



COMMUNITY HUB

a way to connect safe food production in Jhenaidah

Reality studio
Bangladesh
2024

ABSTRACT

How can organic fruits and vegetables be promoted in and around the town of Jhenaidah in Bangladesh? How can farming in homesteads be made easier and how can the surplus crops reach buyers who are yearning for safe and healthy food? Through the field study of the Reality Studio, we developed the Community Hub in the hope that it will be a part of the answer to these and other societal questions.

We believe that connecting people is vital for spreading awareness of existing techniques, for sharing resources, and to build courage to embark on new initiatives together. We hope that the Community Hub can act as a link between individuals, between the communities and the Agriculture Office, and as a link to connect producers with consumers, reduce the harmful impact of farming on people and the environment while strengthening communities and empowering marginalized groups.

To better understand the context, we have taken part in site visits with agricultural experts, held workshops and discussion with communities and representatives of organizations, as well as countless informal meetings in and around Jhenaidah.

Throughout the project we have been guided by local architects from the Platform of Community Action and Architecture (POCAA) who have worked in close collaboration with communities in Jhenaidah for many years.

This report is the result of the project work within the course Reality Studio, 15 credits, ACE570, Master program Architecture and Planning Beyond Sustainability, Department of Architecture and Civil Engineering, Chalmers University of Technology, 2024.

Authors: Laszlo Baudriller, Marta Binerowska, Josua Ernvik, Nora Reis, Andrea Rodriguez.



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We would further like to thank our translators Sakib, Proloy and Mehedi Hasan. Throughout the project they were an invaluable link between us and the people we met. They also became our close friends.

Furthermore we would like to thank Alamgir and Salina Kabir, who showed great leadership in Khajura. They defended our project from day one and helped us with everything we asked. Their home was always open to us and the knowledge they shared taught us much about local building techniques. We are also very grateful to the Upazila Agriculture Office, who taught us much about agriculture and who's inspirational work can benefit Khajura for many years to come.

We are also very grateful for the work of Liane Thuvander, Shae Hagy, Lina Zachrisson and Jessica Lundin who organized the course and prepared everything for our arrival in Bangladesh. Thank you for your guidance and support.

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Rickshaw in Jhenaidah streets

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View of the Naboganga River

INTRODUCTION



Planting seeds in Khajura village

BACKGROUND

REALITY STUDIO



Reality Studio, part of the master's program in Architecture and Planning Beyond Sustainability at Chalmers University of Technology, equips students to create resilient, culturally appropriate, and innovative design solutions that enhance dignified human life. The course focuses on real-world extreme environments, involving collaboration with local communities, NGOs, universities,

and government institutions. It addresses global challenges like urban poverty, injustice, and climate adaptation, aligning with the UN Sustainable Development Goals. A key component is a 4-5 week field study where students immerse themselves in local contexts—this year in South Africa, Bangladesh, or Kenya—to work on community projects.

The Community Hub in Jhenaidah, Bangladesh, focuses on sustainable food production that involves growing, processing, and handling food to ensure it is free from harmful substances and safe to eat. This includes minimizing chemical use, maintaining hygiene, preventing contamination, and using sustainable farming practices to protect health and the environment. This initiative is a collaboration with the Platform of Community Action and Architecture (POCAA) and Co-Creation architects. The multidisciplinary, cross-cultural team includes five international students from the master's program, who aim to develop a link between these sustainable practices and the architectural field.

Hi, my name is **Laszlo**, I am 21 and I come from Switzerland. Today I am an exchange student in Sweden learning architecture. Through this project I could approach design in a new way and explore a culture in an authentic way.



My name is **Josua** and I am a 23 year old architecture student. I am Swedish but grew up in Thailand. My childhood in Asia has given me a love for cross-cultural teamwork, which I hope to continue in my future profession.



I'm **Andrea**, 28 years old and I'm from Ecuador. I believe architecture reflects a community's way of living and its connection to the environment. This project has provided me with valuable insights into the social aspects of my profession.



My name is **Nora**, I am a 23 year old student from EPFL in Lausanne. Last year, as I was completing an exchange at Chalmers for my last year of bachelor, I decided to join the Reality Studio going to South Africa. I found this experience very enriching and wanted to come back to this human approach during my year of architectural experiences, reason why I joined the RS again, this time as a « student expert ».



My name is **Marta**, I'm 23 years old from Poland. I believe that the true meaning of architecture is to understand and respond to people's needs. Thanks to this project, I learned how to work with local communities with the respect and understanding of culture.



Banks of the Naboganga River near the POCAA's office

SUSTAINABLE DEVELOPMENT GOALS AIM AND VISION

The Sustainable Development Goals, are a collection of 17 global goals set by the United Nations General Assembly in 2015, intended to be achieved by 2030. They were designed to address a range of pressing global challenges, including poverty, inequality, climate change, environmental degradation, peace,

and justice. The SDGs are part of the 2030 Agenda for Sustainable Development, which serves as a universal call to action to end poverty, protect the planet, and ensure that all people enjoy peace and prosperity.



In Jhenaidah, small-scale farmers face daily challenges like floods, droughts, pests, and fungi. To sort it out, they often use harmful chemicals that pose health risks. Transitioning to chemical-free farming is difficult due to increased labor, limited time, lack of knowledge, and unfair prices for this kind of products in the market, despite their environmental and health benefits. Additionally, this scale of production is linked with women labor, without proper conditions and safe spaces.

In the Community Hub project we have targeted two Sustainable Development Goals:

- Zero Hunger: End hunger, achieve food security and improved nutrition and promote sustainable agriculture.
- Gender inequalities: Achieve gender equality and empower all women and girls.



ZERO HUNGER

2.3

By 2030, double the agricultural productivity and incomes of small-scale food producers, in particular women, indigenous peoples, family farmers, pastoralists and fishers, including through secure and equal access to land, other productive resources and inputs, knowledge, financial services, markets and opportunities for value addition and non-farm employment

2.4

By 2030, ensure sustainable food production systems and implement resilient agricultural practices that increase productivity and production, that help maintain ecosystems, that strengthen capacity for adaptation to climate change, extreme weather, drought, flooding and other disasters and that progressively improve land and soil quality

The Community Hub aims to... promote small scale farming practices with minimal negative impact on the environment by being a space that allows a social community of homestead farmers to grow. It is designed to facilitate a community whose members help each other out, share their experiences and inspirations and share tools and equipment. The Community Hub also aims to be a source of knowledge and resources for the community by being a link to the Agriculture Office. All to simplify the life for small scale farmers.



GENDER EQUALITY

5.5

Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life

The Community Hub aims to... empower women by being a space where they can discuss and take initiatives and leadership, in issues related to farming but also in other matters. Also, it aims to direct new knowledge in farming straight to women, who are the main actors in homestead farming, without having the information pass through men. By ensuring that women are in roles of decision-making and construction during the building phase, we hope they build a sense of ownership, pride and confidence.

Therefore, the guiding question for this project are:

- How can architecture make it easier for homestead farmers in Khajura to cultivate crops without the use of harmful chemical products in a way that empowers women and strengthens the community?
- How can awareness and knowledge concerning safe food farming be spread in better ways?
- How can safe foods be promoted throughout all of Jhenaidah in the future?



