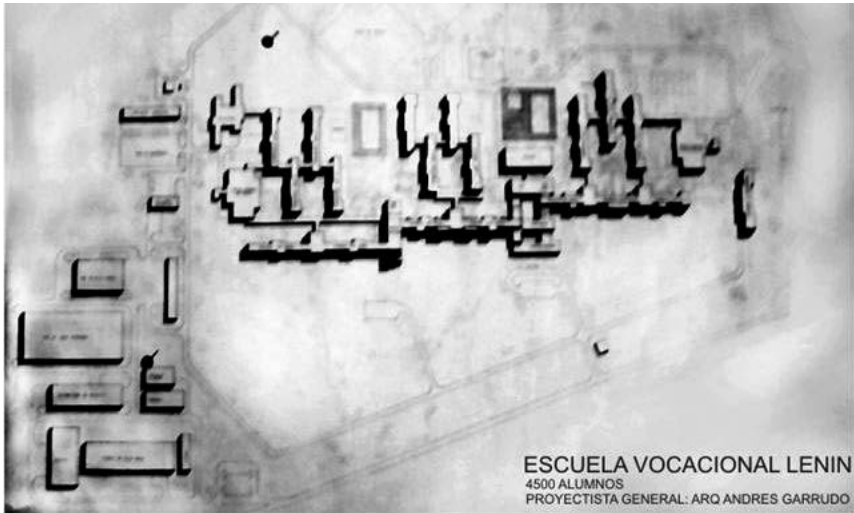
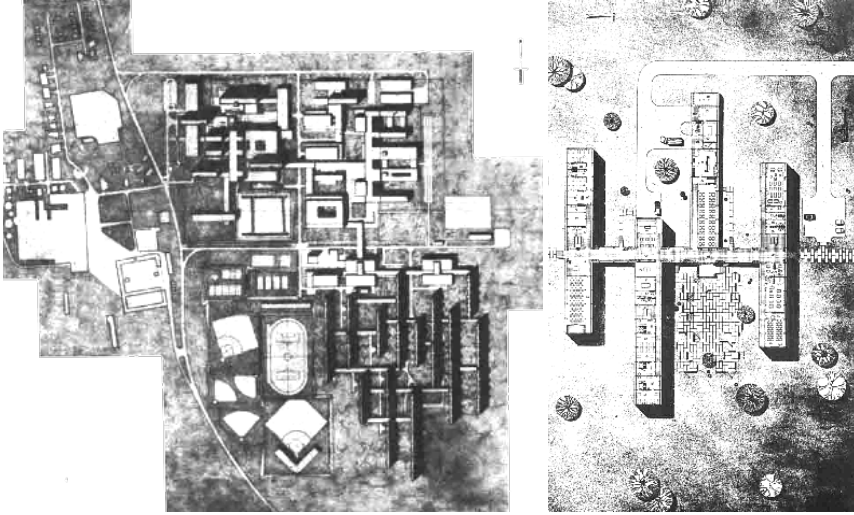
Ciudad Universitaria José Antonio Echeverría
Havana, Cuba
1959-1964

Humberto Alonso, original concept with Manuel Riera
Fernández, Fernandos Salinas, Josefina Montaña



Vocational school "Lenin" in Havana, Cuba
1972-1973

Architect | Andres Garrudo Marañon

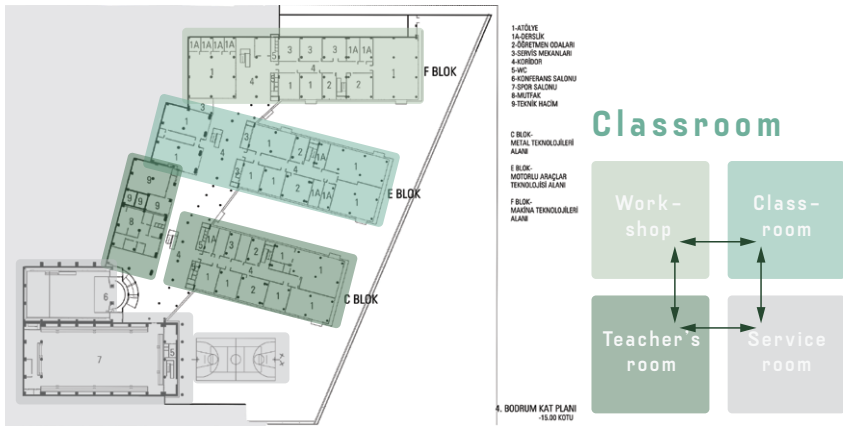
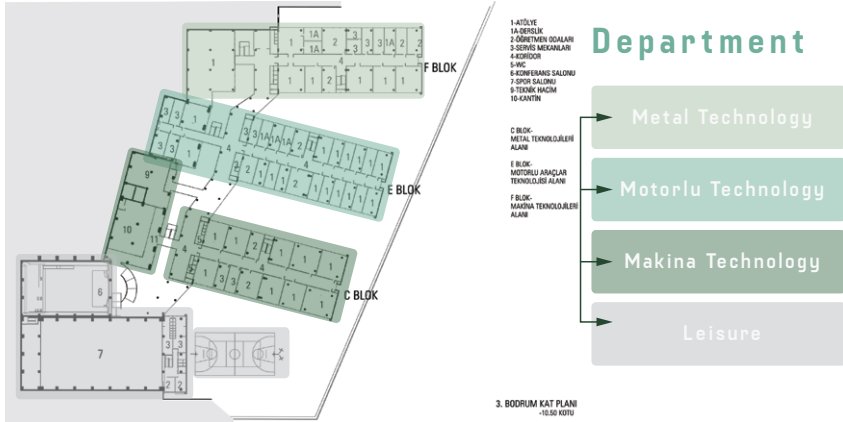


CLASSROOM ARRANGEMENT

ARRANGEMENT AND ROUTINE

Automotive Industry Exporters Union Technical and Industrial High School





Department organisation in vocational school usually separated with each other while each sector is linked by the big laboratories and workshop. The small workshops or special classrooms can be set linearly and parallel to each other. However, the shared working space can stimulate the communication among faculties and thus encourage innovation. Communication spaces are crucial for sharing knowledge.

WORKSHOP SPACE

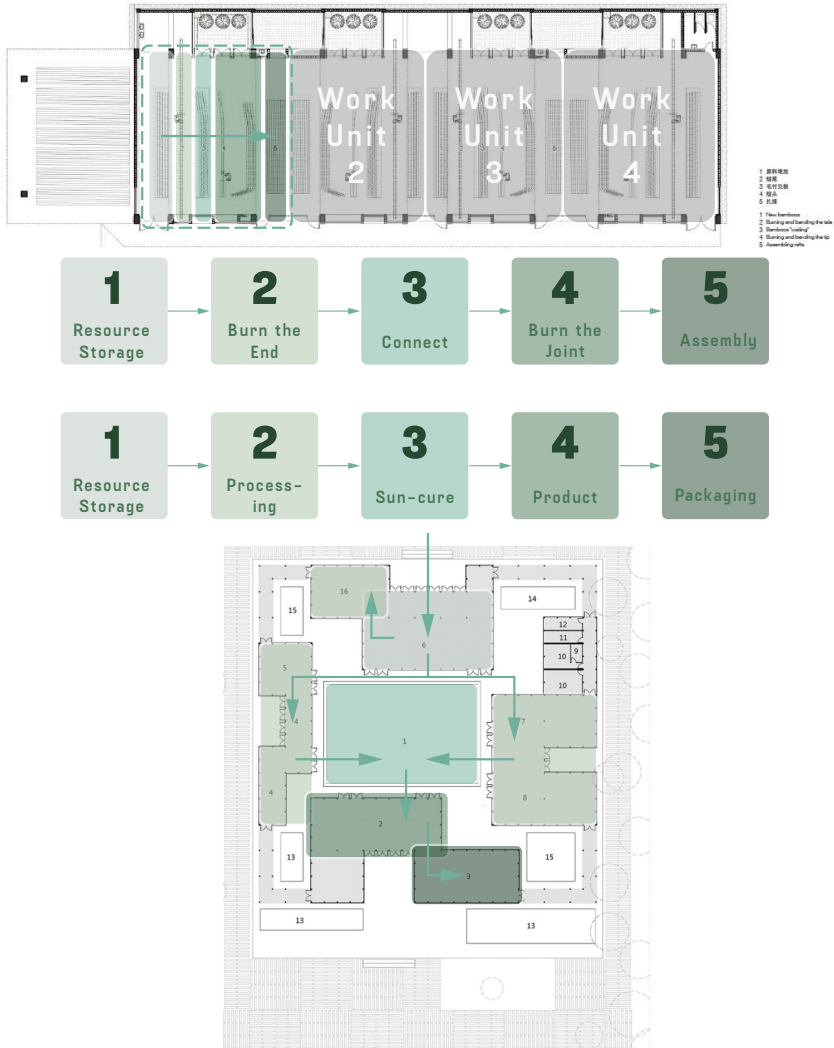
SPACE ALONG WORKING ROUTINE

Wuyishan Bamboo Raft Workshop / TAO

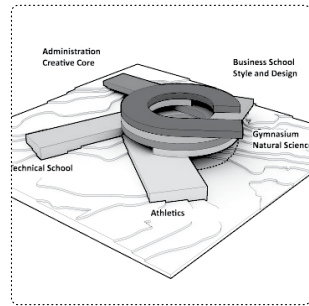
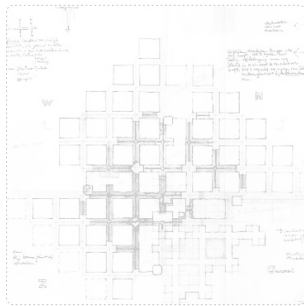


Tangshan Organic Farm Processing Workshop





Workshop is basically the place of working and making. The size of the space diverse from different types of crafts. However, the principle of workshop design is to set the space strictly according to a reasonable or optimized **work flow**, such as storage, processing, producing and packaging and even exhibiting. A workshop usually requires the logistic area for workers get prepared. The flows inside also suggest a **people-product-independence** principle.

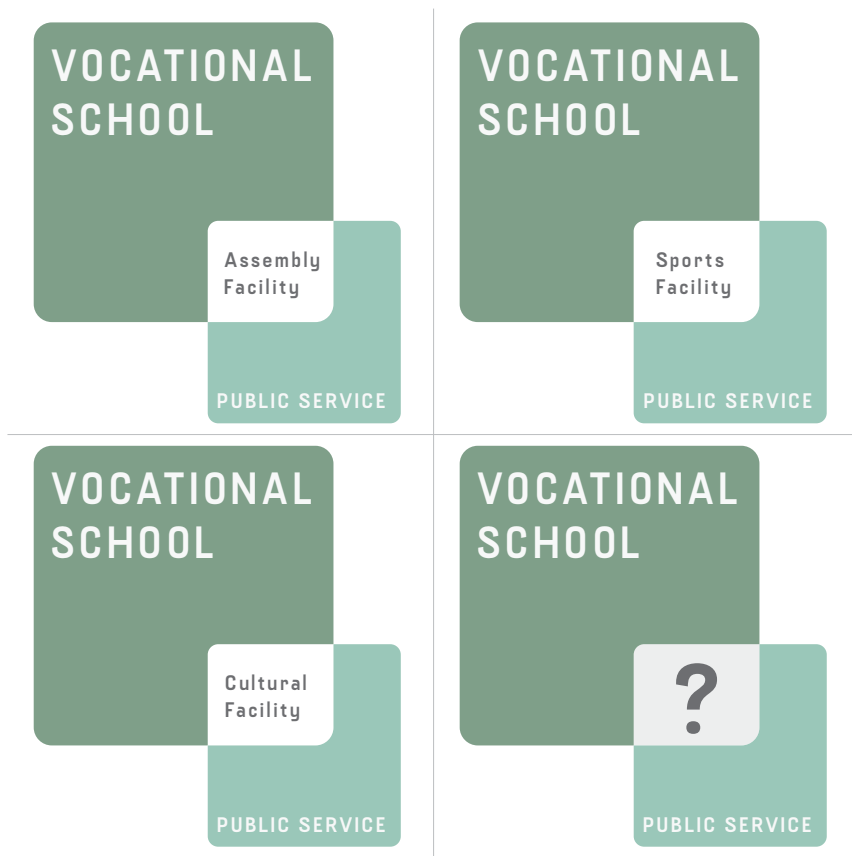


T Y P O L O G Y C O M P A S S

C O M P L E X O R G A N I S A T I O N

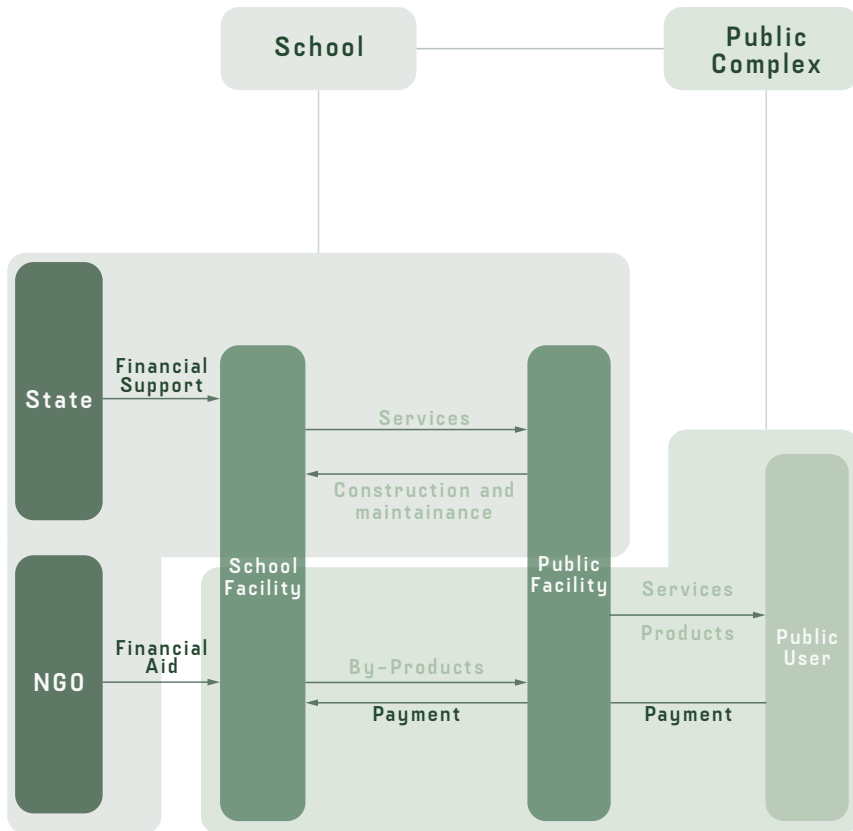
MIXED-USE SCHOOL

TYOLOGY OF JOINT-USE



Public functions are always the intersections of education facilities and the communal life. Saving the public resource, part of the facilities in the school should be shared with the neighborhood. Sometimes, the conditions are even reversed. The public complex in the community leave a small part for the school.

JOINT-USE IN A CHAIN



A school can not only be an educational facility but also owning financial flow in it. How a school support itself apart from the governmental subsidies is also crucial for the programme. A school should not always be in the role of consumer, but sometimes producer.



Europe Unifiée



Europe Mosaïque

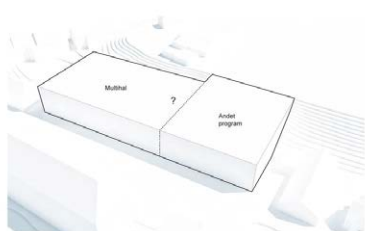


Ecole Européenne de Strasbourg

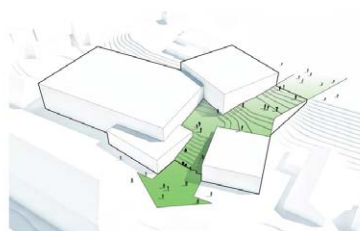


MIXED-USE SCHOOL

THE NEW URBAN SCHOOL, MIXED USE SPORTS COMPLEX | BY EFFEKT + RUBOW



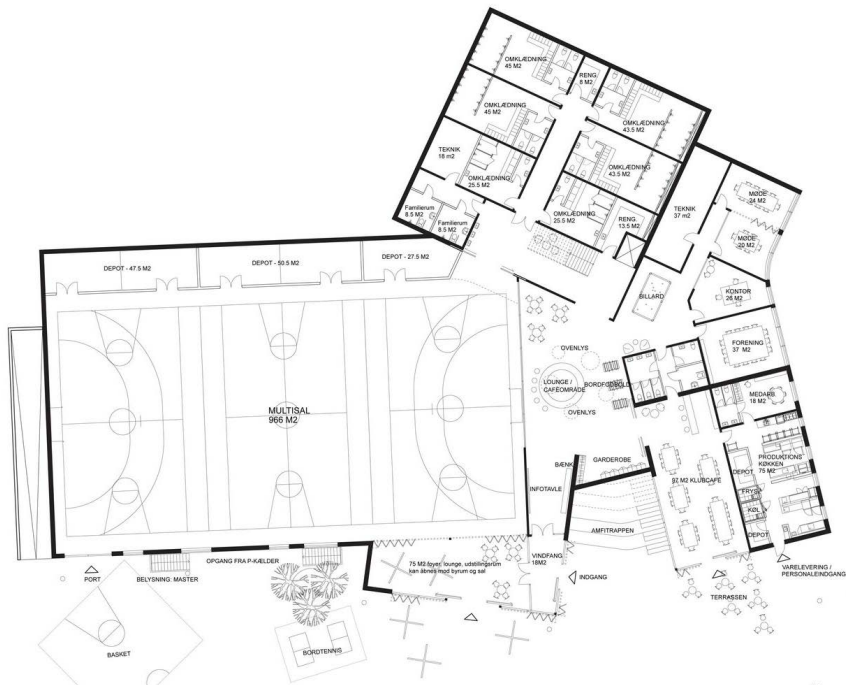
The program and the plot



A house that connects

Designed by EFFEKT + Rubow, the Mixed Use Sports Complex, in connection with the urban school, combines the planning of the new school district with the transformation of existing historical buildings and new plazas into one united and modern project. Located in Helsingør, Denmark, the idea is to create an open, integrated and modern educational environment that's both educationally visionary and creates a new and attractive urban district for the city and its inhabitants. More images and architects' description after the break.

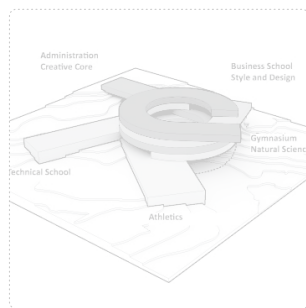
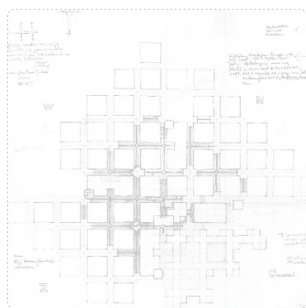
The whole urban site is positioned on a sloping hill with a great view towards Øresund. The surface connects the whole district and creates "pocket" parks, plazas and streets in between new and old buildings. The master plan carefully protects old historical masonry buildings, transforms concrete element buildings from the 70's and positions new buildings where needed. All together creating a united school district with a variety of urban spaces and buildings.



