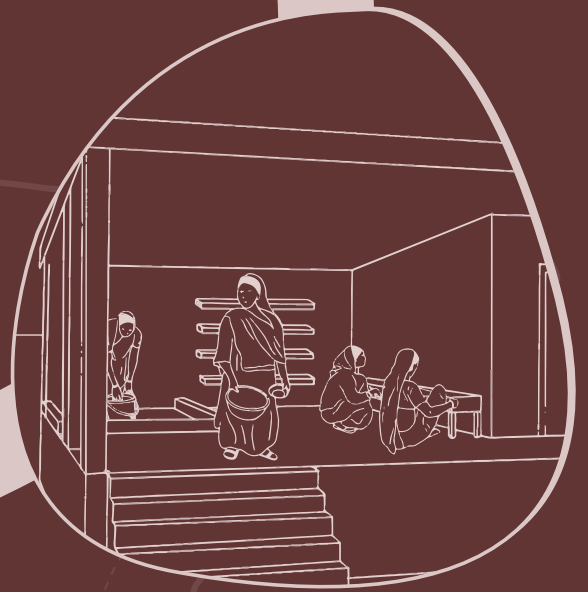


# The story of Sadia .... and many other women

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Considerations for Kitchen  
Design for Formal Settlements  
in Bangladesh.



# Introduction

## Goal of the Booklet

This booklet aims to raise awareness among NGOs about key factors to consider when designing new homes for women living in urban informal settlements. It focuses on food preparation and cooking, central to their daily lives.

The booklet is based on a graduation project from the Master's program in Design for Interaction at the Faculty of Industrial Design at the TU Delft. The project addresses the challenges women face when moving from urban informal settlements to new homes, including issues like isolation and discomfort. Thoughtful design can reduce these problems by supporting daily activities like cooking.

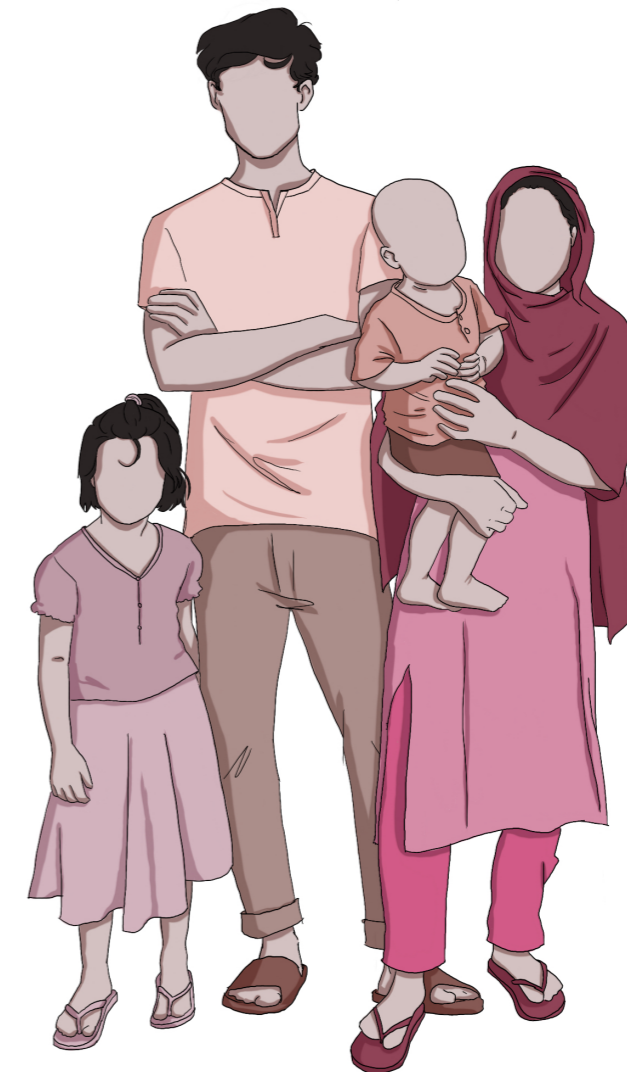
The project explored women's earlier transition from rural to urban informal settlements, helping to understand the social and practical aspects of food preparation. Based on this, guidelines were created for designing homes that consider these needs.