Visit to Governmental housing projects, Jhenaidah

FIELD STUDY TIMELINE

13.04.2024
Visits to Gabtoli and Kallyanpur settlements



19.04.
Icebreaker



18.04.2024
Visit to Upazila Agriculture Office



20.04.2024
Mapping workshop

11.04.2024
The team arrive Dhaka



14.04.2024
Visit Swedish Embassy

15.04.2024
The team arrive Jhenaidah



16.04.2024

- Visit to Jhenaidah community-led housing project in Bhennatola
- Visit to Khajura village

17.04.2024

- Visit to the Weaving Lives Craft Woman's Center in Bhutiargati.
- Meeting with citizens' group

23.04.2024
Research: Rooftop gardens and Padma Computer training center visits

METHODS:

The methodology adapted to field needs, with engagement strategies shaped by different conditions and are described as follows:

INTERVIEWS

Upazila agriculture office
Owners of rooftop gradens inside Jheneaidah city
Settlements in Dhaka
Alumgir

BUILDING ON-SITE

RESEARCH IN LITERATURE

WALK AND TALK

WORKSHOPS

Icebreaker
Mapping
Pesticides and compost

FOOD SHARING

Cooking together
Cooking for them
Receiving food while visiting houses

2024
workshop



20.04.2024
Definition of
problems by
community



PROCESS:

The project timeline outlines the process from the initial on-site study to the team's return to Sweden, excluding subsequent results. It details the steps taken to build community relationships and propose solutions aligned with the site's needs.

The process steps followed were:

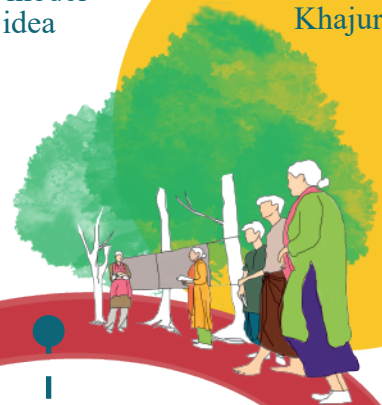
- 1 Context analysis
- 2 Community engagement
- 3 Problem definition
- 4 Field research and references
- 5 Proposal design
- 6 Project presentation to the community and feedback

23.04.2024
Questionnaire of
agricultural and livestock
products in Khajura



29.04.2024
Meeting with citizen
group: First model +
project idea

05.05.2024
Final exhibition in
the mango forest,
Khajura Village.



22.04.2024
POCAA Mentorship:
Definition of the
project's direction

26.04.2024
Pesticide and
Compost workshop



23.04.2024
Research: Visit Upazila
Agriculture office



**30.04.2024 -
04.05.2024**
Project development,
production of visuals
and deliverables



25.04.2024
Researching and
workshop preparation

24.04.2024
POCAA Mentorship:
Limits and schedule
of the project

05.05.2024
Discussion among the women
of the community, definition of
leadership roles, connection with
the agricultural office



Skyline view of Dhaka, the fast developing megacity.



Jhenaidah center during the election.

CONTEXT



Riverfront of Khajura village in the evening.

BANGLADESH

It is one of the world's most densely populated countries, with 176 million inhabitants living within the land a third of the size of Sweden. It is a country that has experienced a rapid recovery since the control of Pakistan and the Liberation War which followed in 1971.

Even though the economy of Bangladesh is growing quickly, we experienced public frustration over political corruption within the country which ranked 149th on the Corruption Perceptions Index in 2023.

The country has a Muslim majority, consisting of about 85% of the population. Public space is often divided between men and women.



The women bear the majority of the responsibilities in parenting, cooking and gardening, and often expressed that they had little free time for other pursuits. 51% of all women and girls are married before their 18th birthday.

JHENAIDAH

Our project is situated in Jhenaidah, a city of approximately 140 000 inhabitants. We worked in collaboration with stakeholders from all over the city but decided to focus our process on the community of Khajura, a village on the outskirts of this place.

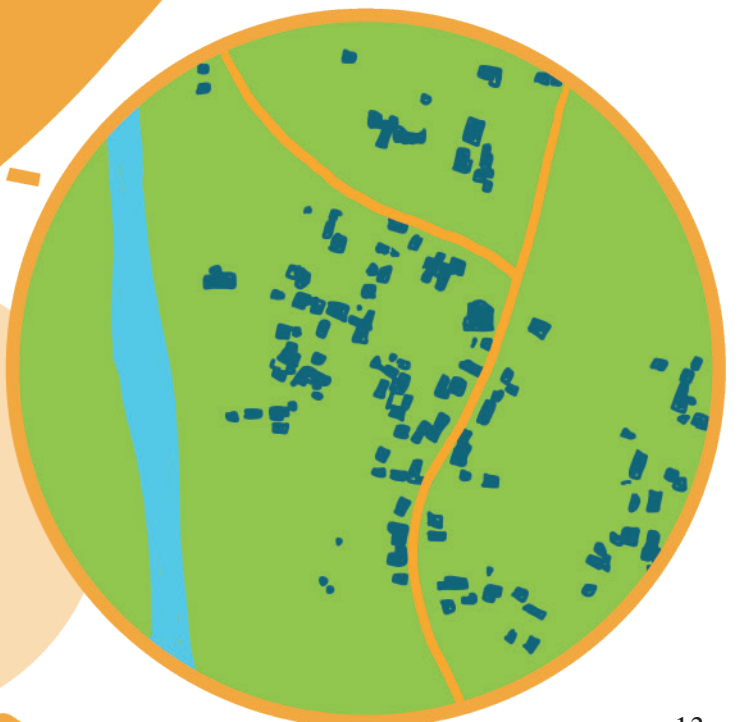


KHAJURA

Khajura is a community with strong social bonds.

Most inhabitants live in homes consisting of a central courtyard, a small residential house, a kitchen shed, a privy, a hand powered water pump connected to the groundwater, a shed for animals and a small plot for gardening.

Most inhabitants own their own land.



KHAJURA



It is a small village 20 minutes by easy bike from the center of Jhenaidah. It is located along the Naboganga River, which plays a key role. During the rainy season, it is impossible to cross the river to the other side. Water from the river is used for many activities such as cooking, washing and laundry.

The village, with 1,299 residents according to the 2011 Census, is represented in a map reflecting the locals' perspective however, it is only a fragment of the entire village. Despite being on private property, two mosques and a school are accessible to all. The community is socially cohesive, with residents freely moving between properties and engaging in joint initiatives. The residents are close to each other and undertake joint initiatives such as a kids' garden during COVID-19 and building a pond with fish for educational purposes. Attempts to open a store failed due to communication and supply issues.

As cultural feature, during meetings, a mat made of

cement bags is spread out and the people sit on the floor. However, meeting places, mostly informal, lack infrastructure except for the men's tea pavilion. Residents live comfortably, with ample land for housing, agriculture, and animal husbandry. They are interested in safe, chemical-free food for their families.

SAFE FOOD PRODUCTION

Bangladesh, where agriculture accounts for 11.22% of GDP according to the official census, primarily produces rice for internal consumption. This sector struggles with extensive pesticide and chemical fertilizer use. Growing awareness of these chemicals' dangers has increased demand for "safe food" free from harmful substances.

This awareness rose during the COVID-19 pandemic when local market closures led many to grow their own food using eco-friendly methods. Upazila Agriculture Office has training in cultivation methods and delivers seeds, developing methods for planting according to the geographical conditions of the site (Kalikapur model)

Despite market reopenings, this trend continues. However, consumer awareness and government support for safe food is not enough, with no official labels and economic challenges in charging more for this kind of food

Safe food production is common on a small scale but rare on larger farms.



Vegetable selling stand during our last presentation.