The sports complex is an entirely new attraction for the whole City. It will combine sports fields with international dimensions, several sports halls, café, exhibition, event area and supporting facilities. To fit the large facility into the urban context it is divided into smaller volumes. Helsingør Sports complex is many houses in one. It can act as four independent houses, each with its own function, and as one single house.

The large multi-purpose hall is located at street level next to the new Sport plaza in close connection to the rest of the city and the school's new main entrance. The four volumes are all connected by a spatial foyer area, with main entrance from the plaza in front of the building. But you also have the possibility to enter each box individually. A sloping landscape connects the large green area with the school district creating a landscape stair as a canyon between the buildings. This creates a visible and easy connection from the school to the large green area.

Source: <http://www.archdaily.com/305228/the-new-urban-school-mixed-use-sports-complex-proposal-effekt>



TYPOLOGY COMPASS

SPATIAL LANGUAGE

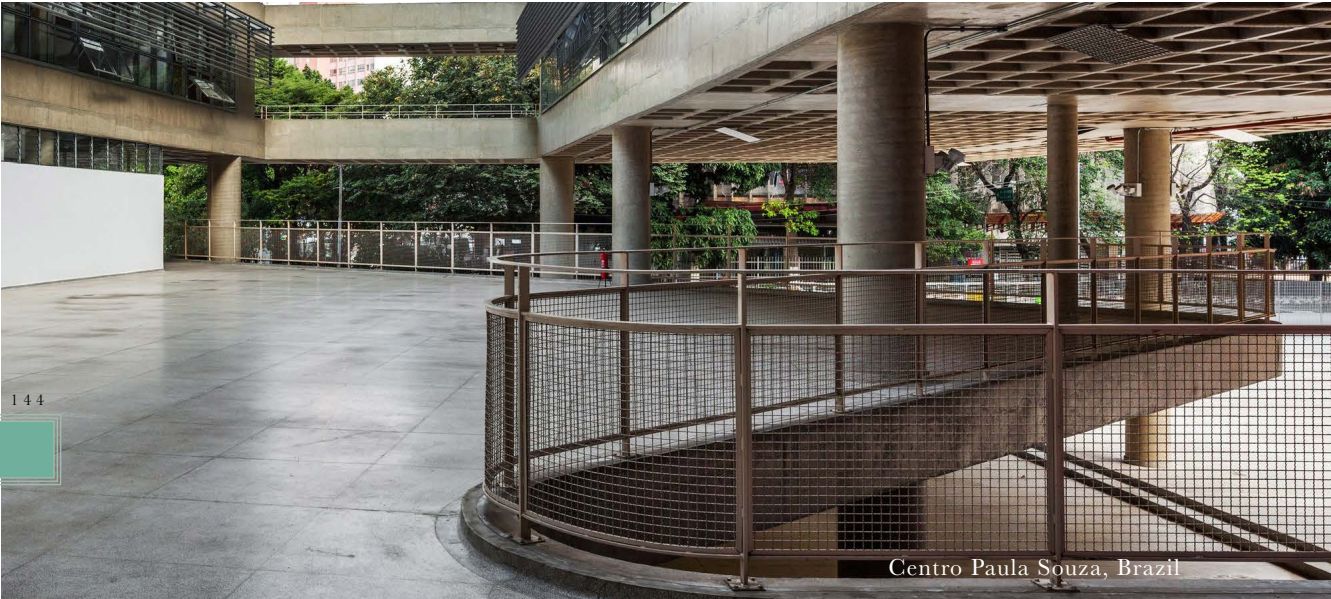


SCHOOLS IN LATIN AMERICA

OPEN GROUND FLOOR



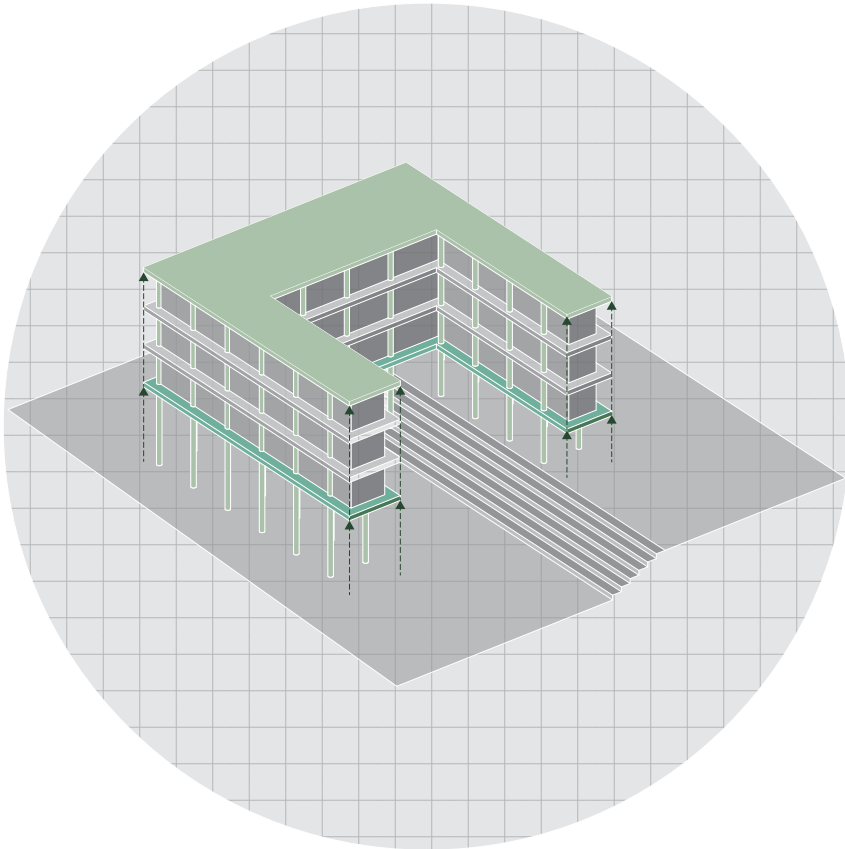
Mariano Latorre Lyceum, Chile



Centro Paula Souza, Brazil



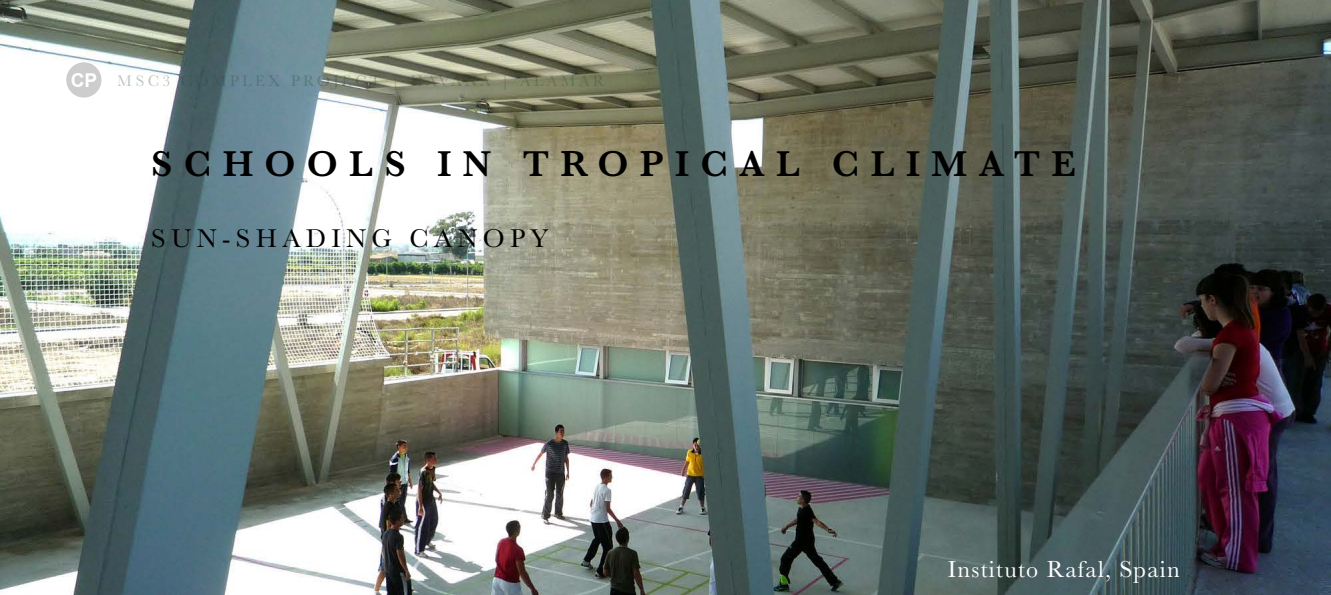
Chile Campus Competition Proposal



Raising the main volume of the building up is a common strategy dealing the relationship between the urban surroundings and the intervention in Latin America, especially for educational buildings. The open ground floor provides a place for assembly, communication, sports and holding public events. There's a tradition of outdoor public life due to the special climatic issues. The landscape can be emerged into the building as well.

SCHOOLS IN TROPICAL CLIMATE

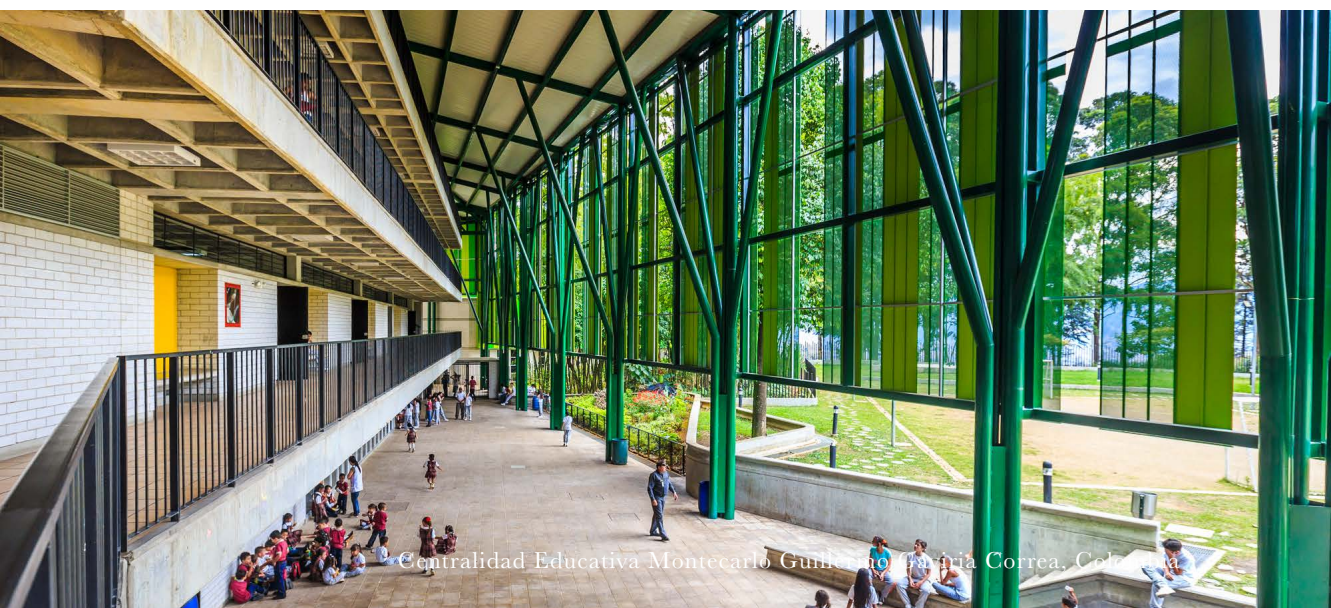
SUN-SHADING CANOPY



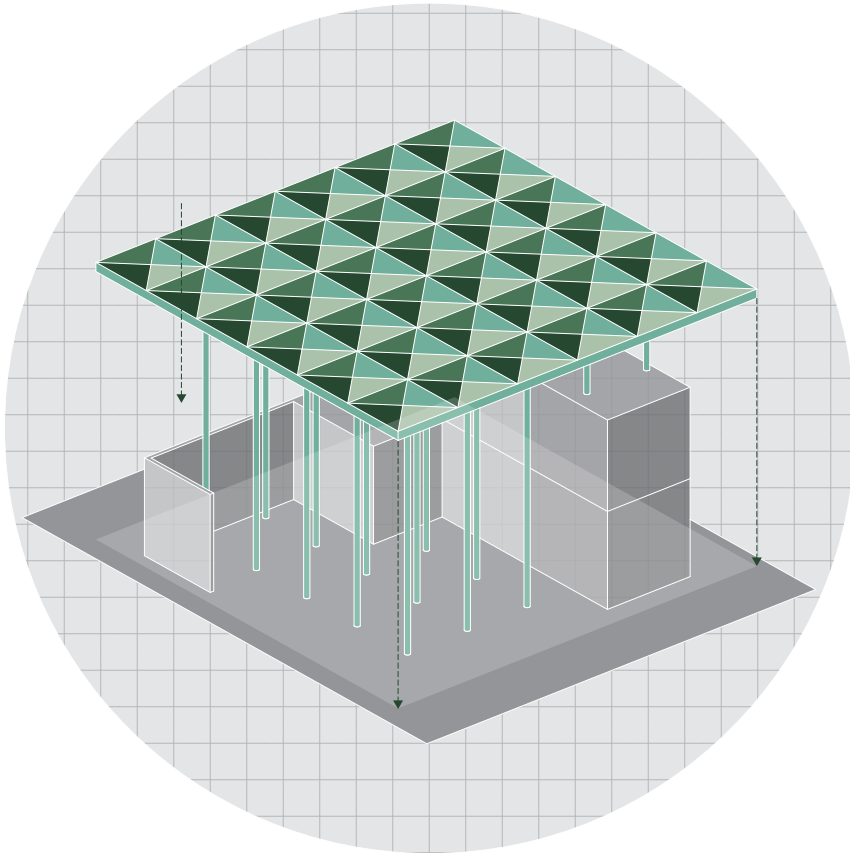
Instituto Rafal, Spain



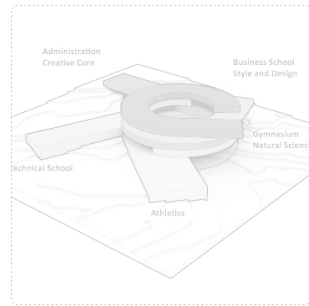
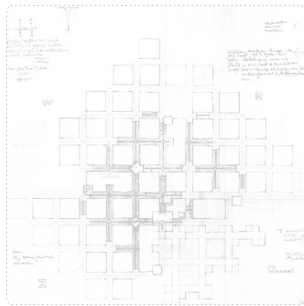
Escuela Juan de Dios Aldea, Chile



Centralidad Educativa Montecarlo Guisao María Correa, Colombia



Covering the outdoor public space with a canopy is another common strategy in tropical area. The strong solar radiation requires a sun-shading elements with other functions. The canopy shapes a intermediate space between interior and exterior space, adding a new layer to the architecture, and thus becomes essential to activate the public activities happening beneath it. The canopy also enhance the natural ventilation for the whole building,



T Y P O L O G Y C O M P A S S

LANDSCAPE COMBINATION

LANDSCAPE ARCHITECTURE

ELEVATED VOLUME

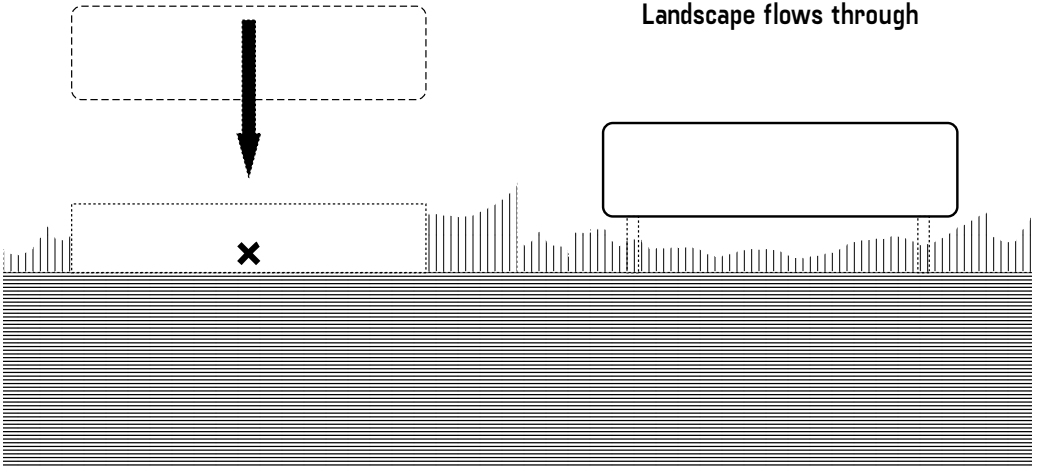
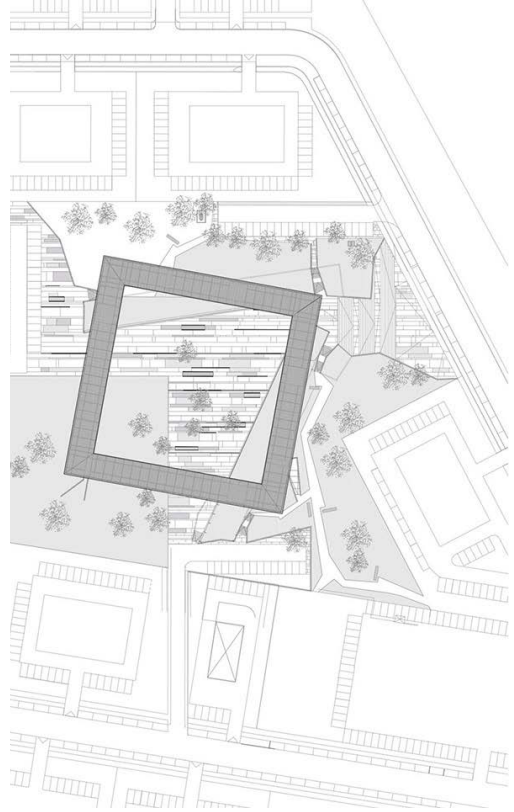
Technological Park, Obidos | By Jorge Mealha

The design strategy proposes a solution that tries to reverse the ongoing pavement process in this territory, through a solution that tries to reverse this logic, increasing as much as possible the green surface. More than designing a building, the adopted strategy tries to (re)create a place where landscape is determinant for the spatial structure. The design also dealt with the competition programme, which, in strange way for us, was asking for a main piazza for a technological park in the middle of the countryside. This program premise was the reason to arise some design doubts. How to create a piazza in the middle of this particular and still beautiful countryside? How to design (draw) a piazza without an urban fabric surrounding and evolving such place?

Maintaining the convivial aims expressed in the competition brief, the design decision focused in the aim of creating a large public space with either an easy and flexible relation with the buildings surrounding it, either as a complement of the natural landscape. The design tried to draw a building that would appear in the landscape as a thin horizontal line, as a long and continuous wall.