## The Story of Sadia

To illustrate this transition and challenges, the booklet follows Sadia, a persona who experiences two transitions: moving from rural to urban informal settlements, and then from urban informal settlements to a formal settlement. Through Sadia's story, the booklet highlights the difficulties and opportunities of these transitions, focusing on food-related social aspects. The transition can be seen at the bottom of each page, where a timeline shows Sadia's phase of her journey.

Sadia's experiences could offer valuable insights for NGOs in designing homes for women like her. While there is no one-size-fits-all solution, the booklet encourages NGOs to reflect on her journey and the provided guidelines to carefully consider the consequences of the design choices for women during this transition.

# Meet Sadia



Sadia, 31 years old, lives in Bangladesh with her husband Rahim, who is 32, and their two children, Aisha (6) and Hasan (2). Cooking plays a big role in her life. It's not just about feeding her family but also about connecting with others.

In her rural village, she spent time cooking with relatives, and when she moved to the city, she continued cooking with other women to stay connected to her community. Sadia loves sharing meals and spending time with her children. For her, building connections is an important part of everyday life.

# Living in the Rural Informal Settlements

Sadia grew up and still lives in a rural informal settlement in the South of Bangladesh, where she met her husband and had her children. She has enough space to cook and allow her children to play. She lives close to her relatives,

who have their own house but share a courtyard with her. Sadia cooks every day for her family, sometimes for her relatives too. Her cooking process includes several steps to prepare meals for her household.

Bangladesh

● where Sadia lives

## Fetching Water

In the afternoon, Sadia collects water for household chores and cooking from the nearby water pump or river, using a bottle or bucket. While collecting the water, she chats briefly with other women. It's a moment where she connects and shares conversations with them.

"I prefer to get water from a water pump because it is cleaner."



"I would prefer not to share my pots and pans, but I enjoy having a large kitchen with my joint family."



## Cutting and Washing Food

She chops vegetables and washes rice to prepare the meal. She does this in the courtyard, which is surrounded by a few other houses where her relatives live. While she cooks, her sister-in-law, mother-in-law, or niece often join her, either to keep her company or to lend a hand.

"I enjoy preparing food, seeing it as a way to show love for my family, and chatting with my relatives during the preparation"



## Collecting Pots and Bowls

Sadia gathers pots and bowls for preparing food and later for cooking in the kitchen, which is separate from the house due to the smoke. She shares the kitchen and the pots with her in-laws in the joint household.

# Gathering Fuel

Sadia searches for fuel to start the fire for cooking. She gathers materials like wood, bamboo sticks, and leaves. Collecting fuel is mainly a woman's task. Sometimes, she does this with other women or her children.



*"I don't look for fuel every day, I do it sometimes and then gather more because it takes some time."*



*"I am used to cooking on fire, and it makes the food taste delicious. It does take a little while to get the fire started."*

## Lighting a Fire

Sadia lights the fire for cooking using a simple, homemade clay stove. The kitchen is separate from the house to keep the smoke out. Sometimes, her female family members join her for company while she starts the fire.

# Stirring on Fire

Sadia cooks in her enclosed kitchen. She squats by the fire, keeping an eye on the food so everything is ready at the same time. Family members often come to chat and help while she cooks, especially female relatives but sometimes male family members too.

*"I enjoy having enough space to cook and I appreciate the company of my family during the process."*



## Forced to Relocate Due to Flooding

In the southern part of Bangladesh, where Sadia lives, flooding is becoming an increasingly serious problem. Now, Sadia and her family are facing this challenge and must move. Though Sadia doesn't want to leave, she has no choice. The only place where her husband can easily

find work and they can settle is in the urban areas in the north of Bangladesh. As Sadia prepares to move, she feels both scared and sad, trying to take as many belongings as possible to their new home. Staying in their current house is no longer an option for her.

# Moving to the Urban Informal Settlements

Sadia and her family have moved to the urban informal settlements in the northern part of Bangladesh. At first, adjusting was very difficult for her. She felt uncomfortable because she didn't know anyone and had to build new social connections, especially with other women.