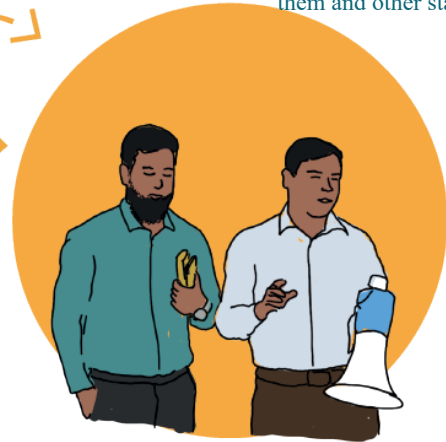
STAKEHOLDERS

The team

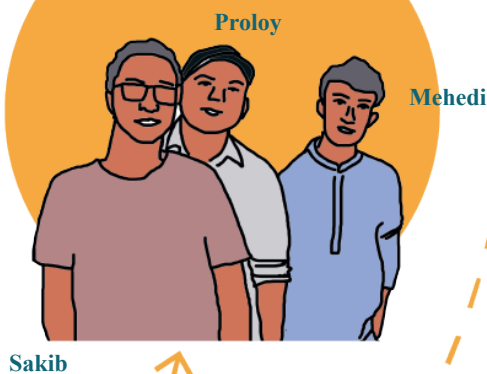


Upazila agriculture office:

A government entity is supporting small and large-scale farmers in the region. Their knowledge and resources were crucial to our project, leading to a collaborative effort with them and other stakeholders.



Translators

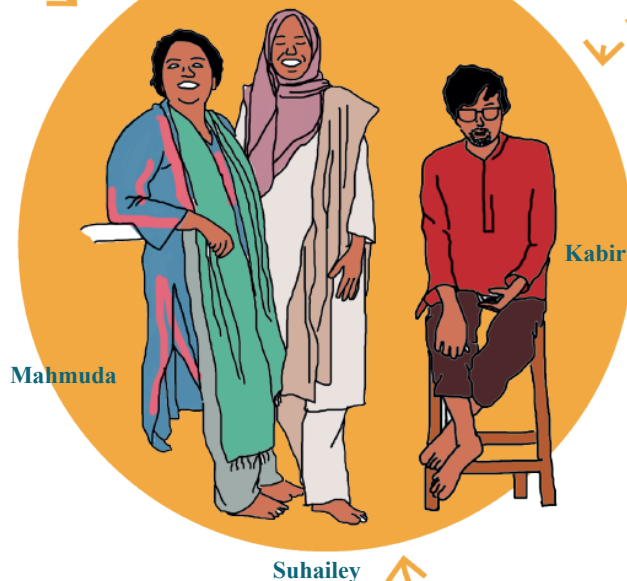


Villagers from Khajura:

They were our main stakeholders, we worked with a section of approximately 40 households. Some people followed our process the whole time, others only joined once. Motivated figures named below were our main source of information and had a leading role in the discussions.



POCAA



Jhenaidah's citizens group:

A motivated group of representatives from various organizations and communities aims to implement a citywide safe food production network to bring positive change to the city.



RESEARCH



Icebreaker workshop in Khajura village

SITE VISITS

INFORMAL SETTLEMENTS

In Dhaka, we visited two informal settlements: Gabtoli and Kallyanpur. We had the opportunity to get familiar with the POCAA housing project and learn about the production of safe food at the household level. We learned about the project financing system and the basic problems of local farmers.



HOUSING PROJECT

In Jhenaidah we visited a Bhennatola village where we saw Mohishakundu Shordarpara project. POCCA and its inhabitants designed and built 34 houses together. We learned about the design process, decision-making system, but also about different building typologies, and which solutions were successful and which were not.

GOVERNMENT PROJECTS

We had the opportunity to meet the Upazila Agriculture Officer of Jhenaidah and go on a tour with the municipality of nearby government projects. We saw many intriguing projects aimed at spreading knowledge about healthy agriculture such as examples of kalikapur model garden or the housing project where 56 houses were built.



WEAVING LIVES CRAFT CENTER

We visited a village of craftwomen who, with the help of POCAA, started their own handicraft business. What's more, they built a veranda together, which is their meeting and working place, and they also built a kitchen together.

ROOFTOP GARDENS

We had the opportunity to visit several times the roof gardens, which were created on the initiative of residents. They are very involved in the process, they have a mission to spread knowledge about safe food production to other residents of Jhenaidah.



ICEBREAKER WORKSHOP



60 - 80 people
Women, children,
teenagers, few men.



**Poster, homemade
food**
Color pencils, paper



1 h 30 min.
16:00-17:30



During our previous village visit, we introduced ourselves and our cultures, sparking many questions. To address these, the workshop started with name introductions and sharing homemade dishes like French toast, pierogi, and Swedish chocolate balls. We played a guessing game about the ingredients, displayed a poster on food and storage methods. We also organized drawing exercises to learn about popular fruits and vegetables in Bangladesh. We wanted to find out how food is stored and prepared. The workshop ended with an open discussion and spontaneous dancing.

GOALS

1. Foster integration and comfort through ice-breaking activities.
2. Gather information about their daily lives, including food storage practices and the types of crops, and farm animals they have.
3. Identify the key stakeholders involved.
4. Organize the upcoming workshop to request in-person if we can return the following evening.

OBSERVATION

- Noticed shyness; Alungir encouraged participation (uncertain if overly assertive or simply supportive).
- Some participants refrained from eating due to fasting, saving food for later, or sharing with family.
- Young girls were eager to perform, leading to an improvisational dancing session.
- Increasing curiosity, with the group steadily growing larger.
- Many attendees remained standing, possibly due to discomfort or reticence.

ACHIEVEMENTS

We were invited to a woman's home for the next day's workshop, reflecting growing trust and acceptance. Participants expressed feeling comfortable with us, and we gathered crucial information about local fruits and vegetables. We also identified a few community members who showed leadership potential by being less shy.

AREAS FOR IMPROVEMENT

The workshop showed that three translators were unnecessary, as the focus was on sharing our backgrounds. Clearer explanations were needed for activities like the drawing exercise. The ingredient-guessing game was less effective due to excitement and chatter. Future workshops should allow for more spontaneous interactions and limit participant numbers. Women were invited to buy traditional clothing (kameej), highlighting the need for deeper cultural integration.



MAPPING WORKSHOP



7-50 people

At the peak 50 people, started with 7 people.



Big piece of paper for the map

Glue, markers, pencils, rubber, small pieces of color paper, plastic foil



2 h 30 min.

16:00-18:30

*Map can be seen in appendix

GOALS

1. Understand connections inside the community.
2. Understand the needs.
3. Have some ideas about the topic of the project.
4. Get more information about harvesting systems.
5. Make a map with different layers.
6. Have fun and integrate.

At previous workshops, we invited only women, as they're often responsible for planting and may not feel comfortable around men. We gave them a blank map and encouraged them to map their community, in their own way including properties, water points, fruit trees, etc. While some were mapping, others were discussing food production, needs, and things to improve in the community. We ended with a spontaneous seed-planting activity suggested by the host. In next few days, we distributed a questionnaire to gather more detailed information about food production. (Questionnaire can be seen in appendix).

OBSERVATION

- The number of participants escalated quickly, there is no option to control it and make workshop in smaller group- too much curiosity .
- One person of the community knew all the information that we were looking for (even details of home layout) , we didn't need that many people.
- There was a lot of noise in the end, when people are bored they start to talk, kids needed attention.
- It is difficult to read the emotions, we didn't understand if they are happy or not.

AREAS FOR IMPROVEMENT

Because of the fact that only one person was mapping, the rest of people got bored. We hadn't planned exact activities for kids, we didn't have enough pencils. We improvised and made a dance session. Would be good to prepare some activities for kids which would be beneficial for the project as well. The time of the workshop was too long, we had to finish at Alungir's house, it is difficult to make workshops outside in 40 degrees. We had too few translators. Perfect number of people during the workshop would be 10.



ACHIEVEMENTS

We managed to make a map of how they see their community and understand the borders. We had clear roles inside the group that were respected and worked great.

We gathered a lot of information about needs of community and about their crops. We pointed the most interesting topics to work on and made deeper connections with the community.