The resulting design proposal is at the end quite simple and somehow literal towards the addressed references. One inner surface of the plot was partially paved with his limits suggesting a kind of natural (suggesting the result of an erosion process) borders. Part of this paved area, the “terreiro”, had some buttonholes in order to increase soil permeability. Surrounding the space, two long walls, sustain land and incorporates part of the programme. At southeast corner, a new hill is created reusing the land movements needed to imbed all the ground floor program of the building.





LANDSCAPE ARCHITECTURE

LONG-DISTANCE INTERFACE

Rainforest Educational Complex, Panama | By Louise Bjørnskov Schmidt

Bjørnskov Schmidt's project is a response to what she perceives as failings in the education system to properly promote awareness of the vital role the tropical rainforest surrounding Panama City plays in supporting city life. The city's economy is largely dependent on shipping in the Panama Canal, which in turn relies on the rainforest for its supply of freshwater.

The proposal for a "learning landscape" in the rainforest seeks to provide an extension of Panama City's public school and university system, offering an immersive environment in which visitors can experience and learn about the country's delicate ecology. "Protecting the rainforest from deforestation and creating sustainable economic alternatives are crucial for Panama City's future,"

Bjørnskov Schmidt told Dezeen.

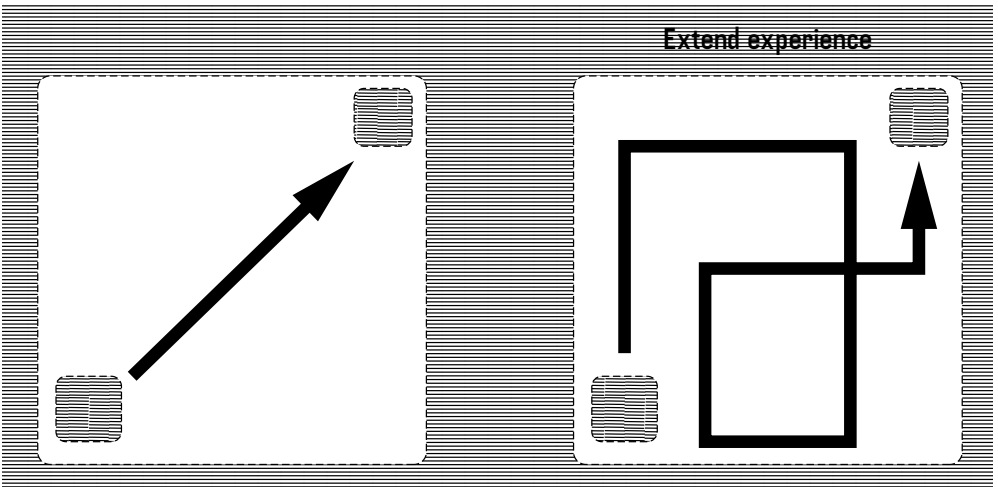
"This project focuses on the role of education in raising this awareness for the city's reliance on the natural environment for its own prosperity."

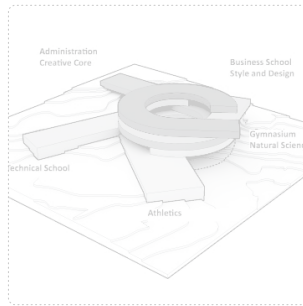
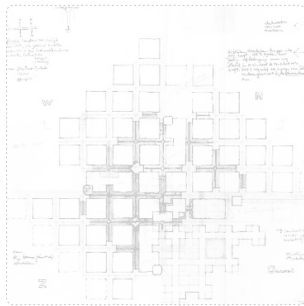
Her design comprises a circular path that extends around a lake in the forest.

Visitors enjoy the sights, sounds and smells of the rainforest as they make their way between educational facilities contained in structures arranged around the circumference of the path.

"The main concern of the learning path is to slow down movement, and make the path itself a means of experiencing the surroundings by stimulating the awareness of the relation between the city and nature," added the designer.







T Y P O L O G Y C O M P A S S

MATERIAL AND ATMOSPHERE

NATURE

WOOD | BAMBOO COMBINED WITH BRICK

‘Vernacular’ and ‘Climate-friendly’



BRUTALISM

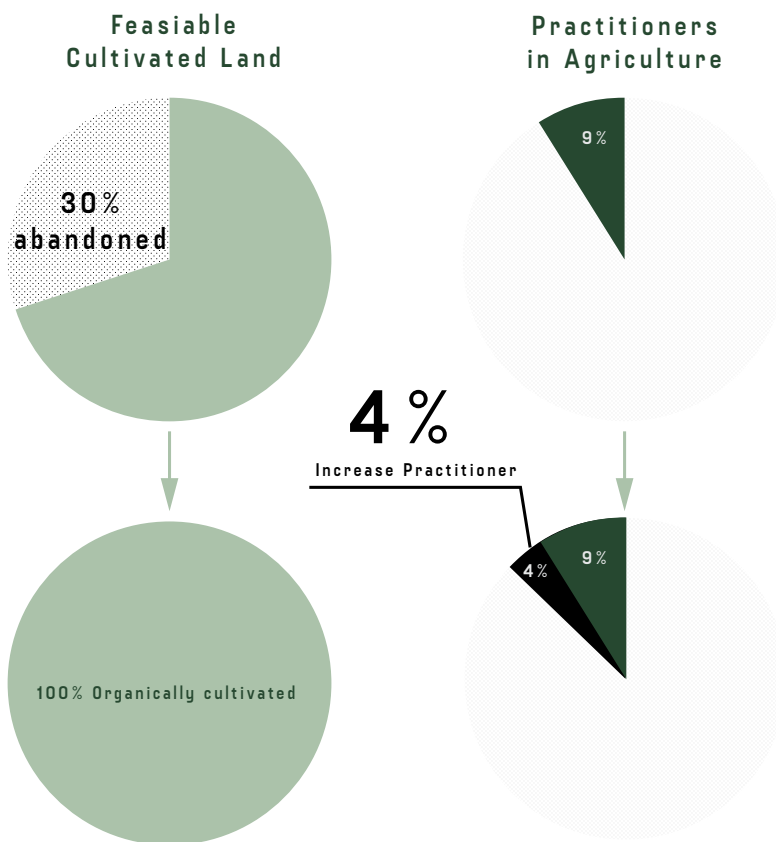
CONCRETE | STEEL

'Localised' and 'Pilot and Alamar-labled'



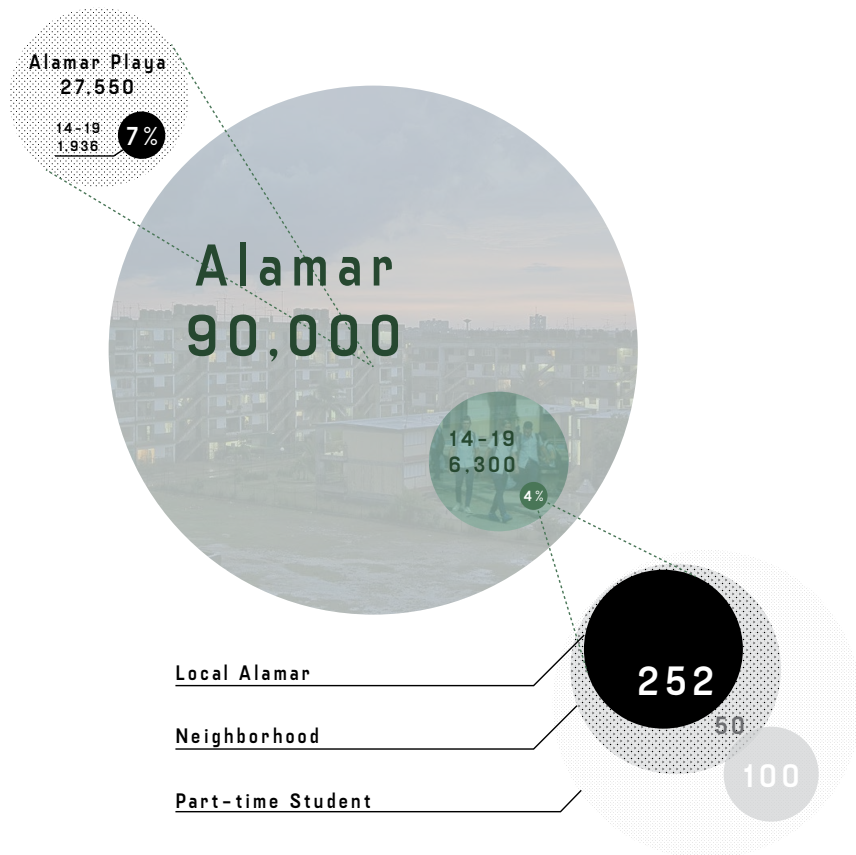
PROGRAMME PRESET

NUMBER OF USERS



Source: [https://www.ecured.cu/Alamar_-_Playa_\(Habana_del_Este\)](https://www.ecured.cu/Alamar_-_Playa_(Habana_del_Este))

More people is needed in urban farming sector. In order to re-cultivate the rest 30% farmlands in Cuba and encourage the sub-urban agriculture, at least 4% more of the population should take part into the direct agricultural activities.



Source: [https://www.ecured.cu/Alamar_-_Playa_\(Habana_del_Este\)](https://www.ecured.cu/Alamar_-_Playa_(Habana_del_Este))

In Alamar, there are 6,300 teenagers which should probably be in high school. The vocational school is aiming for provide at least 4% of them the training courses especially for urban farming, including 50 from the neighborhood and 100 part-time training students. The school is for the range of Habana del Este, of which the political centre is right in Alamar. Thus, as a pilot educational project, the school should also consider a second phase of development on site.

PROGRAMME PRESET

1st Phase
Covering Area 18,000
Building Area
Approx. 11,000 m²
Landscape 10,000 m²

2st Phase
Landscape 20,000 m²

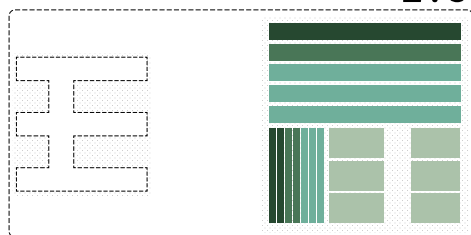
Calculation
 $300 \times 25 + 10 \times 1000$
 $= 8500 \text{ m}^2$

160



1:1

2:3





PROGRAMME BAR

BETWEEN PRACTICE AND THEORY

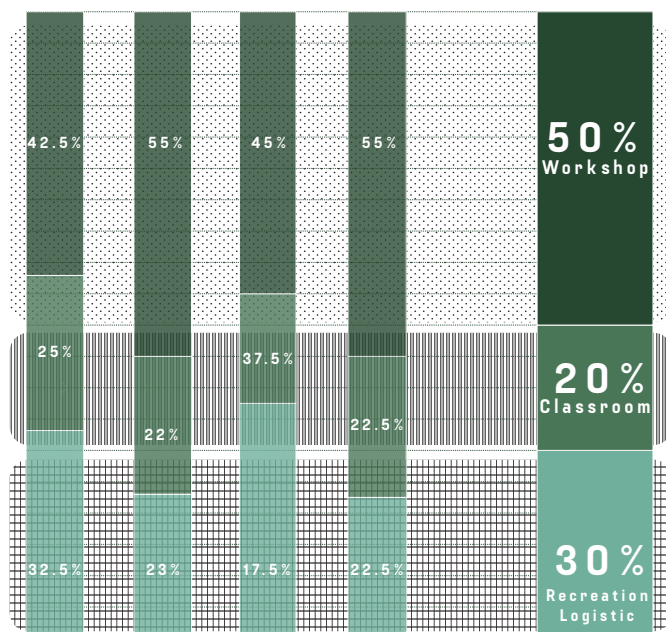
Relationships to deal with:

A | Landscape and architecture

B | Learning and doing

C | School and community

Parallel, linear, enclosed or mixed layout?



1

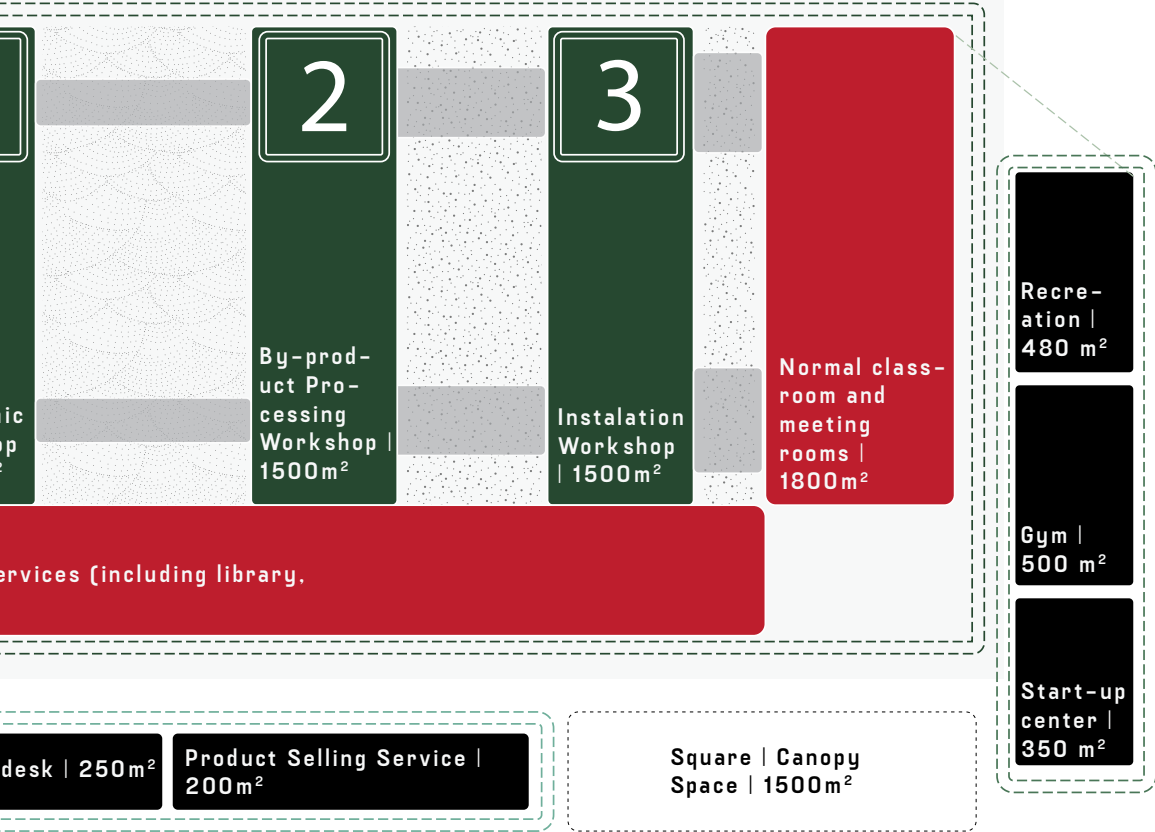
Agronom
Worksho
| 1500m²

Logistics and Supportive Se
canteen etc.) | 2700m²

Community Help



Agricultural Landscape Park



PROGRAMME BAR

RECONSTRUCTION AND STARTUP-ORIENTED
LEARNING SPACE

**Learning landscape |
17.5%**

Common learning area

250X2=500 sqm

**Auditorium | Central
Courtyard**

520sqm

Corridor (Semi-open)

1250sqm (50%)