While preparing food and cooking was similar in many ways, there were also some differences. For example, cooking with gas was a new experience. Over time, as Sadia continues to live here, she is slowly getting used to life in the urban informal settlements.

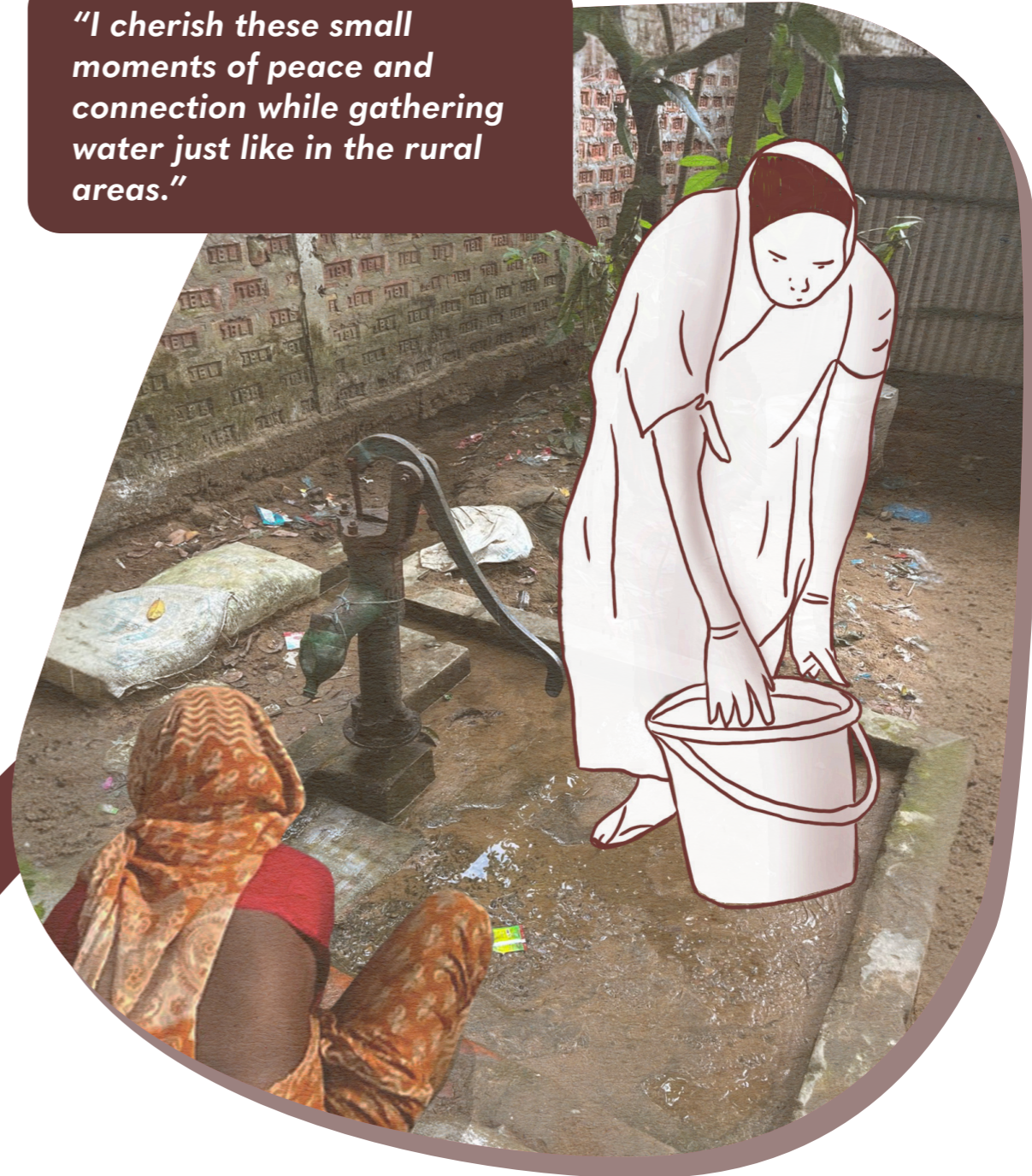