PESTICIDE & COMPOST WORKSHOPS

PESTICIDE



6 people



neem leaves, water, tumeric, camphor
bowl, stove, plastic bottle, sprayer



2 h 30 min.
16:00-18:30

COMPOST



8 people



Banana, sticks and leaves



2 h 30 min.
16:00-18:30

COMMON GOALS

1. Sharing the knowledge which we got from different places in Jhenaidah about organic pesticides fertilizing techniques.
2. Learning about practices used in Khajura village.
3. Understanding how they managed organic waste.
4. Use the time at the end with both groups to present the idea of the community hub.

COMMON ACHIEVEMENTS

We shared a lot of knowledge which we gathered from agriculture office/ rooftop gardeners. We managed to engage people who were the most interested about cooperation with us. We shared the idea of community hub- make them understand the purpose of our visit and we made them discuss about our project idea!

We began our workshops by introducing the topic of fertilizing techniques and pest control methods, emphasizing the importance of sharing knowledge and experiences among farmers. We explained that we gathered some insights from Jhenaidah and encouraged the farmers to share their own techniques and approaches. We asked them to split into two groups: one focused on fertilizing techniques and the other on pest control methods.

At the end we gathered back together to discuss the concept of a community hub. The workshops were also here to show that a place to talk about agricultural techniques can be useful. We emphasized that this space could be a valuable resource for farmers in the region, and that we were open to building such a space if there was interest and support from the farmers. A vivid discussion started between themselves and the translator. It was the first time we had real feedback from them. They expressed a need to discuss the idea further among themselves and with their peers, but were also interested in the concept of a community hub.

COMMON OBSERVATION

- Dividing into groups is challenging: often it takes time for people to decide where to go, and sometimes they would simply leave the group.
- There is limited information flow in Jhenaidah about safe food production
- Many people struggle to trust non-verified solutions, and only accept solutions that originate from their own village or region.
- People we worked with tend to respond more positively to visual aids, such as models or drawings, rather than verbal explanations.



PESTICIDE

As we transitioned into group discussions, we asked participants to share their experiences with pesticides and insect control methods. Unfortunately, our initial conversation revealed that the community relied heavily on chemical pesticides and had not explored natural alternatives. Seizing this opportunity, we proposed to create an organic pesticide together in a local garden. In the beginning they were a little bit skeptical, they didn't trust us. However, as we began the process in the garden, their skepticism gave way to curiosity. They began asking questions, engaging with the process, and showcasing a genuine interest in learning more about organic pest control methods.



*Posters can be seen in appendix

COMPOST

As we transitioned into group we started discussion about different types of compost and ways to fertilize the ground. We began the workshop by visiting a resident's compost site and engaging in a conversation about cow dung compost. We got information that compost from organic waste is not really popular. Taking into consideration, that there were a lot of kids in the group, we decided to take our composting initiative to the kids' garden. We shared some bananas with the group, using the peels as a starting material for our mini compost project. As we worked together, we discussed the benefits of mulching techniques and applied our newly learned skills to a nearby tree.



*Posters can be seen in appendix

OBSERVATION

- People have not heard of the most popular natural pesticide, even though it is really popular in the other parts of Jhenaidah.
- We lost several people on the way to the garden
- they were not interested in making pesticides.
- People were joining and leaving during the workshops, not everyone saw the whole process.
- They mentioned that they liked the idea but couldn't afford to do it too often because they didn't have time.

AREAS FOR IMPROVEMENT

Having some visuals like drawings, could help us to explain the whole process and gain their trust. Would be good to have a little bit more time for the workshop so we could have a bit longer conversation and possibility to answer all their questions.

OBSERVATION

- Very few women joined this group (probably because the workshop was run by two men)
- Many children took part in it, but they were not our main focus when we were designing these workshops, they were also really shy.
- People were joining and leaving during the workshops, not everyone saw the whole process.

AREAS FOR IMPROVEMENT

Workshop should be made either for kids or grown up, when you have both it's more difficult to have the focus of both. Kids are really shy, next time maybe we should spend more time on games and tasks which could help them to overcome their shyness.

MEETING WITH THE UPAZILA AGRICULTURE OFFICE

After site visits with the municipality, where we could see government projects in the field of agriculture, we decided to arrange another visit with the Upazila Agriculture officer. We wanted to consult him about the problems we noticed in Khajura village. During the meeting, we received a lot of knowledge and inspiration. However, we noticed that there is no flow of information between the office and the population, that knowledge is in Jhenaidah, but obtaining it is not that simple and obvious.



7 people
5 of us, translator
and the officer



2 h 00 min.
9:30-11:30

GOALS

1. Do research on agricultural solutions to the problems found in Jhenaidah.
2. Understand how knowledge is transferred between the office and residents.
3. Make connections and invite the agriculture office to take part in our final presentation and to cooperate with Kahjura village.



Meeting with the Upazila Agriculture Officer



Meeting with citizens network

MEETING WITH CITIZENS' NETWORK

We organized a meeting with citizens to present our concept for a community hub, aiming to gauge their interest and gather feedback. The meeting due to heat was organized in "Family zone" where we were invited by one of the citizens, a safe food activist. We brought along a scale model, mind maps, and simple illustrations to show the idea and facilitate discussion. As we introduced our project, we emphasized that it is specifically designed to support women, but unfortunately, any of the women attended the meeting. The presentation sparked a lively discussion and generated enthusiasm. The attendees' reactions ranged from curiosity to excitement, as they began to envision the potential benefits of such a hub in their community.



18 people
5 of us, translator
and 12 citizens



2 h 00 min.
17:00-19:00

GOALS

1. Share the idea of Community Hub
2. Have a feedback of the idea
3. See if it possible to make a project.
4. Make people interested

REFLECTIONS WHAT HAVE WE LEARNT?

The people we worked with were very interested in our work and what we do. This meant that we were unable to control the number of participants during the workshops we conducted. Regardless of whether the workshops were held in a place such as a mango forest or on a private property, the number of participants increased during the workshops. An interesting observation for us was the fact that at the last workshop we had much fewer people than before. We received feedback that some people lost interest. This informed us that such a huge number of participants was caused more by curiosity than by willingness to cooperate during the project. Thanks to smaller groups, we were able to reach the information to those who really wanted to gain this knowledge.

At the beginning of the process, we had trouble defining needs, understanding how we could contribute as architects, to be able to really support the local community, and not just do a project for the university. Many of the needs that were directly mentioned concerned strictly agriculture, which we have no knowledge of. Moreover, when we started investigating, we saw that other residents in other villages, in the city or the Agriculture Officer had the knowledge to solve these problems. We felt quite unsure and changed the concept of what our project could look like several times.

People were very shy, it took them a long time to open up and dare to share some information. It would be fruitful for us if we could spend a little more time in Khajura village, which we would simply spend on integration.

Visual materials were an important element of the cooperation. These worked much better than talking. People reacted with enthusiasm when they saw various types of drawings and models.

It should also be remembered that organizing workshops in which women participate means the presence of children, who should have organized activities enabling them to work with women.



Preparing first model of the hub

DEFINITION OF EXPRESSED PROBLEMS:

Insect pest are damaging the growing crops

Problem with the goats, eating crops

Uneven number of crops every year

Seed storage problems (moisture and insects)

1

Lack of information flow and communication within the village

2

No time to look for organic gardening solutions

COMMUNITY HUB



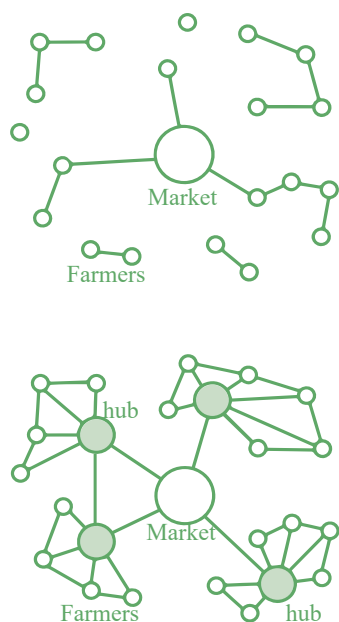
COMMUNITY HUB



To address the challenges seen before we developed the idea of the Community hub

It is a space that acts as a meeting point for homestead gardeners to exchange knowledge about safe food, share recipes, exchange tools and crops, and plan together a fruitful farming community.