In total 1770 sqm



**Logistic,
Administration and
circulation | 25.5%**

Practical Education Sector | 31%

Practice Space

Agronomic Workshop (self-working | semi-open)
300X3+150X3= 1350 sqm

Seedling
400 sqm

By-product Processing Workshop
300+4X100=700 sqm

Installation Workshop
300+4X100=700 sqm

In total 3150 sqm

Theoretical Education Sector | 13.7%

Regular Learning Space

Classroom
50X5=250 sqm

Shared-use Lecture room
4X100= 400 sqm

Individual Space

Self-learning
250 sqm

library
500 sqm

In total 1400 sqm

External Service Sector | 12.3%

Communal Helpdesk

Helpdesk for consultation
250 sqm

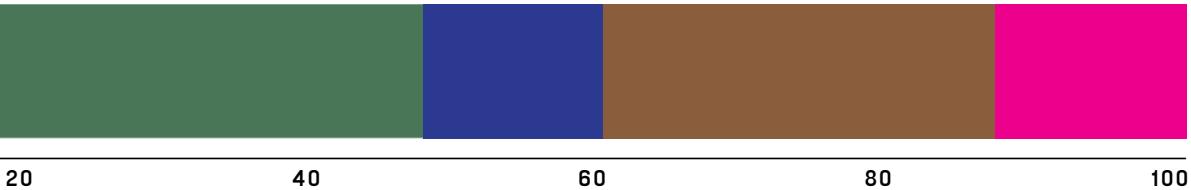
Communal Corner
150 sqm

Youth Center

Gymnastic
500 sqm

Cafe
(Also for the students)
350 sqm

In total 1250sqm



Logistics

Administration
450 sqm

Workshop Support
450 sqm

Storage
400 sqm

Equipment
400 sqm

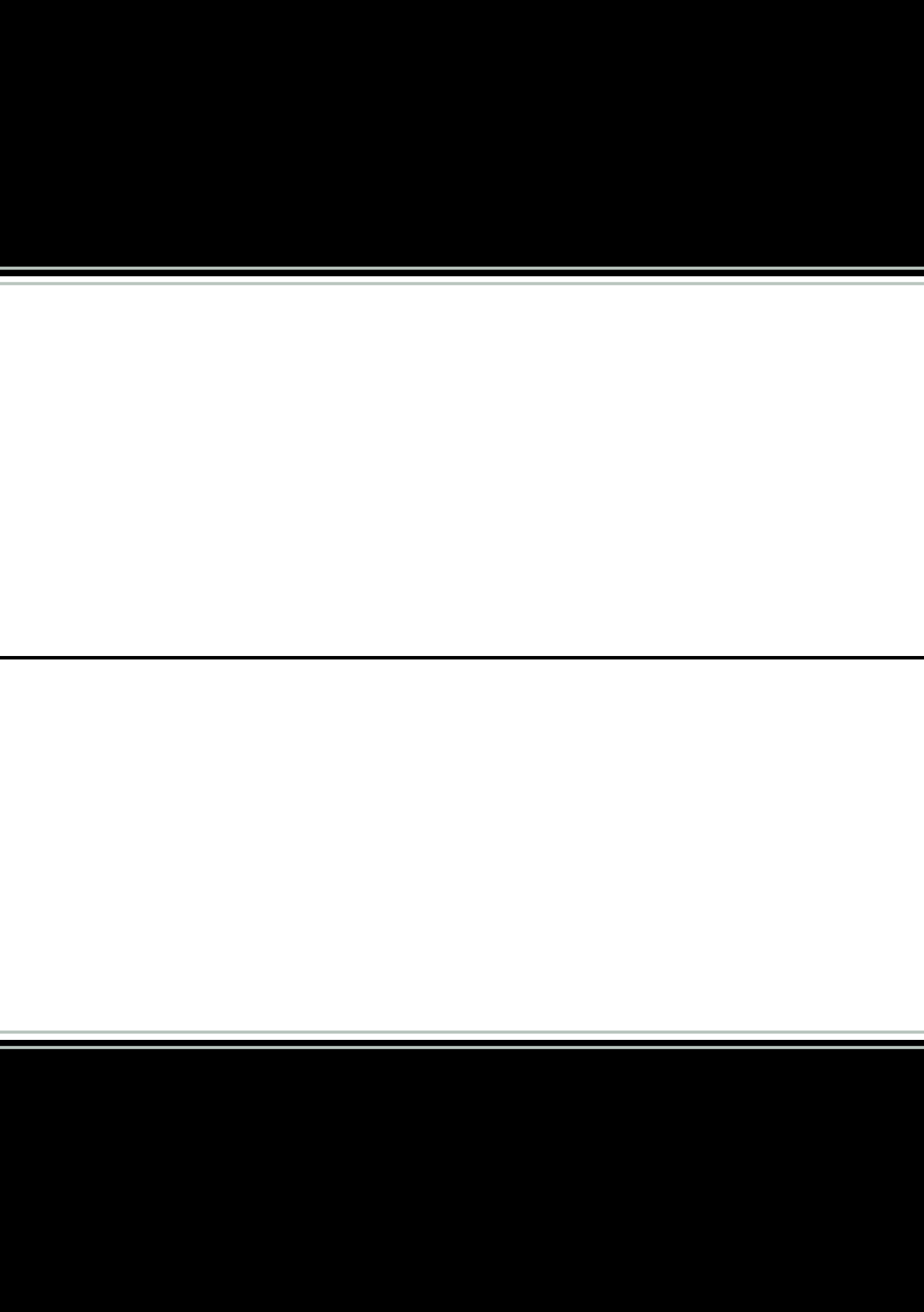
Personal storage
150 sqm

Foyer | Reception
300 sqm

Circulation
450 sqm

In total 2150 sqm

In total
10170 sqm



04

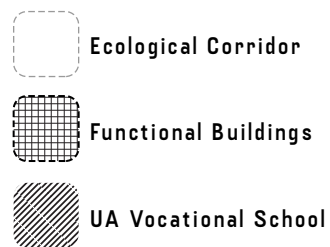
MASS STUDY
AND
FRAGMENT EXPECTATION

FROM PLOT TO MASS

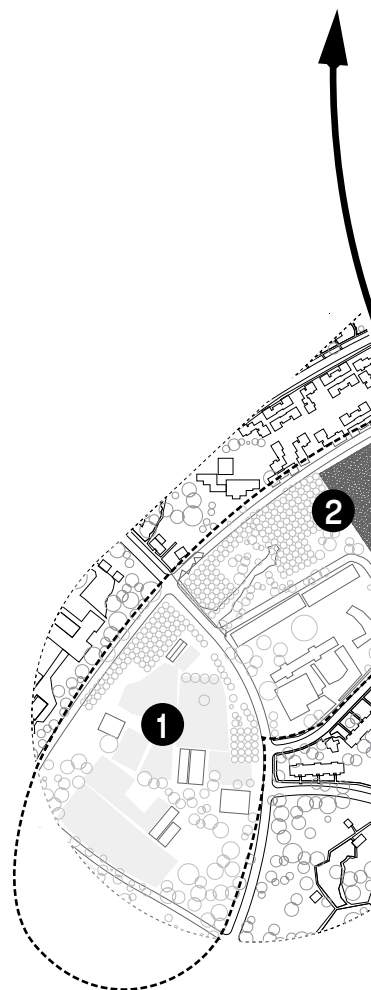
PLOT ANALYSIS

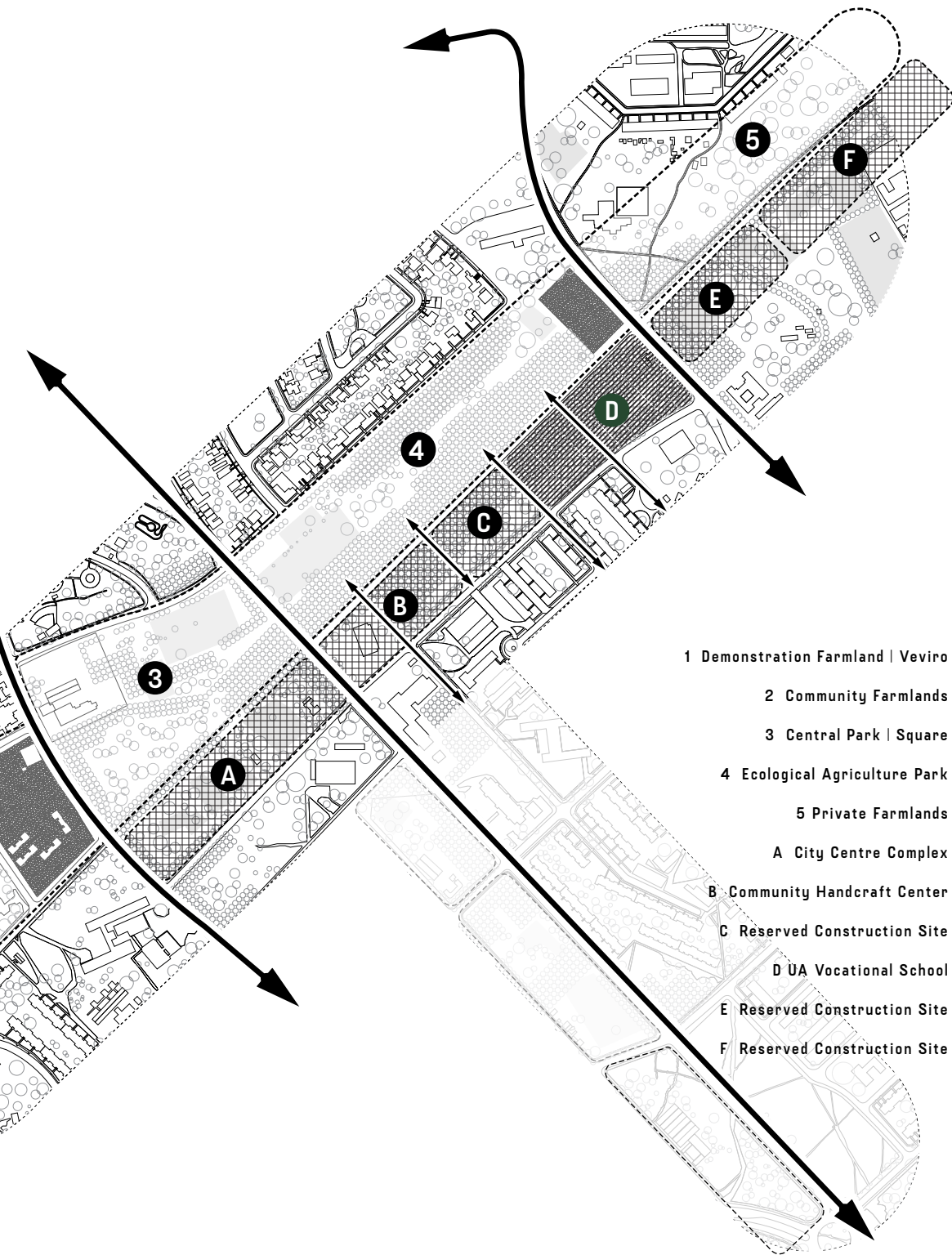
SYSTEM ANALYSIS

CORRIDOR



Orthogonal connections across the productive belt and the ecological corridor are crucial for activate the greenery area. This goal determines that the main road next the plot will be a busy one, connecting the important nodes on the belt. A corner of the plot is right at the intersection of the two main busy roads, deeply influenced the future atmosphere in front of the school.





1 Demonstration Farmland | Veviro

2 Community Farmlands

3 Central Park | Square

4 Ecological Agriculture Park

5 Private Farmlands

A City Centre Complex

B Community Handcraft Center

C Reserved Construction Site

D UA Vocational School

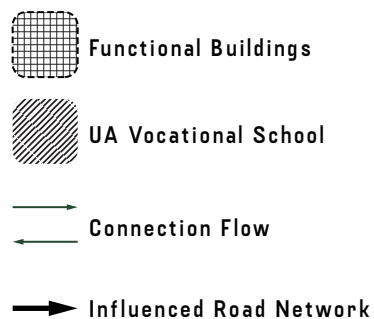
E Reserved Construction Site

F Reserved Construction Site



SYSTEM ANALYSIS

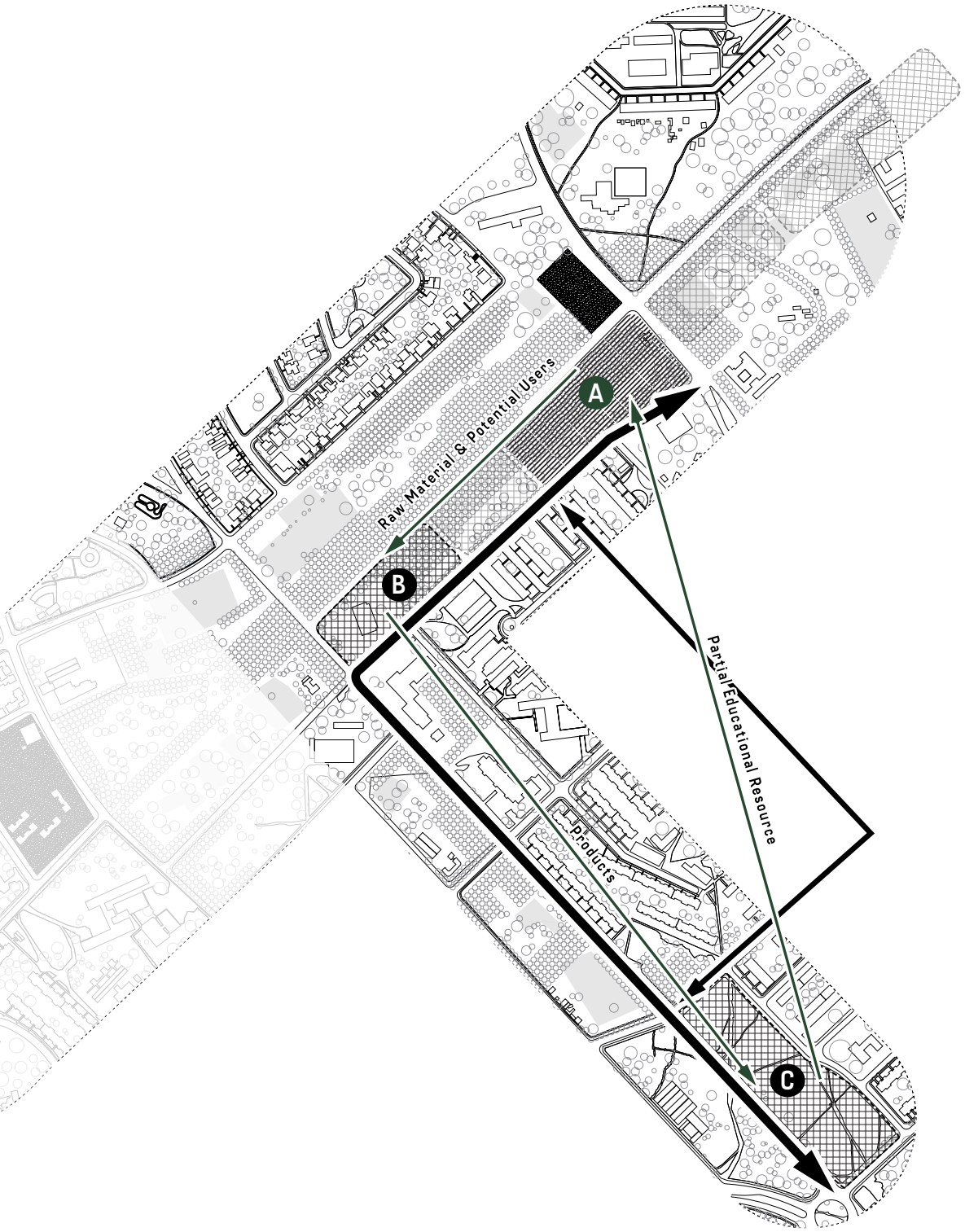
LOGISTICS



The interaction among A | B | C is also influential for the atmosphere and urban conditions around the plot. Apparently, the road southeast to the plot is more about logistics while the road orthogonal to it is more like a main entrance with a main facade.