Bangladesh

where Sadia moves to

## Fetching Water

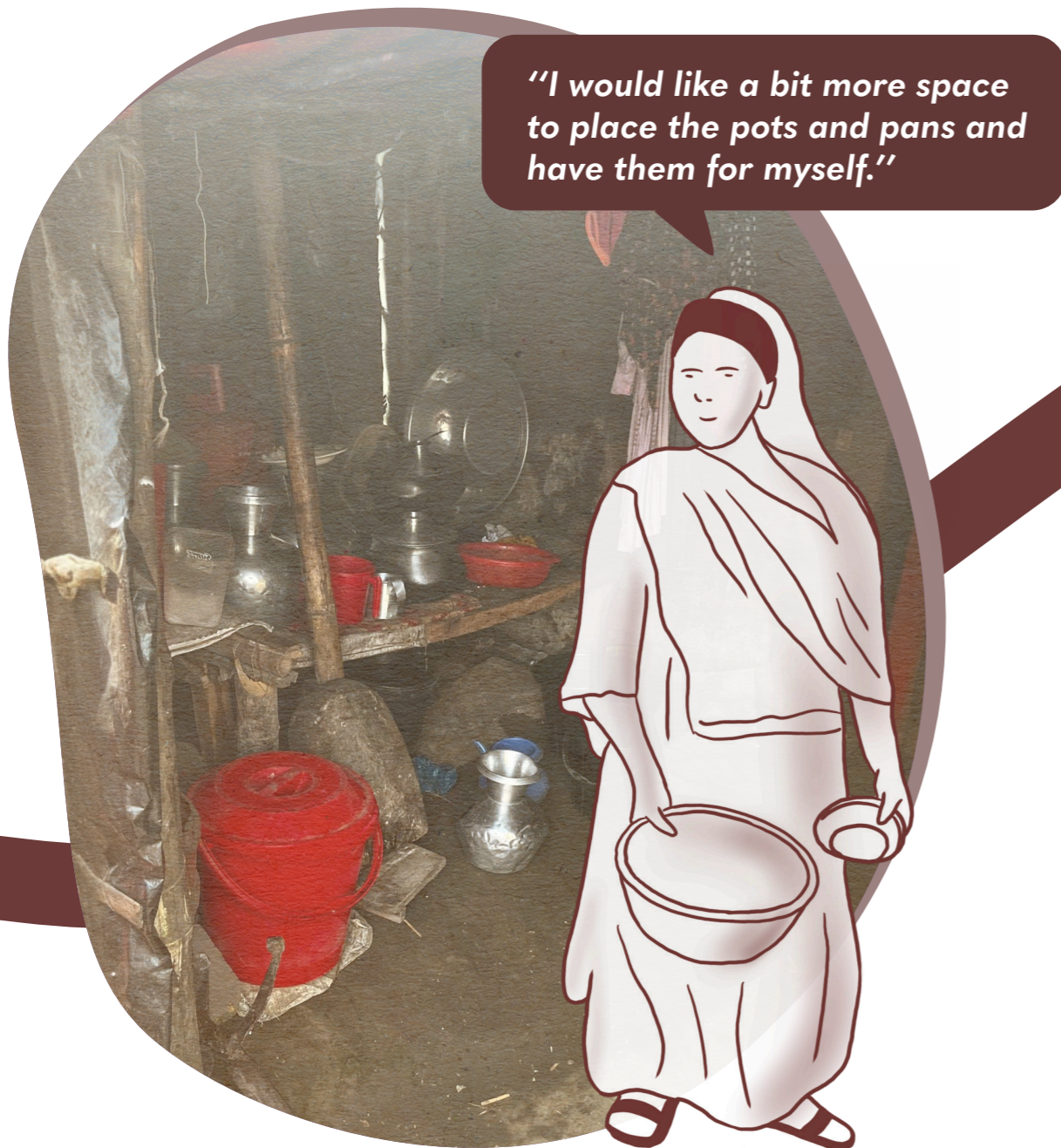
In the afternoon in the urban informal settlements, Sadia collects water for household chores and cooking from the nearby water pump, using a bottle or a bucket. While at the pump, she chats briefly with other women.