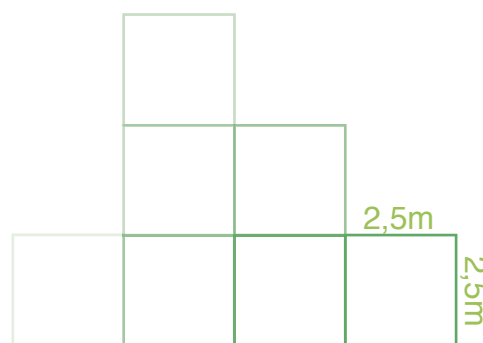
The hub could start without having any physical intervention. Gathering together and organizing discussion is the core of it. Engaged people who are motivated to improve their farming or any activities are the main component of the hub. Having a build space will then come naturally while the farmer community grows. This could inspire other communities to develop their own hubs that could then be linked together to finally have an impact on all of Jhenaidah in the years to come.



Furthermore, we noticed that on the homestead level, the farmers are mostly women. Women also don't have a physical space inside the community to meet up and talk on the contrary to the men and their tea spaces. Therefore we think that this hub should be exclusively run and maintained by and for women.

We thought this place to be centered around agriculture but other activities like sewing, cooking building could use the same space. This place could be used every day by the women, to work, hang out, take care of kids and themselves together.

With this idea in mind, we imagined how this architectural intervention could look like. As we want you to co-create this space we have designed a modular structure that could be adapted and changed depending on context and interest. The layout is made out of a square gride where the different modules can be placed. More modules to host more people or new activities can then easily be added when needed.



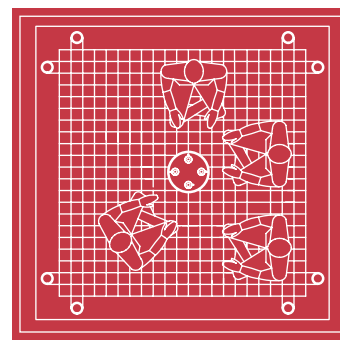
Shape and size of the module were defined with a 1:1 experiment.



COMMUNITY HUB STRUCTURE PLANS

Sitting area

It is a place where women can meet each other. We believe that creating a meeting area is the first step to generate brilliant ideas and stimulating creativity. This module can also be a place for drinking tea/doing various types of crafts. The space includes a blackboard and a seating platform.

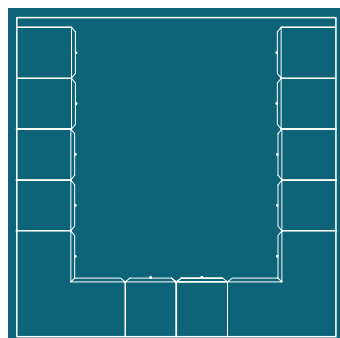
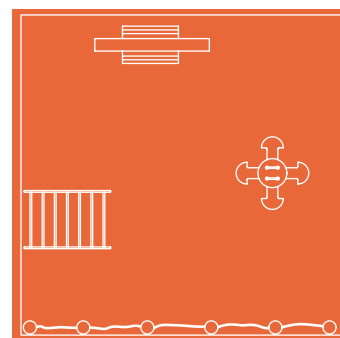


Multipurpose area

It is a place where tools, surplus crops, seeds can be shared. The space includes cabinets for storing various types of tools, shelves for displaying excess crops/ crafts and a stove that can be used to prepare various recipes for e.g. pesticides and also to prepare tea.

Playground

Since the hub is intended for women, it should be taken into account that they spend most of their time with their children. Within one module, a play zone can be created, so that they are under the care of their mother, but at the same time give them the opportunity to cooperate without their presence.

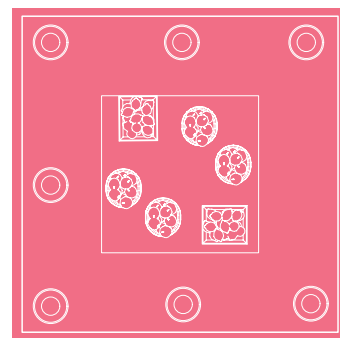


Storage

It is a place where women can meet each other. We believe that creating a meeting area is the first step to generate brilliant ideas and stimulating creativity. This module can also be a place for drinking tea/doing various types of crafts. The space includes a blackboard and a seating platform.

Shop

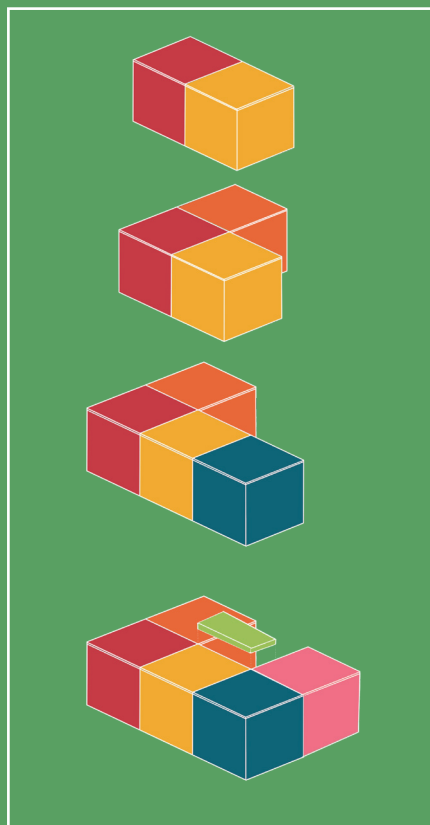
This place should be added once the community hub is working well. This is a place where you can start selling surplus crops or crafts in a more organized way. You can work out a schedule for the store's operation. It is also a place from which any product could be collected to the city in order to cooperate with other hubs.



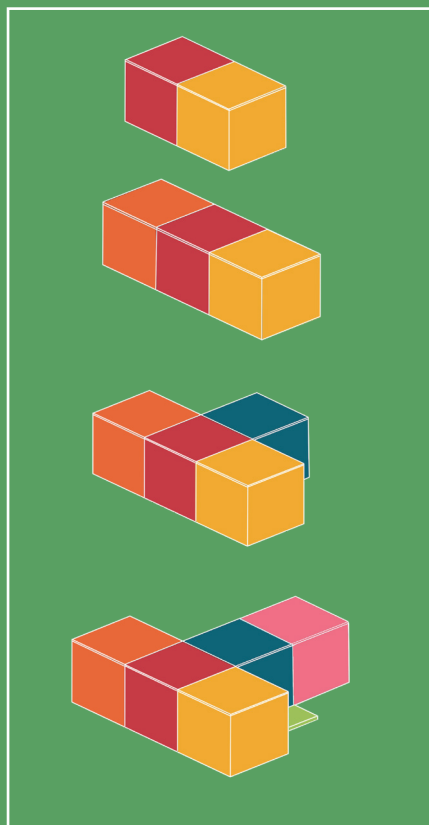
Experimental gardens

We understand that people can be afraid of new solutions and approach them with distrust. An experimental garden could be an opportunity to try new techniques without fear of losing their crops.