- A UA Vocational School
- B Handcraft Center
- C Wholesale Market Alamar





AREA ANALYSIS

NEW PLAN



MAIN VEHICLE ROAD



←→ Vehicle Road

← — — — → Bus Line

← — — — → Main Pedestrian




AREA ANALYSIS

POTENTIAL ENTRANCES



 *Main Entrance*

 *Secondary Entrance*

 *Logistic Entrance*

ZONING FROM NOISY TO QUIET



 *Noisy*

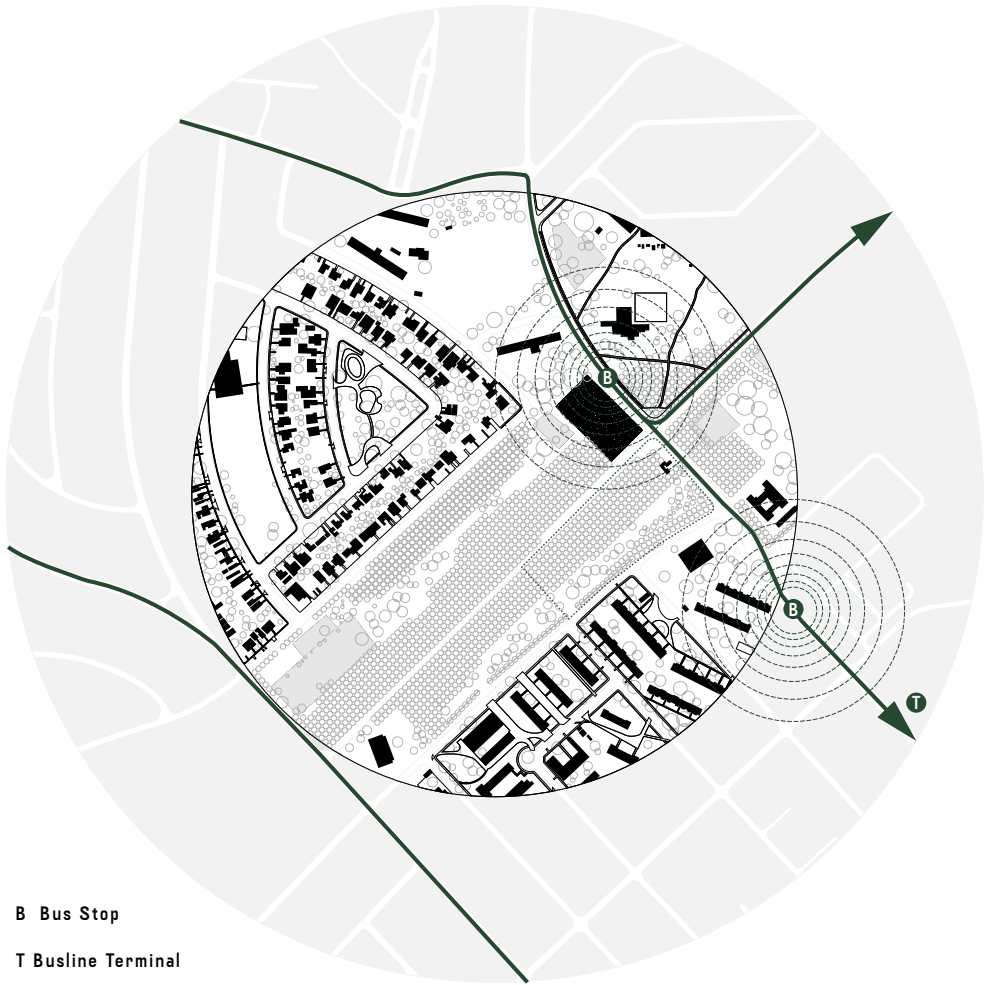
 *Quiet*

 *Surroundings*



NEIGHBORHOOD ANALYSIS

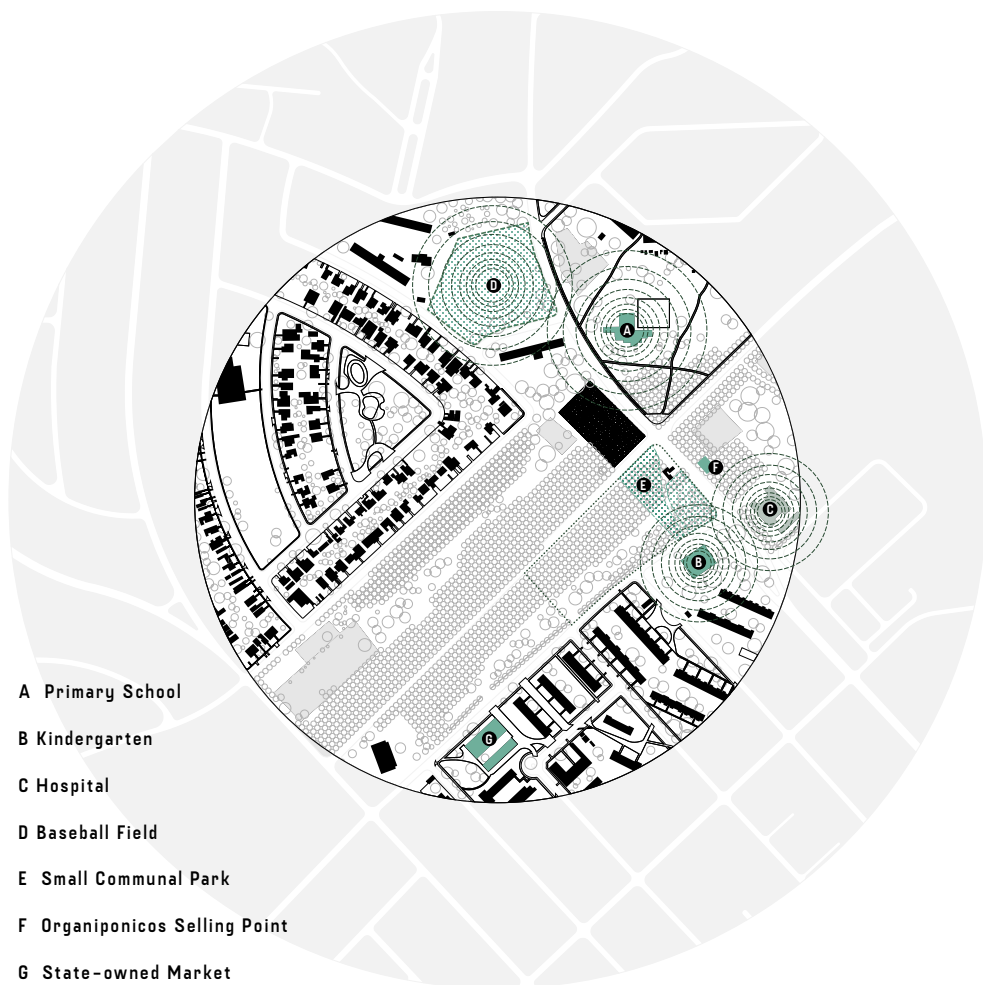
INFRASTRUCTURE



B Bus Stop

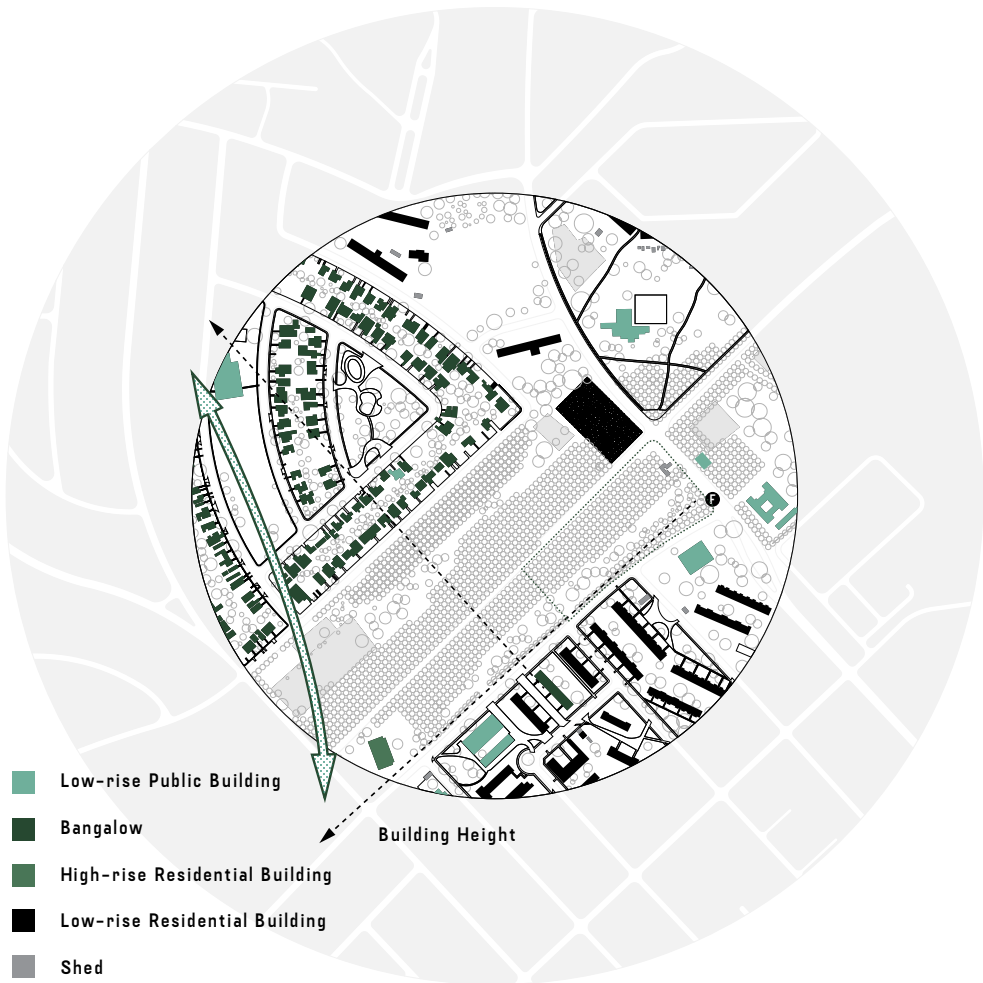
T Busline Terminal

AMENITY

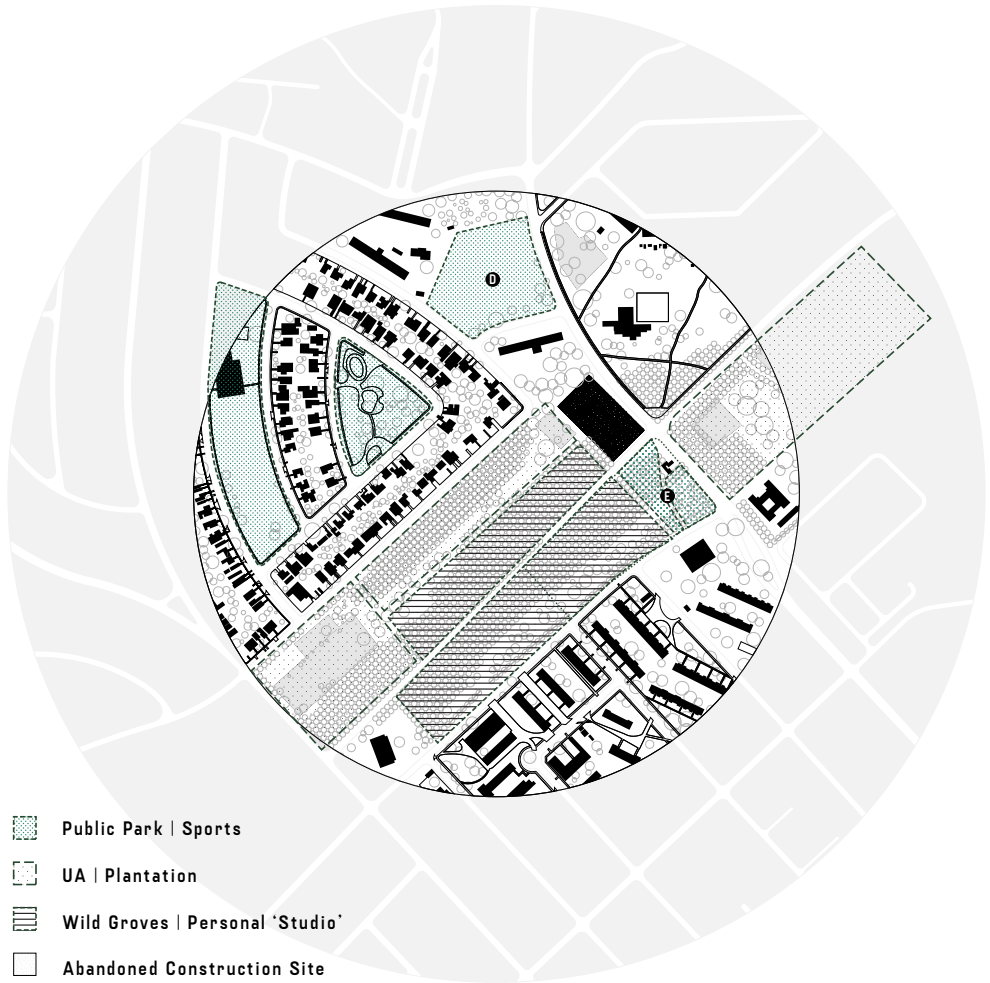


NEIGHBORHOOD ANALYSIS

BUILDING TYPOLOGY



LANDSCAPE



-  Public Park | Sports
-  UA | Plantation
-  Wild Groves | Personal 'Studio'
-  Abandoned Construction Site



NEIGHBORHOOD

DIVERSITY OF ATMOSPHERE

Banana Plantation



Personal Storage



Baseball Field



Bus Stop



Kindergarten

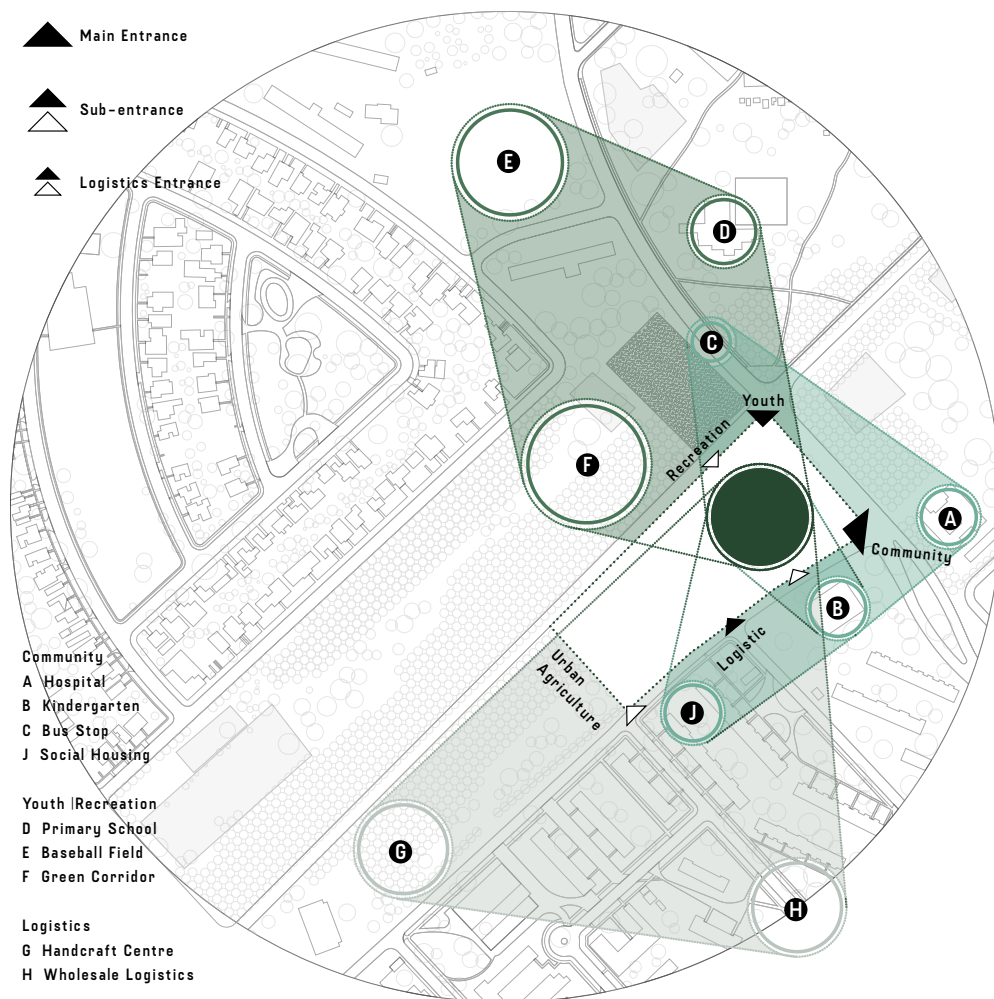


Hospital

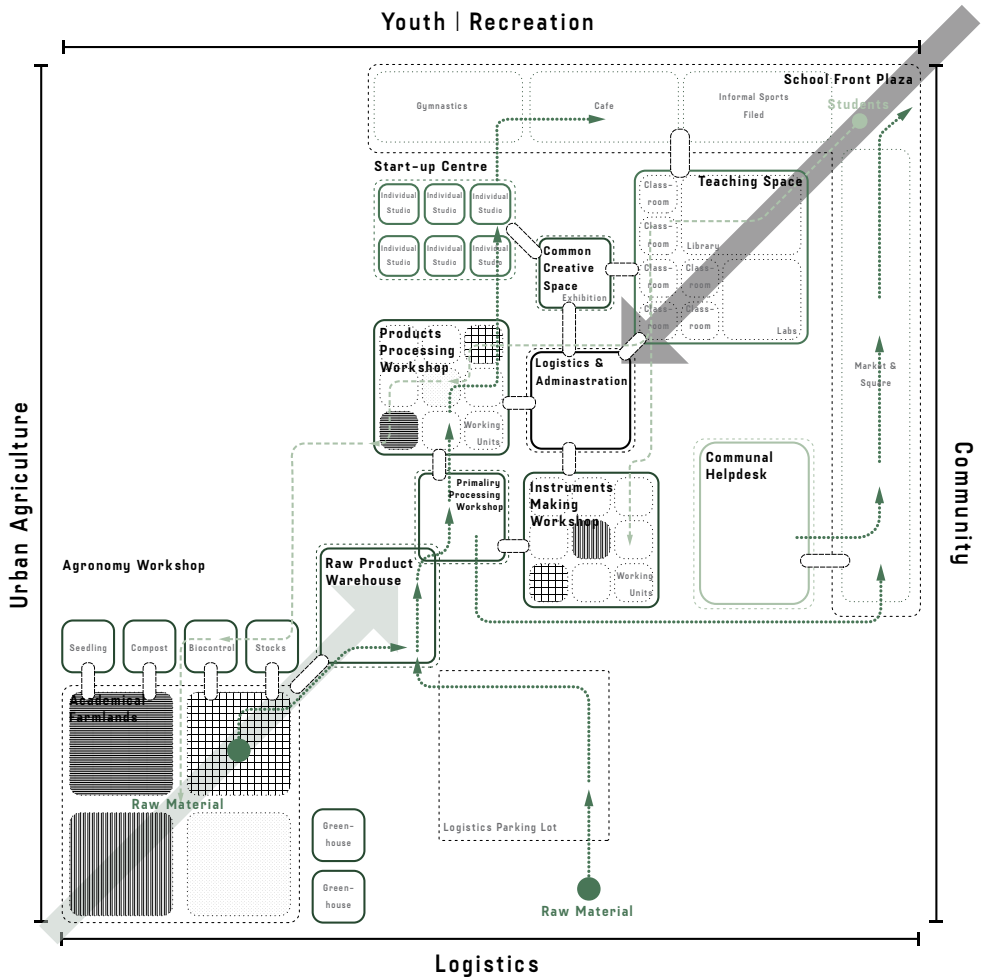


SITE GUIDELINE

THREE SURFACES



INNER FLOW



FROM FARMLAND TO CITY

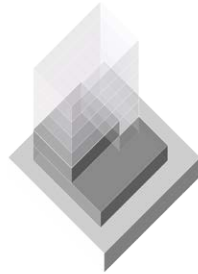
MASS ARRANGEMENT

MASS STUDY

ORGANISATION OPTIONS



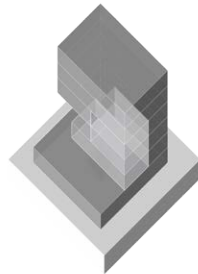
A | Separated the functions in the plan



B | Separated the functions vertically



C | Separated the functions into individual buildings



D | Multi-functional complex embracing the school



E | Shared-use functions at the bottom



F | Separated the functions into individual buildings spread in the campus

A | The complex of functions own respective entrances and vertical circulation system. The flows of different users are separated in order to avoid distribution among each other, emphasising individuality of each partial functional elements.

B | Usually the vocational school is set at the higher section of the building while the public facilities are at the bottom of the building. The two parts own their respective elevators, ensuring the lower facilities owning a diversity of forms.

C | The public functions and the vocational schools are set into different buildings while are connected together tightly. The entrances, administration and user's flows are separated relatively.

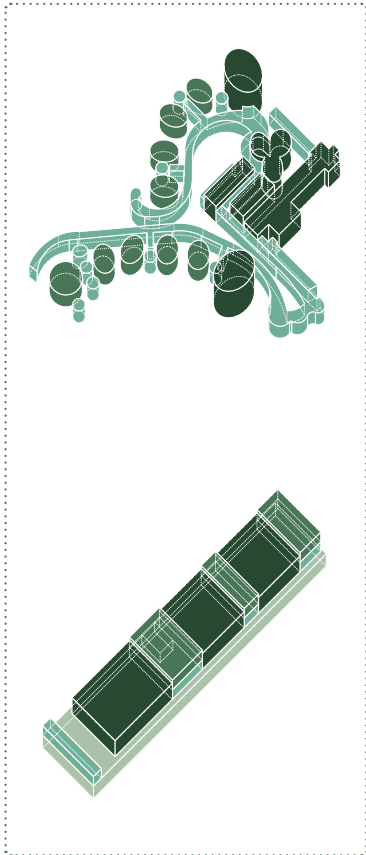
D | The vocational school is one of the functions in the building, owning a complexity of circulation system and the organisation of different flows. The vocational school is not a dominative element in the complex.

E | The shared-use facilities at the bottom of the building is usually applied in the building renovation. The entrances and flows are sometimes conjunctive together.

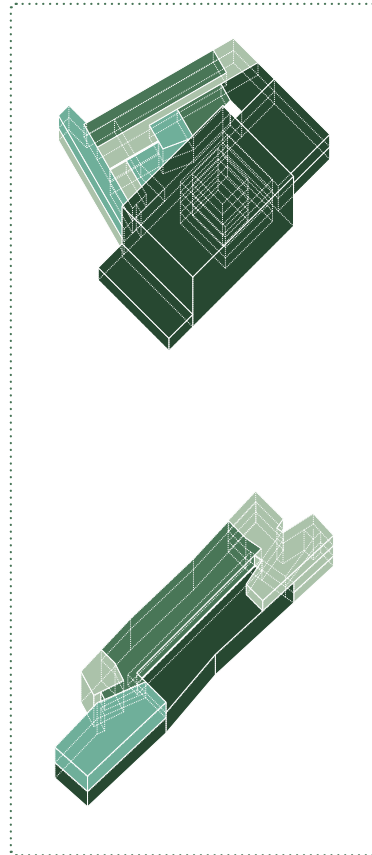
F | The layout is usually used in the big campus in suburban area or countryside where the building density is not that high. The public functions are independent from the main body of the school buildings. The area of the campus is usually larger than the options above.

MASS STUDY

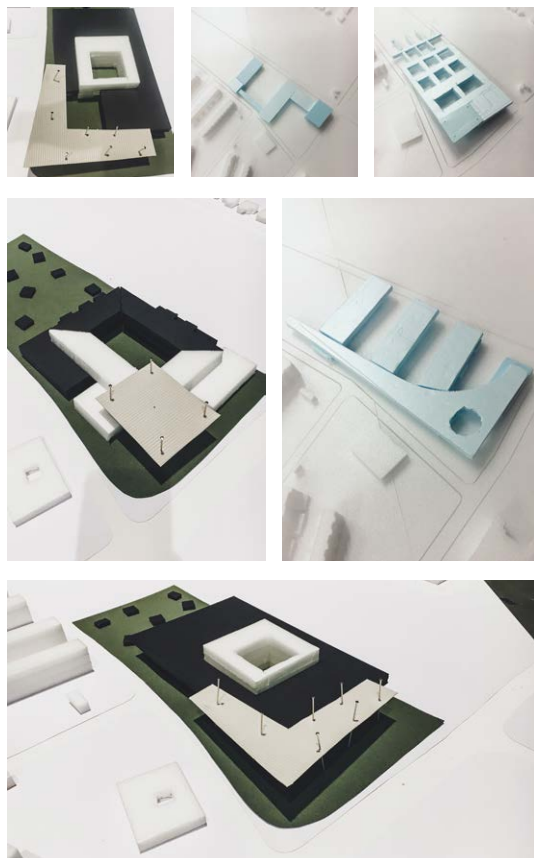
LINEAR VS ENCLOSURE VS MIXED



OR



Apart from the existing references, the prototype of Cuban schools are also an option for the mass study.