*"I cherish these small moments of peace and connection while gathering water just like in the rural areas."*



# Collecting Pots and Bowls

Sadia is gathering pots and bowls to cook rice and fry vegetables. These pots and bowls are shared among family members: the mother of the family, the sons, their wives, and relatives from three different households. The pots and bowls are kept in the house at the front.



# Cutting and Washing Food

Sadia is chopping vegetables and potatoes and washing rice. She sits in front of her house cutting the vegetables and washing the rice. This is a time for her to interact with her neighbors, who are also preparing food for their homes. She enjoys the social interaction while chopping and washing.



## Stirring in the Pan

When she cooks, she squats by the gas burner, a habit she's had her whole life and is used to. She makes sure everything finishes cooking at the same time. Typically, they prepare four dishes: rice, torcari (vegetable curry), dal (lentils), and fish or meat if they can afford it. She cooks for her own family, but sometimes the women exchange food or share cooking tips.

*"I find the social contact during cooking very important. For this reason, I wouldn't want my own kitchen anytime soon if it meant less chatting."*

*"I enjoy cooking on gas because it's quicker, and it allows me to prepare other things while I cook."*

## Cooking on Gas

Sadia cooks on gas stoves that she shares with other women from her community who live near her house. She must cook during her assigned time slot. At first, it took her some time to adjust to cooking on gas and sharing the stoves instead of using an open fire in her own kitchen. Now, it's much faster, and she prefers cooking on gas over fire. Additionally, she enjoys having contact with others. While cooking, she keeps a close eye on her children.

## Eating with Family

When the food is ready, the family gathers together, and they eat inside with her family, often on the bed. If her husband is not home from work yet, she saves a portion for him to eat later.

*"I enjoy preparing food with other women, but when it comes to eating, I prefer to have quality time with my family."*



## Opportunity to Move to New Housing

The transition from living in rural informal settlements to urban informal settlements was initially difficult for Sadia, but by now, she has fully adjusted. Sometimes, she misses living in the rural areas, but she wouldn't want to leave now, especially because of the social aspect of cooking with other women and being part of a close-knit community.

Sadia has been given an opportunity to move to a new home with her family. This would mean another transition for her, which she finds exciting but also a bit scary, as she has become so used to her current home in the urban informal settlements and the community she has built there. She is open to moving, however, because her current house is cold, has holes, is very small, and has many other issues. She would like to take her belongings with her when she moves and values the things she is used to and the people she knows.

# Low Density Housing

## Socializing in the Courtyard

In the low-density home, Sadia has a courtyard that she shares with other families. She knew a few of the families, but others were new to her. At first, it was a bit uncomfortable, but she soon got used to it. This setup allows her to easily connect with other women while preparing and cooking food, and it gives her children a safe space to play in the courtyard.

! It could be designed so that the women have a courtyard to gather, although this would require more space.