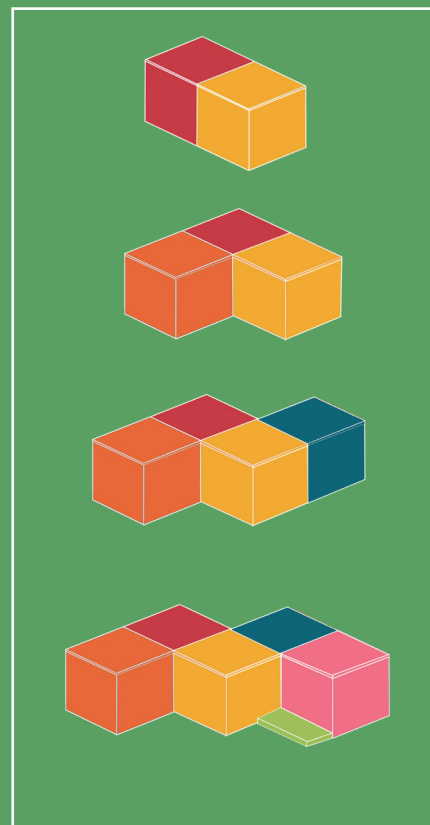
EXAMPLES OF LAYOUTS



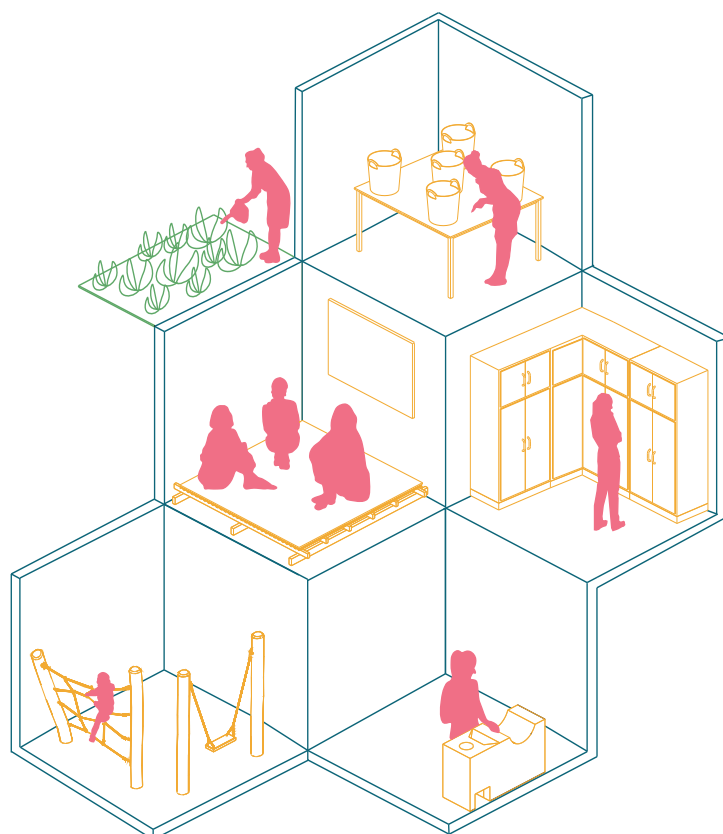
OPTION 1



OPTION 2

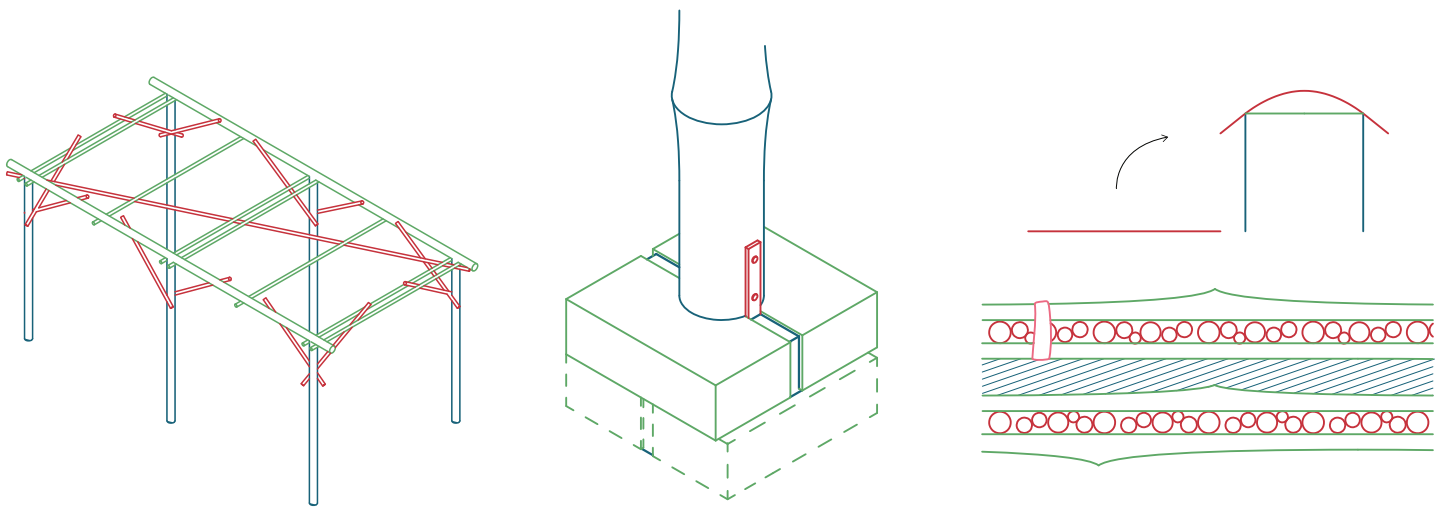


OPTION 3





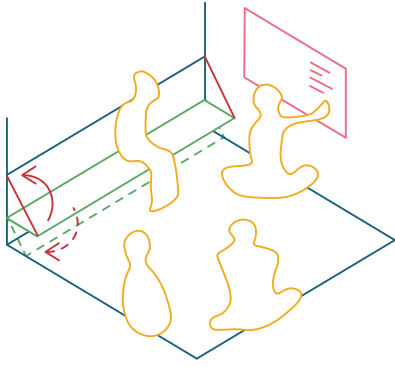
Design proposal



To have visual support for discussions, we came up with a precise design proposal for the community hub. We used local and cheap materials such as bamboo for the structure. The light and breathable construction makes this space open for diverse programs and extensions.

We design our 1:10 model in Khajura itself. We used materials found in the village and tested them in our model. Local inhabitants taught us building techniques and took us around the village to see examples of them, like this foundation with bricks.

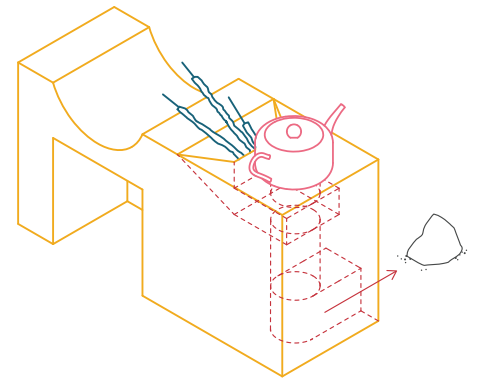
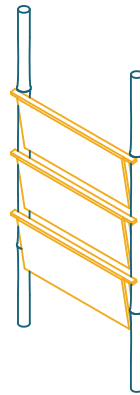
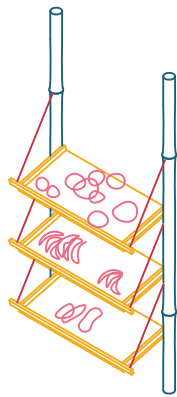
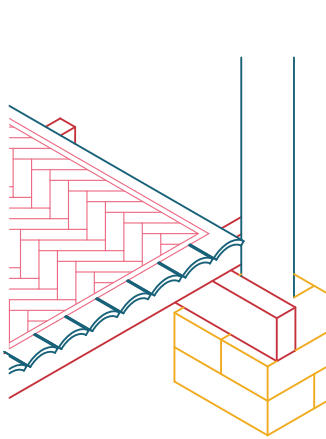
Our roof suggestion is made of bamboo slices that hold jute sticks in between themselves. Two layers of this jute then clamp a waterproof fabric. This roof can be built easily on the ground and bend on the structure afterward.