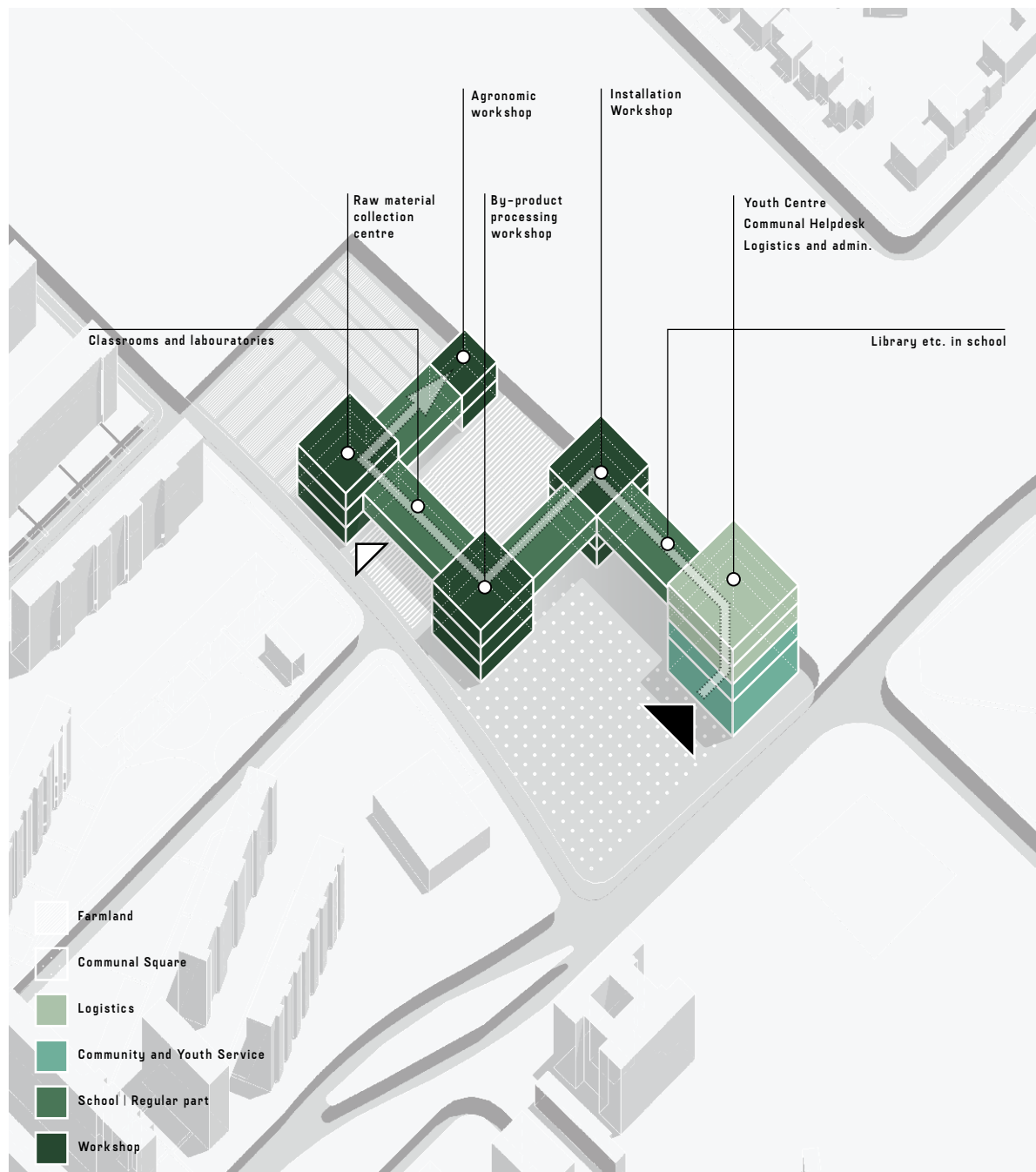
A | Linear and parallel. Based on the prototype of Cuban school and so as to extend the experience process of the landscape, the building occupies 70% of the plot, shaping different kinds of farmlands.

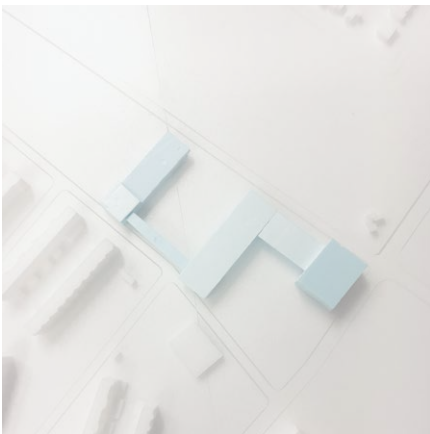
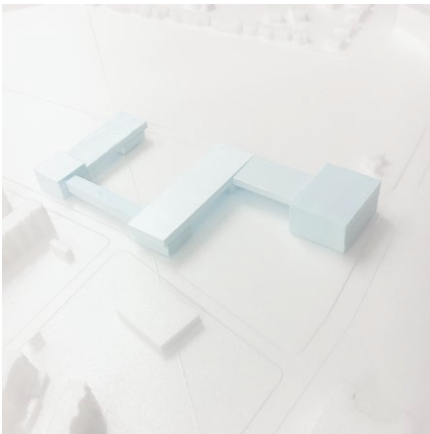
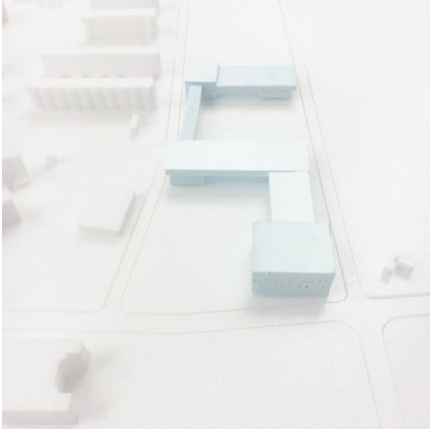
B | Enclosed and mixed. Reconstructing the relationship between learning and doing, as well as the one between landscape and architecture, the proposals become more compact and less influence of the whole plot.



MASS STUDY

#1 LINEAR ORGANISATION





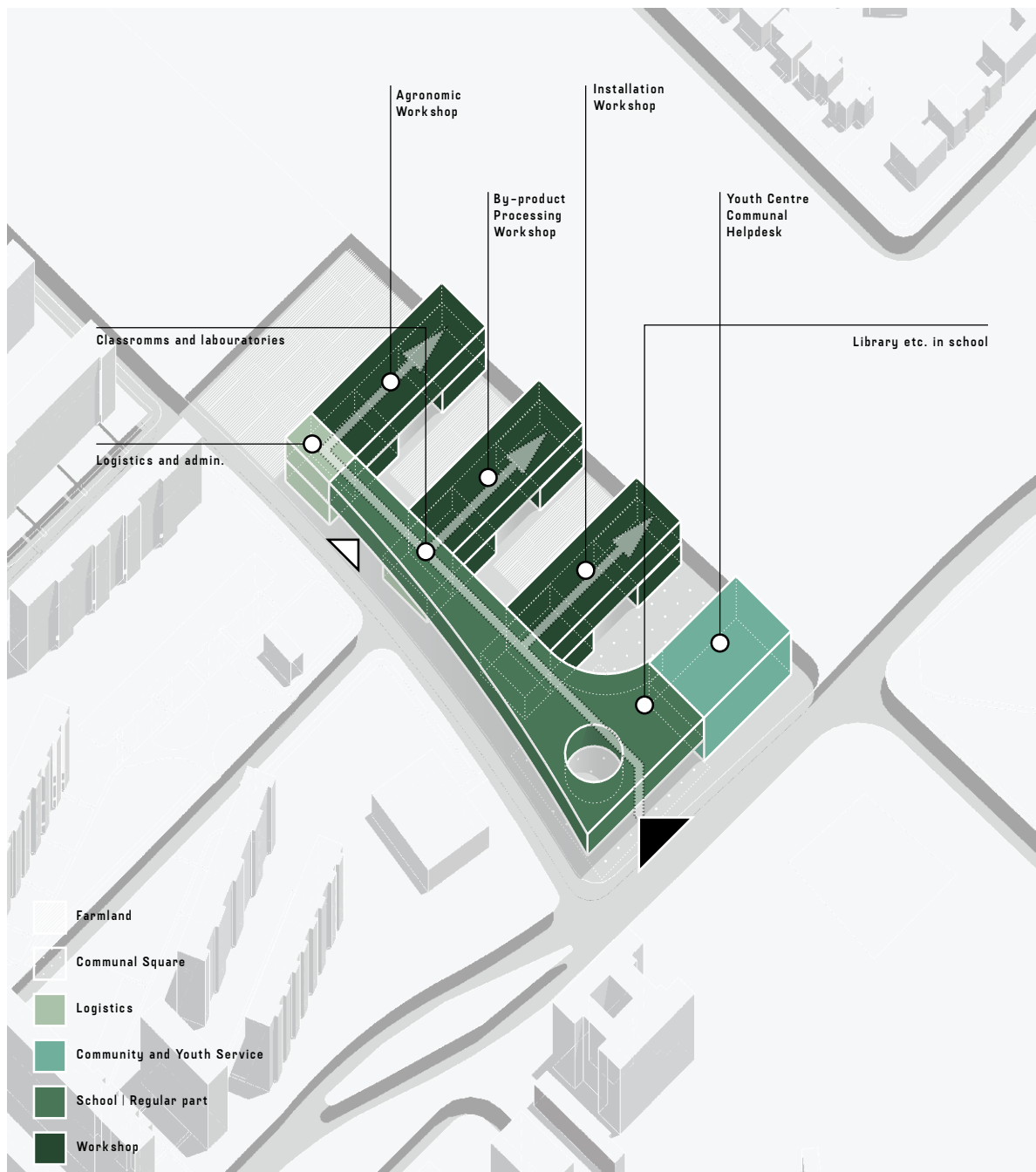
Pro
Along the routine.
Shaping the partials of farmlands clearly.
Long experience process .

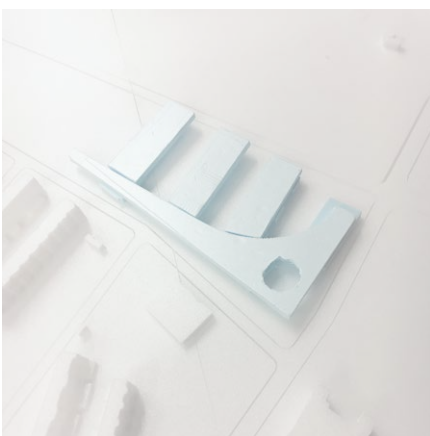
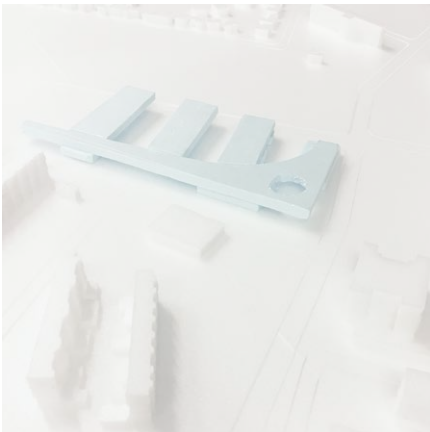
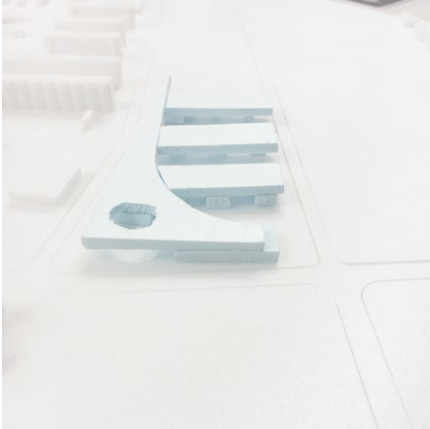
Cons
Too long flow for people and logistics.
Mono-type of interfaces between architecture
and landscape.



MASS STUDY

#2 FISHBONE-LIKE ORGANISATION





Pro
Coherent with other schools in Alamar.
The functional composition is very clear.
The logistics flow is shortened and organised.

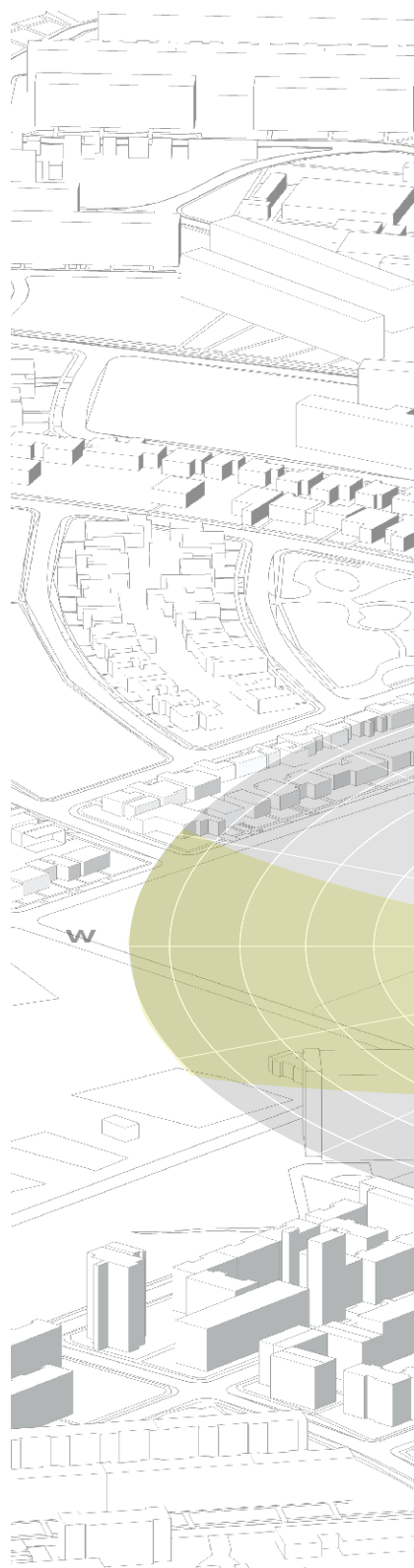
Cons
No identity for different department.
Lack of communication between different themes.
The organisation along the working routine is too rigid.

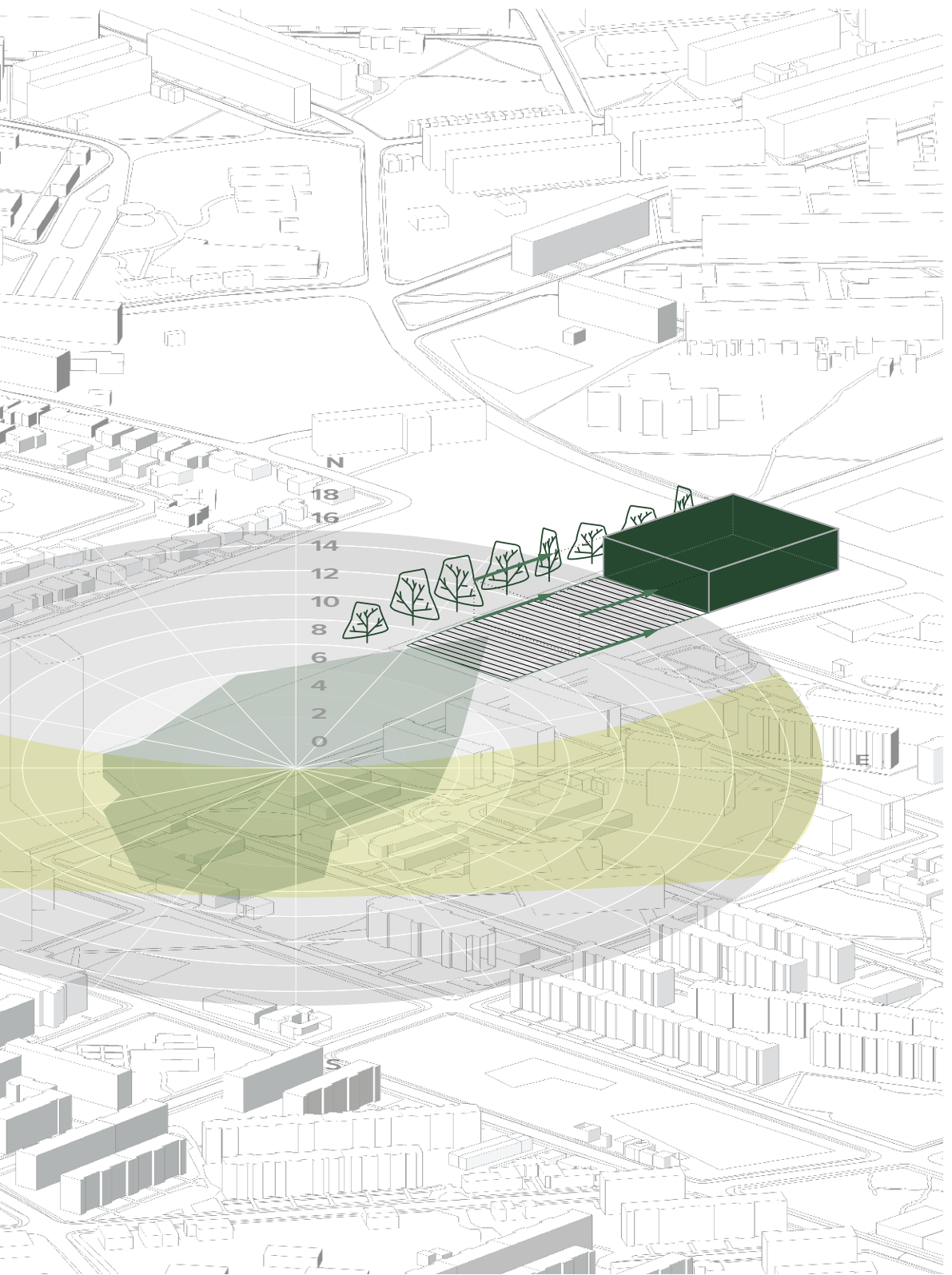
MASS STUDY

COMPACT FOR THE SUNSHINE

Climate, sun path and hurricane

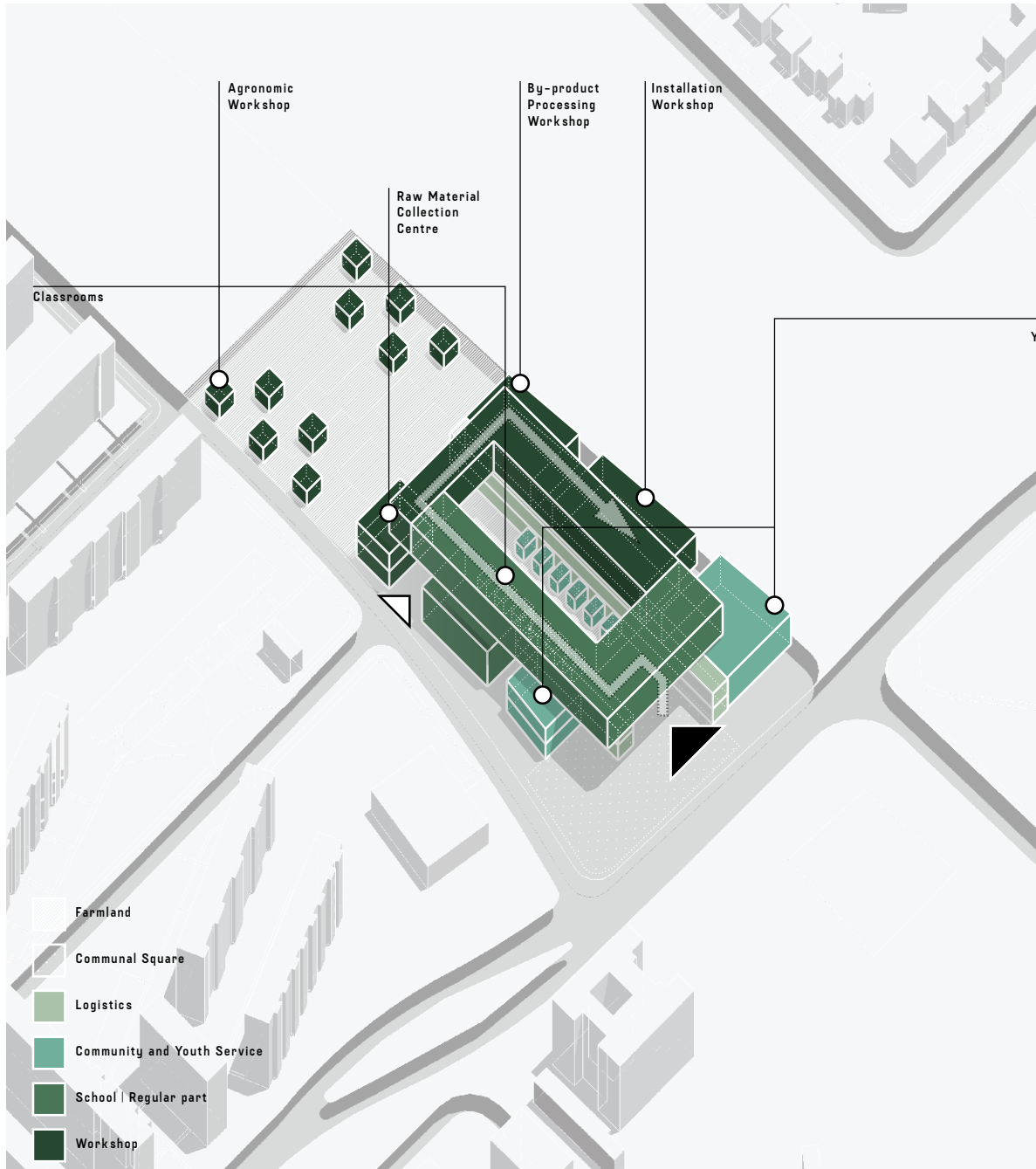
In order to ensure the solar radiation and to protect the farmland from the hurricane, the main body of the volume is compacted towards the northeast part of the plot. Ensuring the environmental quality of the farmland is almost the first priority for the vocational school for urban farming.