## Moving to a New Home

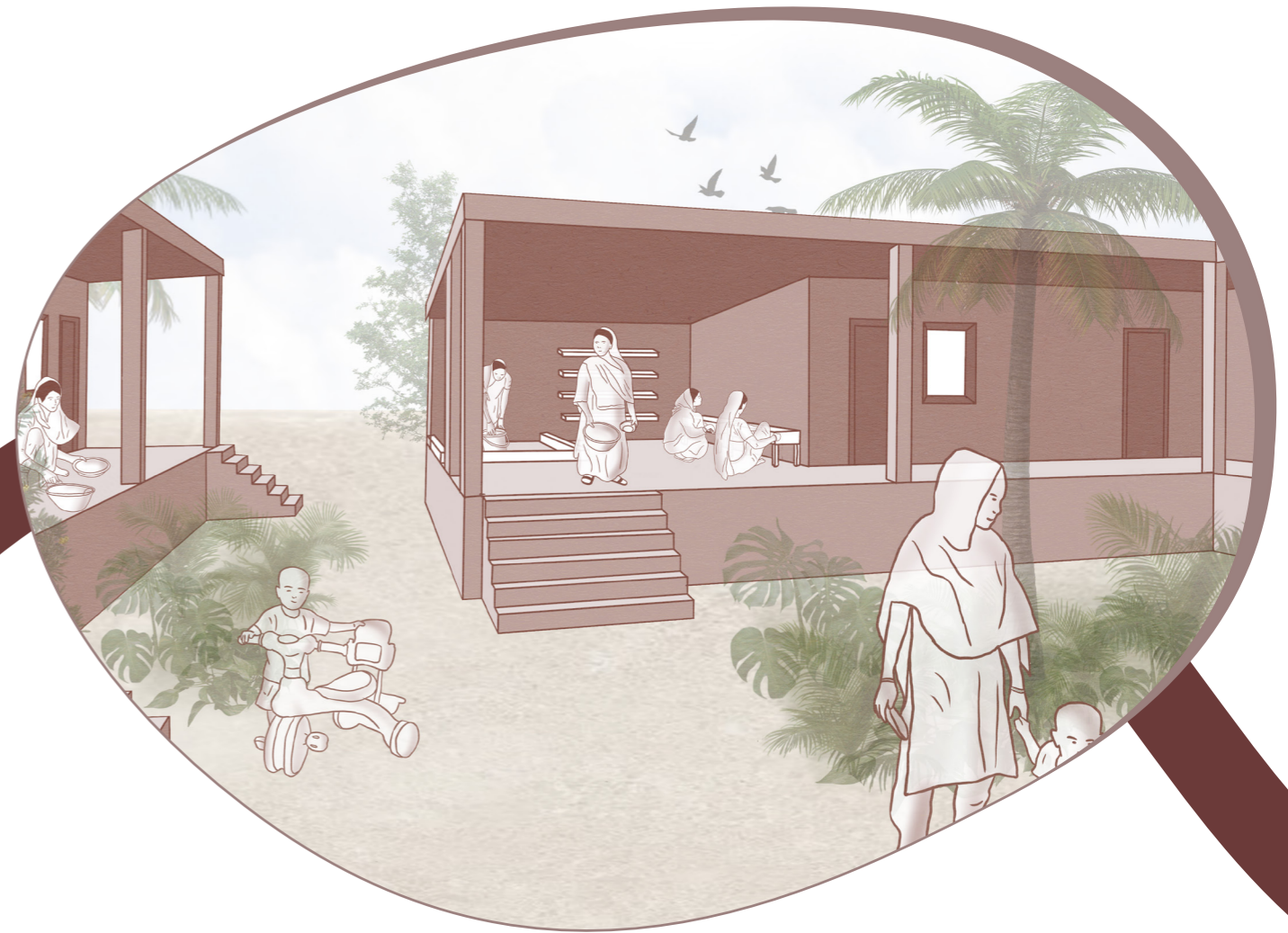
Ultimately, Sadia and her family decide to move because they see the advantages of relocating and want to provide a better life for their family, both in terms of housing and future opportunities. When moving to a new home, it is important for Sadia that it stays close to what she is used to, as being too far away could make her feel isolated and prevent her from truly settling in.

There are two options for their new home: one in a low-density area and the other in a high-density area. Both options are looked at in terms of cooking and food preparation, exploring how Sadia might adapt to each environment. The potential benefits and challenges of each option are considered, as well as the key factors to take into account when designing a new home for Sadia and women in similar situations.



# Preparing Food on the Veranda

Sadia has a raised veranda at her home where she can prepare food, such as chopping ingredients. Having an outdoor space in front of her house allows her easy access to her belongings and gives her the freedom to make the veranda feel like her own. Since most of the women prepare food on the veranda, it provides an opportunity for her to socialize while cooking. The place where she keeps her pots and pans has a sliding door. When she opens it, the space feels connected to the veranda rather than like a separate, enclosed area.



# Walking to the Shared Kitchen

Sadia cooks using gas, which is located near the shared veranda. When she wants to cook, she walks to the communal cooking area where she can use the gas stove. This area also has a water pump for collecting water. This space is shared for economic and social reasons, so they don't all need to purchase their own kitchen, and they can interact while cooking, which Sadia also values. While cooking or collecting water, she can keep an eye on her children, who are playing in the courtyard.

! It may be important for women to have their own space, separate from men. Notably, it should be considered that the space can accommodate a considerable number of women.

# High Density Housing

## Shared Kitchen / Meeting Space

In the high-density building, Sadia lives on the first floor. She shares the courtyard with other families, which can sometimes feel a bit impersonal due to the number of families using the same space. What she likes, however, is that she has her own area on her floor where she can gather with the women to cook and prepare meals. Sometimes, she also sits in front of her house to prepare food.