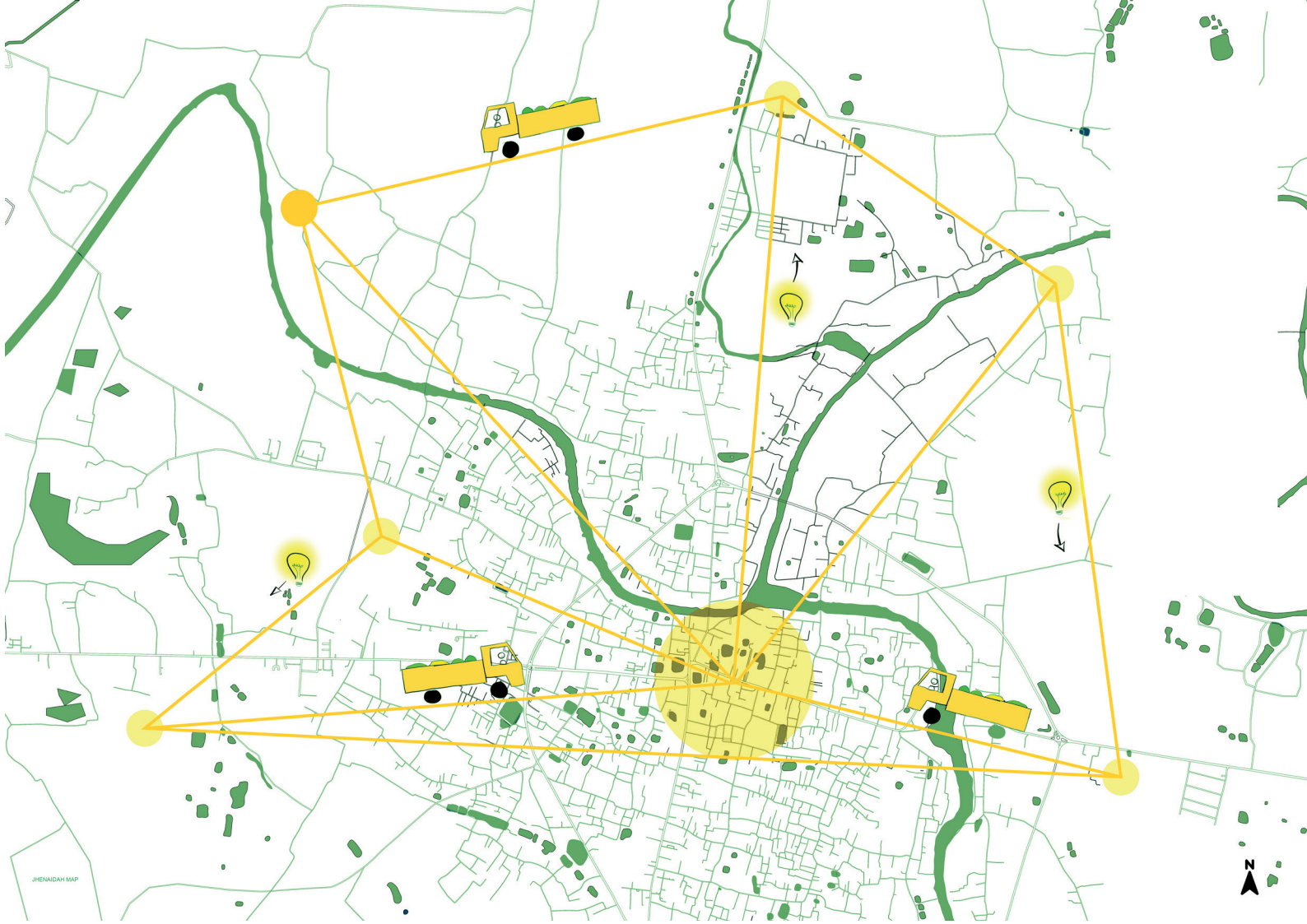


Inspired by the way we met in a circle every time in Khajura, half of this first hub is taken by a large gathering space. A bamboo natte gives a soft feeling and a blackboard acts as a support for discussion and planning. A backrest can be deployed as a bench to make it comfortable for elderly or disabled people.

One of the walls can be deployed as a selling shelf for the overproduction of the gardens. A fire stove for tea and cooking makes this place feel like a home. Influenced by a stove design found in the area, the ashes are cleverly kept outside.

A large chest to keep tools and store seeds in security is placed next to the stove.





COMMUNITY HUB IN JHENAIDAH **BROADER CONTEXT**

The Community Hub functions as more than just a physical space; it's a network where community members come together to share knowledge and collaborate, between the safe food farmers, with the vision to create a space in the local market providing fair prices and spread in the city the benefits of safe food consumption.

This concept can be replicated in different communities around Jhenaidah, tailored to their specific needs and circumstances, eventually leading to the construction of physical modules. Since each community decides what's important to them, the appearance and use of the space may vary.

The overarching vision is to connect all Community Hubs into a network across Jhenaidah, enabling the sharing of resources like equipment and crops. This network also facilitates the exchange of experiences and ideas in safe food farming between communities and allows them to unite politically for a stronger

voice. For example, if one community has a very good harvest of papaya and another does not, they can share or sell crops between hubs.

Ultimately, as the network strengthens, Community Hubs can expand their activities to a city-wide level, such as establishing a presence in Jhenaidah's central market to promote and enhance safe food production throughout the city.

As can be seen, for the project to be successful, the commitment and collaboration of the community is a fundamental factor. Through consensus, the community is expected to define leadership roles among its people, for different processes. Furthermore, adaptability must come from a practical and simple sense, in order to be easily replicated in other places. A beginning of this process happened during the final event

Final event

For our last day in the village, we prepared a presentation of our current ideas. We gathered under the mango forest and brought large illustrations about our process, the community hub and we represented graphically the agriculture techniques we learned. We also brought our model as an example of what the hub could be and we invited the agricultur office and the citizens group.



The discussion that started afterward could have been the first community hub meeting. The different group of people debated and an idea of collaboration between themselves emerged. Someone even proposed their land as a meeting or building place for the community hub. We could take a step back at that time and leave the development and ideas in the hands of the concerned people.

Finally, we shared some local food prepared by the villagers and someone already started to sell their vegetables during the presentation. We felt enthusiasm among the participants and left Khajura with a warm feeling.

THE NEXT STEPS

POSSIBLE FUTURES OF THE COMMUNITY HUB

Storage

Form a committed team of women of 50 households



Meet the agriculture office



Agriculture office deliver seeds and other resources



Drink tea and have a good time :)

Experiment and learn together



Start a crafts group



Build together

Sitting area



Multipurpose area





Share resources
between hubs

Help other hubs start
around Jhenaidah

Connect and
cooperate as
a network

Market



Play area

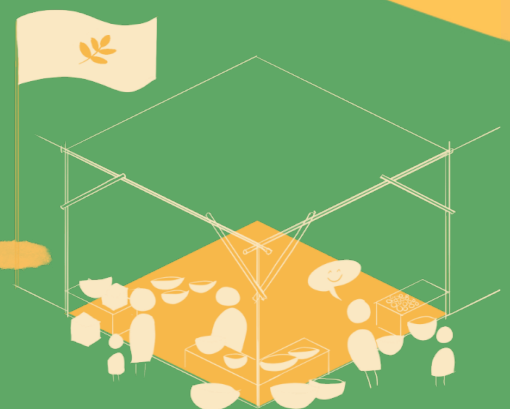


2028?