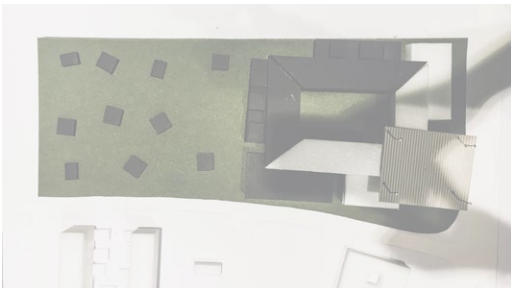
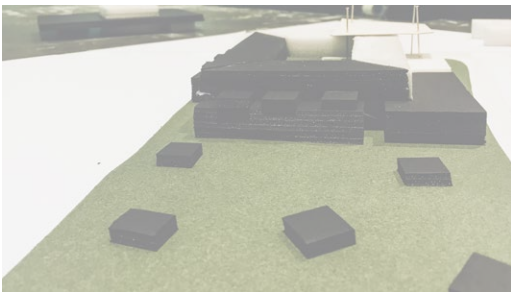
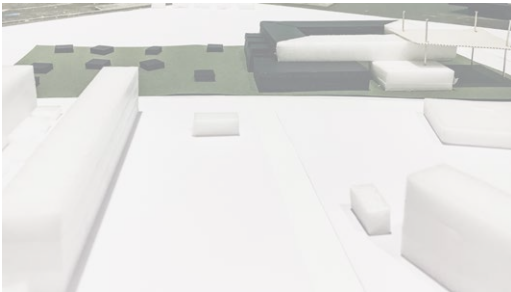
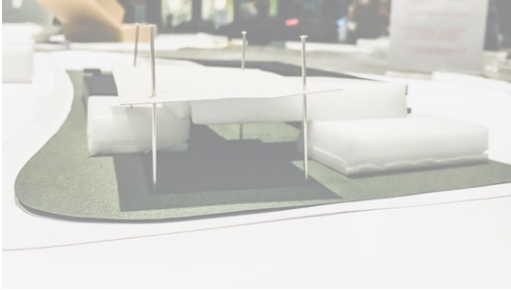




MASS STUDY

#3 ELEVATED LOOP





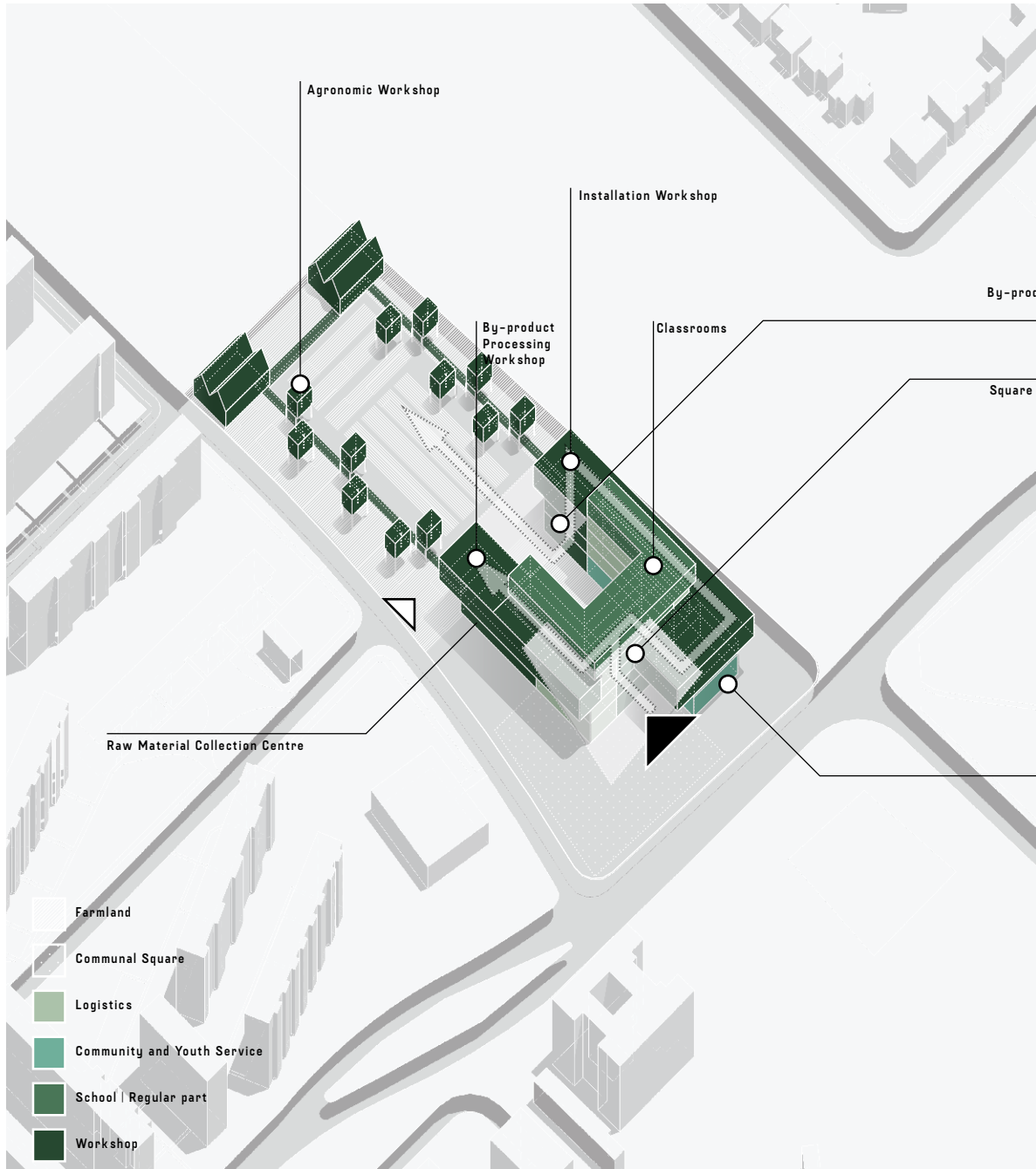
Pro
Functional composition is clear and open on the ground floor.
The elevated loop creates a lot of intermediate space for communication and sharing of knowledge.

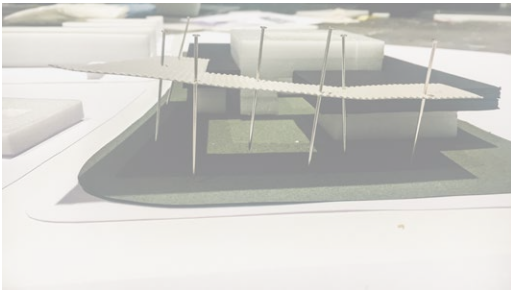
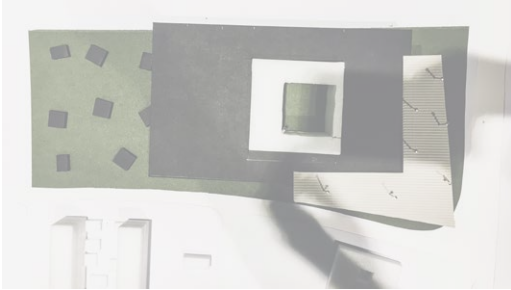
Cons
Too much emphasis of the inner courtyard of the loop and thus lack of interaction with the farmland.
Create too many intersections between the public and the regular flow in the school, decreasing the educational quality somehow.



MASS STUDY

#4 CORE AND PLATFORM





Pros

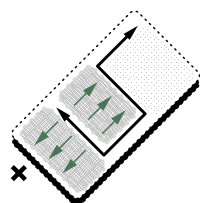
- Compact enough for future development and enough emphasis to create diversity of spaces.
- Clear relationship between learning and doing.
- Open to the farmland. Create a strong connection between the school and the farmland.

MASS STUDY

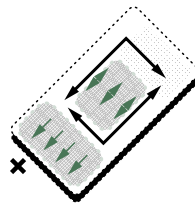
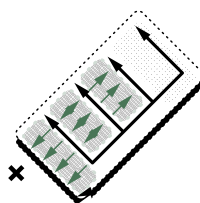
COMPARISON

The relationship between architecture and landscape

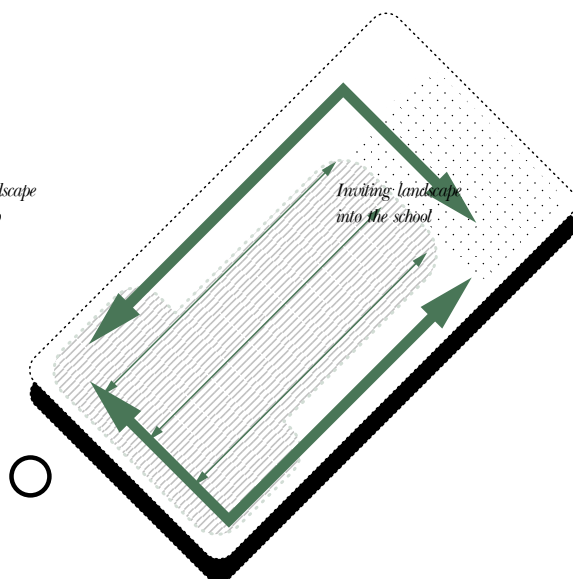
Wriggling in the landscape



Plugging into landscape



Excluding landscape outside the loop



Inviting landscape into the school

There's a distinction between the initiative and the passivity. The landscape should not be interrupted by the architecture, but getting touch with it. Thus, how the building shows its gesture to the landscape is crucial in this case. 'Attracting' or 'inviting' the landscape goes into or even climb upon the building shows the agriculture landscape is imitate with the building environment, and thus the users. Then the landscape itself can educate the students naturally and unconsciously.



FROM SCHEME TO SPACE

REALISATION

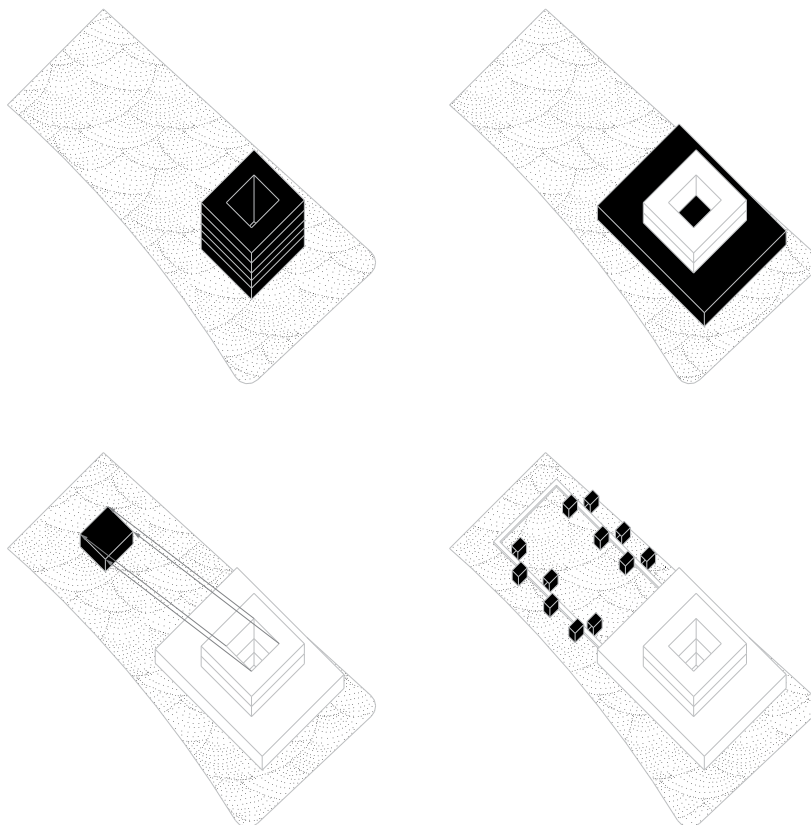
MASTER PLAN STUDY

INVITE LANDSCAPE INTO THE SCHOOL





GENERATION LOGIC

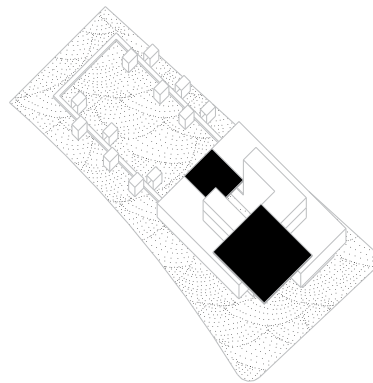
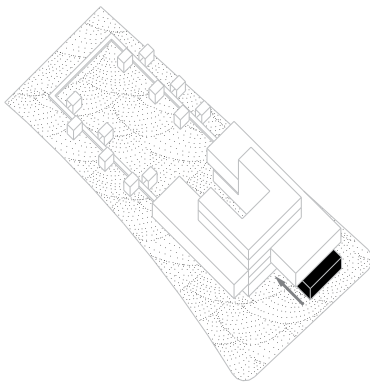
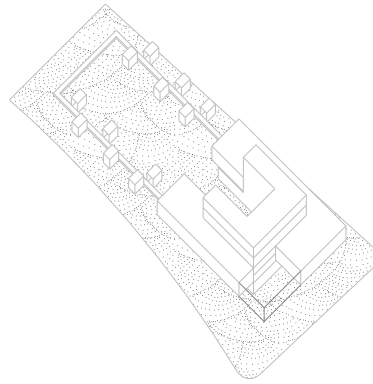
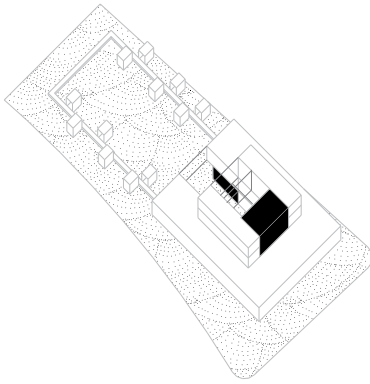


*A | A basic volume with normal school with a courtyard as the learning core
(A morph from the 'T' layout)*

B | A complete space for workshop right around the learning core

C | Take out the core of workshop onto the farmland

D | Split the complete space into small cubes as the agronomic workshops on site



E | Open the surface between the building and the farmland, inviting the farmland into the courtyard

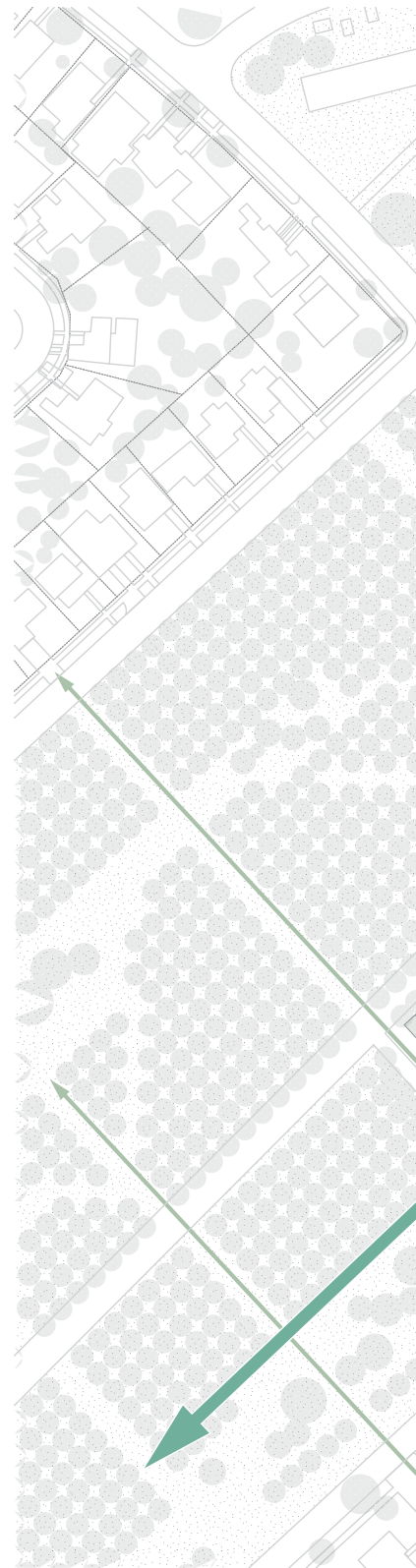
F | Open the corner as a response to the urban condition