*"I enjoy having a shared kitchen, just like I had in the urban informal settlements."*

## Cooking on Gas

While cooking, Sadia spends time talking with other women from her community. This is very important to her, as she values the chance to connect with them in the shared kitchen. She likes cooking with gas because it's fast, but sometimes she misses the taste of food cooked over a fire, which she thinks is better. However, she wouldn't want to go back to cooking on a fire anymore.

Although Sadia can cook with gas, it relies on fossil fuels and emits carbon. A more sustainable option could be a stove using biogas, renewables, or efficient biomass. !

# Cooking on Gas

Cooking with other women is an important part of Sadia's daily routine. Despite living in a large, high-density building, she still feels a strong sense of community. Every day, she goes to the shared kitchen to fetch water and cook with other women. Men rarely enter, usually only in the evening after the women have finished cooking, which makes her feel safe.



## Watching the Children

On the other side of the floor, there is a designated area for the children to play. While the children can also play in the courtyard, Sadia can't keep an eye on them as easily while cooking. On the floor, however, there is a space where the children can play, allowing Sadia to keep a close watch on them while she cooks.

! It may feel unsafe for Sadia that her children play on the floor near a railing, and this takes up a lot of space on the level.

# High and Low Density

*"At first, I only had a cabinet in my kitchen to store my pots and pans."*



*"Later on, I saved more money and bought a sink so I wouldn't have to walk for water all the time."*



*"Eventually, I bought a stove. I can still socialize with the women, but now I have more freedom when to cook."*



## The Possibility of Having Her Own Kitchen

In both the low-density and high-density homes, Sadia has access to a shared kitchen for economic and social reasons. However, in her own home, she initially had an empty kitchen when she first moved in. This is the space with her pots and pans, with the sliding door that she can open toward the veranda. Sadia has the opportunity to create her own kitchen when she has the money and chooses to do so. The kitchen is equipped with a gas and water connection and is located near the courtyard/floor. Through the sliding door, her kitchen is connected to the veranda, allowing her to easily engage in social interactions, even while cooking, instead of the kitchen being closed off.

# Conclusion

With this story, NGOs involved in housing development for women like Sadia are invited to consider the social consequences of their designs.

This research on women in Bangladesh, examining how they used to cook in rural areas and now in urban informal settlements, helps to understand their current cooking and food preparation practices. This is crucial to know before they face a new transition when moving to a new home.

It's important to carefully consider the consequences, as Sadia and other women could become economically and socially isolated. If they are given a home where they feel unfamiliar, with fewer opportunities for social interaction, and where they cannot use their own pots and pans, they may become isolated. It could also lead them to return

to their old homes in informal settlements, as has happened in the past, because their new housing was not designed to meet their needs.

This booklet provides valuable socio-cultural and practical guidelines for designing new homes for women like Sadia, particularly in relation to food preparation and cooking. These guidelines also take economic factors into account, such as when women cannot use their own pots and pans in a new kitchen and may not have the money to buy new ones.

These guidelines could be considered to ensure the design meets their needs. By taking social consequences into account, homes can be created that support women like Sadia with care and consideration. This booklet aims to contribute to that process.

## Social-Cultural Guidelines

*Families from the same informal communities could be placed close to each other as they move into the new housing, supporting a sense of community.*

*A space near or in front of the home could be provided for women to prepare food, offering a familiar setting.*

*The kitchen could be designed to encourage conversation and interaction while cooking.*

*The kitchen layout might allow women to keep an eye on their children as they cook.*

*An outdoor area could be included for women to gather and cook over an open fire, helping keep cultural traditions alive.*

*Homes could be located on the ground floor, or upper floors could be designed to maintain a strong connection to the community below.*

## Practical Guidelines

*Eco-friendly cooking options could be offered if possible.*

*The kitchen could allow women to cook in familiar ways, using their own pots and pans.*

*Traditional cooking methods, including the option to squat while cooking, might be supported in the kitchen design.*

*The cost of living and cooking in the new homes could align closely with current expenses in informal settlements.*