Start a
crafts group



Cooperate between
the Community Hubs
to sell safe food and
handicrafts in
Jhenaidah's market



Sunset view from our apartment rooftop in Jhenaidah

CONCLUSIONS

Discussion about the project outside POCAA office

REFLECTIONS

Contextual Understanding:

Understanding the context and culture is vital for making a project successful. When we didn't understand Bengali culture, it led to misunderstandings and challenges, but we were able to adapt and learn from our experiences. For example, we learned that sharing meals together is a powerful way to build relationships in Bangladeshi culture. We also noticed that women played a significant role in the community, they often took on responsibilities such as managing households, doing gardening, caring for children. However, we also observed that women were often relegated to secondary roles in community meetings and decision-making processes. This highlighted the importance of considering the role of women in the community and ensuring that their voices are heard and valued in the design process.

Community Engagement and Collaboration:

Working with the community is important in architectural practice. We learned that building connections and trust is key to proposing a project that people will actually use. We also realized that language barriers and cultural differences can be major hurdles. For example, we struggled to communicate effectively with the community due to language barriers, which led to misunderstandings and delays. We also learned that cultural differences in communication styles and norms can be tough to navigate.

Time:

We could have used more time to get to know the community and build trust. It took us a lot of time to understand how we want our project to look like and we think that some extra guidance in the beginning from our teachers and mentors would have been helpful. Having more time would have allowed us to take a more relaxed approach and really get a feel for the community's needs. Specifically, we wish we had more time to have deeper conversations with the community members, gather more info about their needs and aspirations, and get a better sense of the context. We really wanted to make a project that would be based on their needs and not on our imagination of their needs.

Influence and Impact:

We learned a lot from the Jhenaidah community, but our presence also had an impact on the community. We noticed that our presence inspired many people to take actions, we were able to make connections between important stakeholders. We also wondered if we would have been received the same way if we were locals or students from a Bangladeshi university.

Reflections on the Profession:

This project has also made us think about what it means to be an architect. We realized that our job is not just about designing buildings, but also about understanding people's needs and aspirations. As architects, we have a responsibility to engage with communities, listen to their stories, and empower them. We also learned that our profession is not just about creating aesthetically pleasing buildings, but also about creating sustainable and equitable communities.

UPDATE FROM KHAJURA:

A week after we left Jenaidah, Khajura women have formed a group for homestead gardening and got linked up with the agricultural office representative. 50 families are getting ready for this. In next few days there will be another meeting when they will receive seeds.



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APPENDIX

Models and final presentation



Details final model using real vernacular techniques of construction, scale 1:10



Explorative model exposed during final meeting with the citizens' group



Details final model using real vernacular techniques of construction, scale 1:10



Final presentation in mango forest, Khajura.

Site visits



Meeting with a leader from the Gabtoli community, Dhaka.



Visit to and Kallyanpur settlement, Dhaka.



Invitation to try traditional Bangladeshi food during the first meeting with the agriculture office



Visit to a rooftop garden, to learn about safe food production in an urban scale, Jhenaidah.

"আমরা যতযাচিত কি কি উৎপাদন করছি"

নাম: _____

খানা: খোঁসকালা

আমরা যা যা উৎপাদন করি এবং তার পরিমাণ নির্বাচন করি/কর করি

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অন্যান্য

প্রাকৃতিক কীটনাশক তৈরির পদ্ধতি



নিমপাতা



কর্পুর

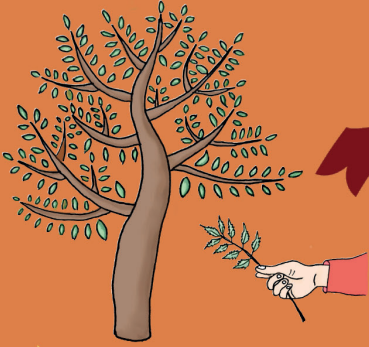


হলুদ



পানি

১ | গাছ থেকে ৫০টি নিম পাতা তুলে নিন



২ | ঠান্ডা পানিতে পাতাগুলো ধুয়ে নিন



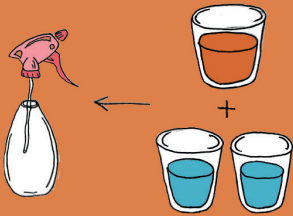
৩ | আপনার গাছগুলিতে এটি ২ সপ্তাহে একবার স্প্রে করুন, সদ্যায় স্প্রে করা ভালো।



৪ | প্রায় ১ লিটার পানিতে পাতাগুলো সিদ্ধ করুন, সাথে যোগ করুন হলুদ এবং কর্পূর



৫ | নিমের মিশ্রণের ১ অংশ পানির সাথে আরও ২ অংশ সাধারণ পানি মিশিয়ে স্প্রেয়ারে ঢেলে দিন



৬ | মিশ্রণটি ঠান্ডা হওয়া পর্যন্ত অপেক্ষা করুন।



৭ | পাতা ছেকে শুধু পানিটুকু নিয়ে নিন

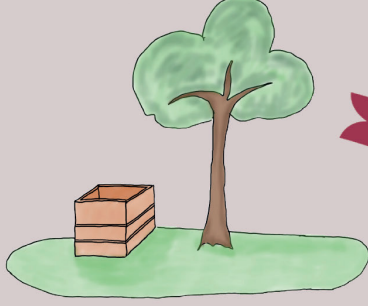


৮ | ৫-১০ মিনিটের জন্য মিশ্রণটিকে ফুটতে দিন



কম্পোস্ট তৈরির পদ্ধতি

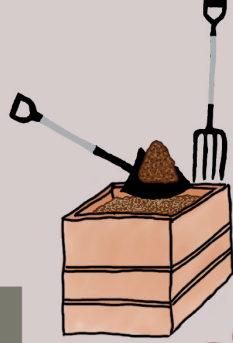
১ | কম্পোস্ট তৈরীর জন্য একটি বাস্তু নিন এবং একটি জায়গা নির্ধারণ করুন। জায়গাটি ছায়াময় এবং শুষ্ক হওয়া উচিত।



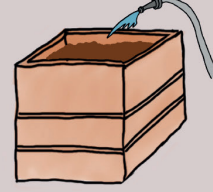
২ | কম্পোস্টের বাস্তবে দিনঃ সবুজ তরি- তরকারির খোসা বা ফেলে দেয়া অংশ- একটি স্তর এবং তারপর পরের স্তরে দিন শুকনো পাতা বা নারিকেলের ছোবড়ার মত বাদামী উপকরণ।



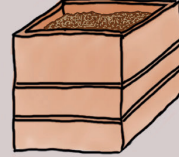
৪ | সময়ে সময়ে বাস্তবের ভিতরের উপকরণগুলো উলট-পালট করে দিন। মিশ্রণে বাতাস যোগ করা কম্পোস্টিং প্রক্রিয়াকে সাহায্য করে



৩ | আপনি যদি দেখেন যে কম্পোস্ট শুকিয়ে যাচ্ছে- কিছু পানি যোগ করুন। এটি সব সময় সামান্য ভেজা ভেজা হওয়া উচিত।



৫ | কিছুদিন অপেক্ষা করুন (প্রায় ৩-৬ মাস)



যখন কম্পোস্ট থেকে আর তাপ বের না হয় এবং শুকনো বাদামী এবং ঝরঝরে হয়ে যায়- এটি আপনার বাগানে ব্যবহার করার জন্য প্রস্তুত!



শুকনো পাতা



শুকনো গাছের ডাল



খড়



কাগজ



কাপবোর্ড

ঘাস



জৈব বর্জ্য



ডিমের খোসা



গাছের ছাঁটাই



পশুর বর্জ্য



নারীদের দ্বারা বসতবাড়িতে নিরাপদ খাদ্য উৎপাদন



স্থানঃ খাজুরা, কিনাইদহ

তারিখঃ ০৫।০৫।২০২৪

সময়ঃ সকাল ১০:১৫-১১:৩০

POCBA | লে।আ.
platform of community action and architecture

Reality
STUDIO



CHALMERS
UNIVERSITY OF TECHNOLOGY



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