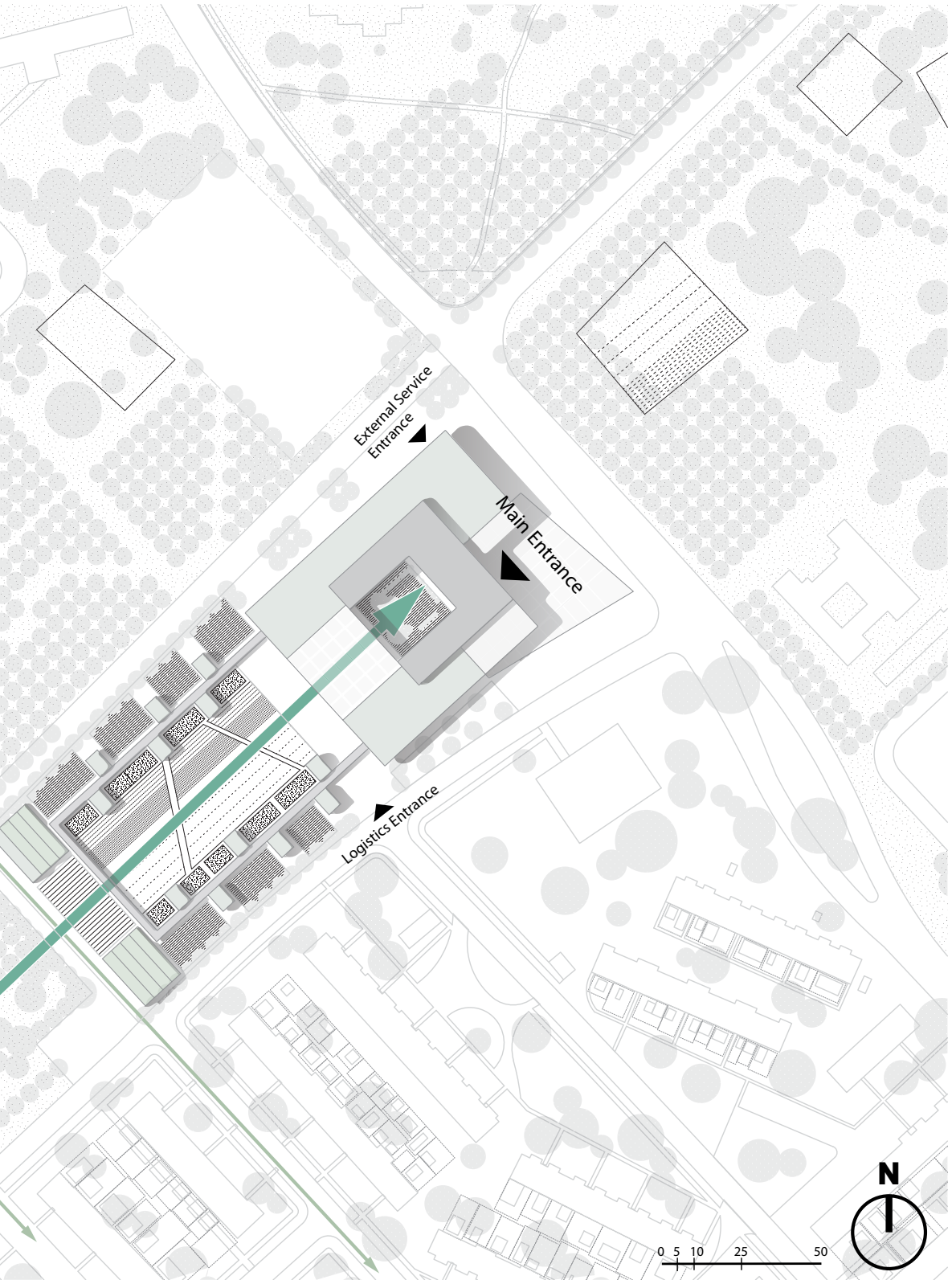
G | Plug the external services at the bottom of the workshop plate

H | Add the canopies frame the farmland and the city



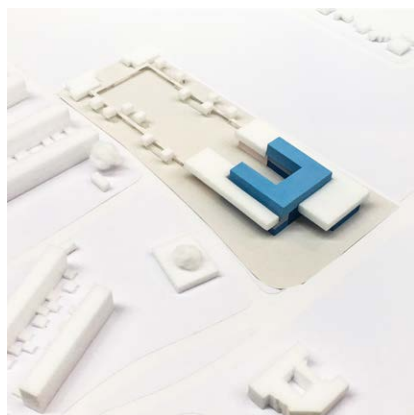
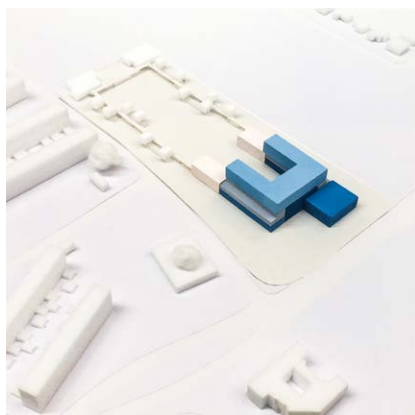
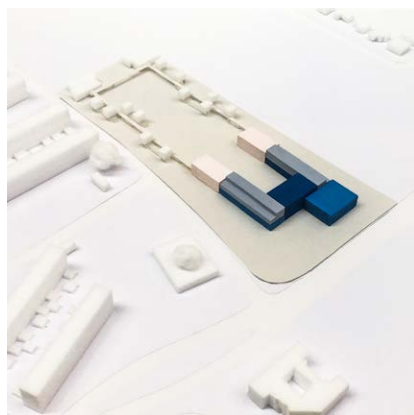
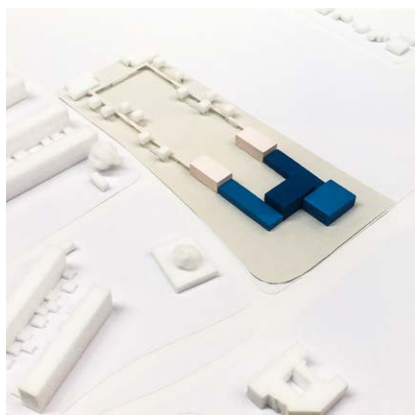
MASTER PLAN

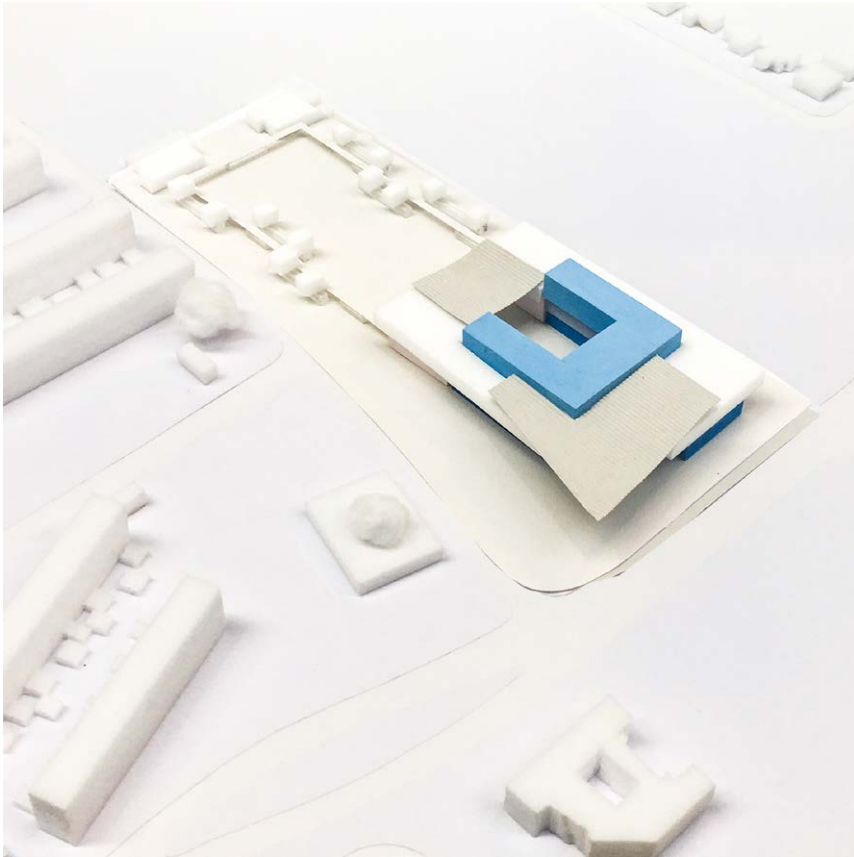




FUNCTIONAL LAYERS

FROM FARMLAND TO CITY





A | Seed Greenhouse

B | Agronomic workshop for farmwork

C | Raw Material Collection Centre and Primary Processing Workshop

D | Logistics

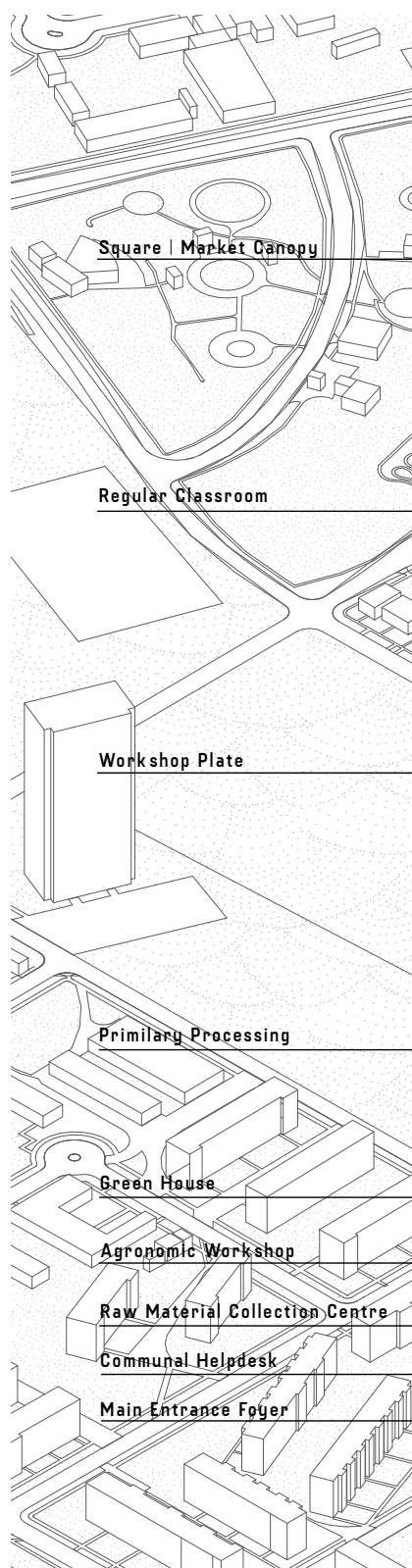
E | Learning Core

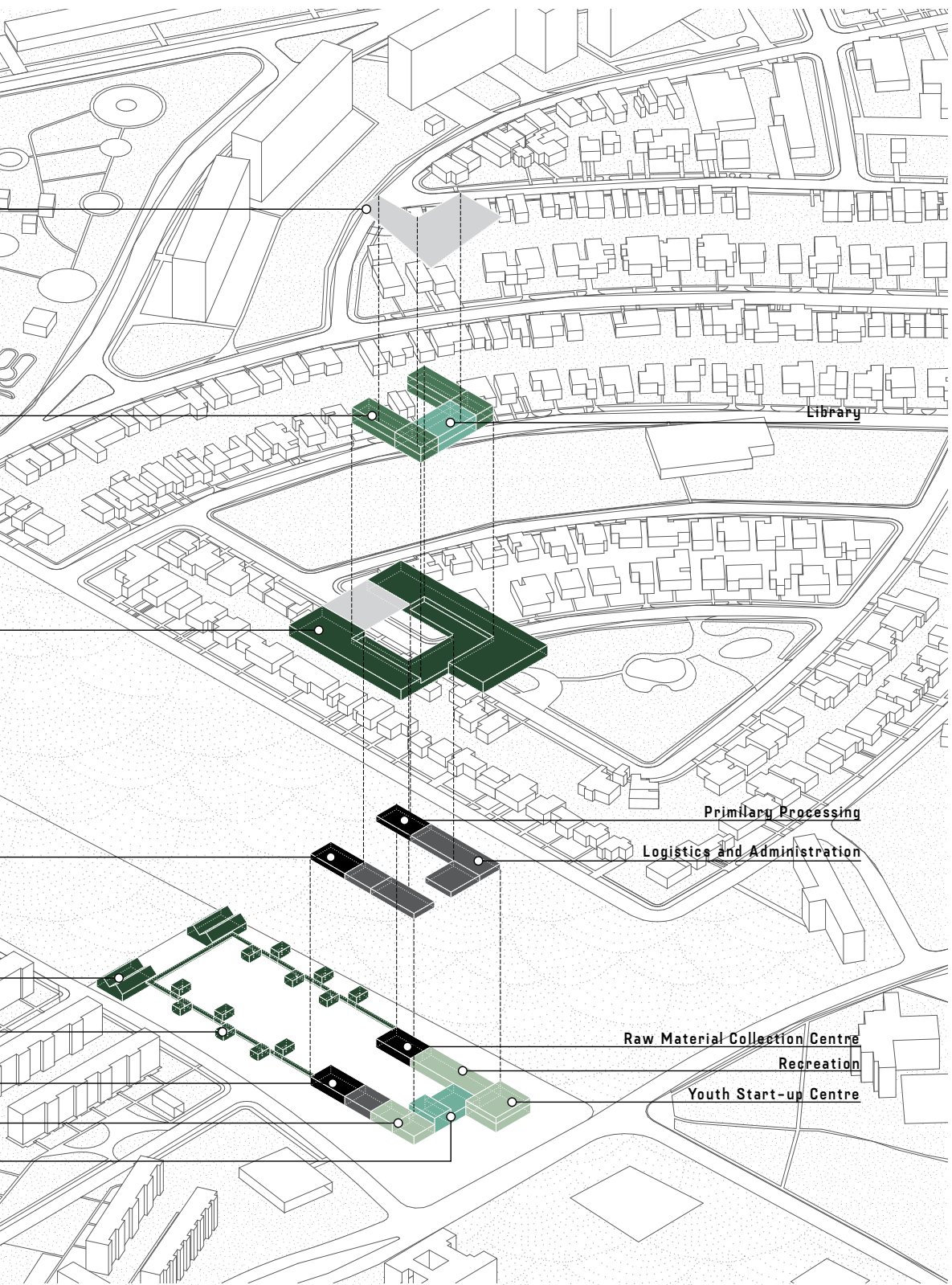
F | Workshop Plate from open sharing space to small studios to common collective creative centre

G | Urban Canopy

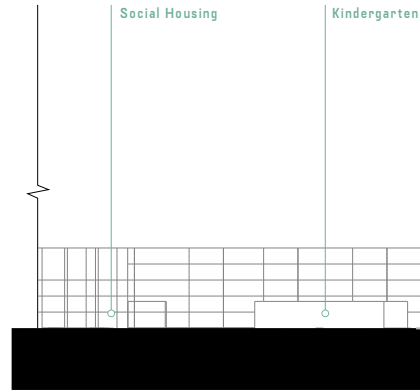
FUNCTIONAL LAYERS

FROM FARMLAND TO CITY

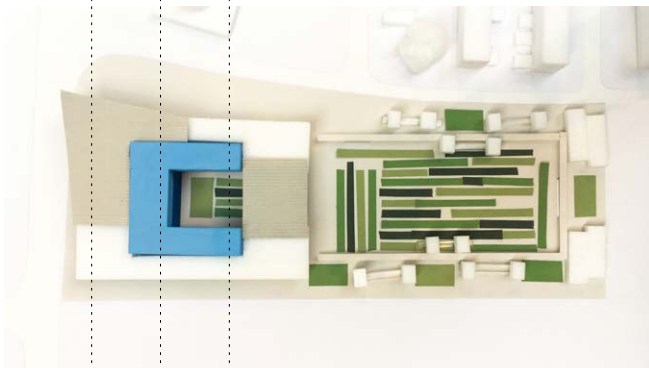


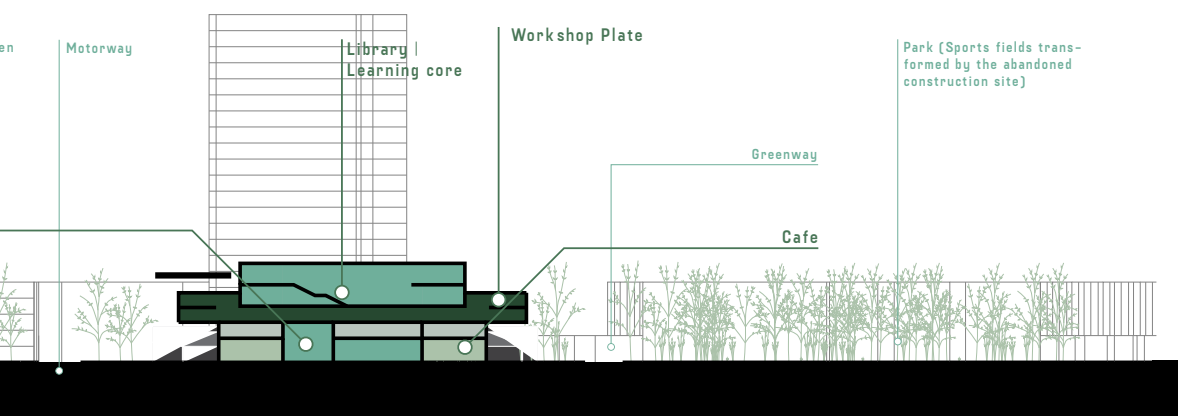
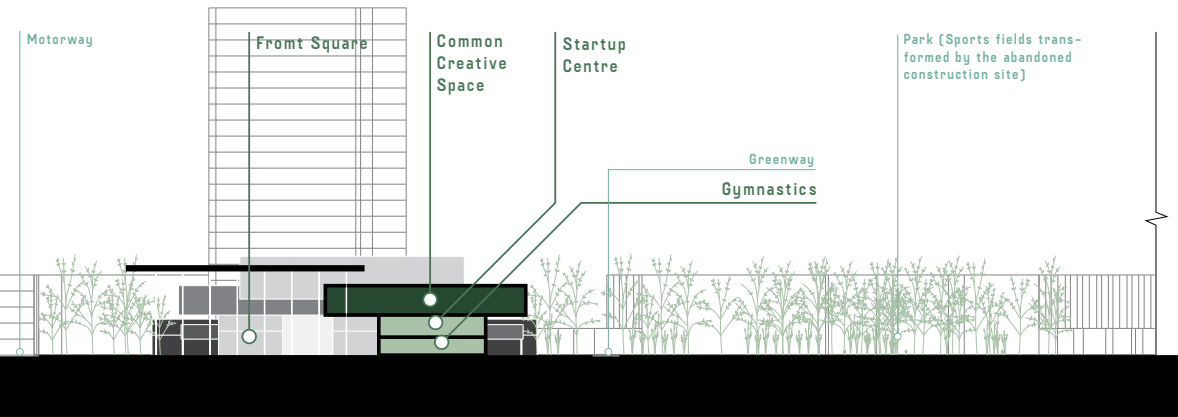


SCHEMATIC SECTION



A B C

















LEARNING BY DOING





