

RITA NAGAR  
DEVELOPMENT STRATEGIES  
FOR AN INFORMAL SETTLEMENT

RITA NAGAR  
COMMUNITY DEVELOPMENT OF AN  
INFORMAL SETTLEMENT IN AHMEDABAD, INDIA

MASTER THESIS  
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## THE PROJECT

Our project aims to develop strategies for development of an informal settlement in Ahmedabad, India.

We were asked specifically by the NGO we collaborated with to look into how the houses in community could be improved in order to better deal with the yearly flood. This we consider as our main assignment, but we feel the responsibility to include a more strategic approach for a future development as well.

As stated in our preliminary work a big part of our work is the reflection about the process and our role as architects in such a setting.

## ABOUT THIS BOOK

In this book we will present the findings from the work with our master thesis. We will tell our story through including parts from how we approached the assignment, our reflection work during the process and the final suggestions we are presenting to our collaboration partners. The fieldwork and written reflection have gotten a lot of focus in this book, but we believe they are an important part of the project and that they should be seen in combination with the design. We believe that they highlight different aspects within the same topic and hope that they can give the reader an understanding of our argumentation and thoughts.

We will start by introducing the site and some of our first impressions from the fieldwork and then emphasize some of the challenges and possibilities we experienced within the community. In part two of the book we will present the concept for how we approached the more conventional design and towards the end show our specific suggestions for both the individual house upgrade and the overall development. In the back of the book we have attached our written reflections and put them in a chronological order so that the reader can see how our argumentation has changed and developed.

If you want to find out more about our process and work you are welcome to visit our blog [www.ritanagar.blogspot.com](http://www.ritanagar.blogspot.com) where we have tried to post regularly updates from our process. In this blog you can read more about our design process and also see the work we chose to leave out.

As it has been important for us to communicate our project and thoughts to our collaboration partners in India we have felt obliged to write our project in English. However, this book represents something different from what we are sending back to the NGO and community, as our communication with them has been more on a regular basis.



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## COMMENT TO OUR WORK

When we decided to do our thesis about a community in Ahmedabad, India a premise was that our project should be based on realistic parameters. Our intention has not been to describe an ideal situation, but to use the information we discovered during our fieldwork as a framework for the project. This has been central through the whole process, but feels even more important after spending time in the community and experiencing the local people's hospitality and eagerness to make something happen. At the same time it is crucial that what we do has value for the people involved. Otherwise, it does not make sense to spend a lot of time in the field, as our presence naturally will give the local residents expectations.

Even though the project should have a realistic framework, we have tried not to constrict ourselves from proposing ideas less likely to happen. In our opinion this has value as long as it does not aim to be the one solution, but rather aims to show opportunities that can be communicated to the community. If these ideas inspire them it might facilitate a development coming from within and that, we believe, is important. Still, the ideas we propose should always have a root in reality. They should focus on the situation, as we understand it, and aim to improve it. As Nabeel Hamdi states; "Planning... is about getting it right for now and at the same time being tactical and strategic about later. This is not about forecasting, nor about making decisions about the future. But it is about the long range, about making sure that one plus one equals two or even three..."<sup>1</sup>

### THE ADVANTAGE OF WORKING WITH A MASTER THESIS

Since we have done this work as our master thesis we have had the great luxury of having the time to investigate and try to understand the situation thoroughly. We have lived nearly four weeks in the community and got to know the people living there. Four weeks of continuous fieldwork is a long time compared to what we can expect from a normal professional situation, and perhaps time was the main resource we could offer. We have had the time to ask questions, to listen, to share a meal and to participate in the daily life. As a result we have obtained knowledge that exceeds the one of our collaboration partners and other external stakeholders in the specific situation. This we experienced especially in our work with the NGO as our roles gradually changed during the process. In the end we had become a resource for the NGO, and it was not longer

only the other way around. Assessing the process we believe this is not only an argument for spending time and conducting a serious fieldwork, but that it also shows the importance of having a realistic approach. Through working with realistic premises the knowledge we are obtaining could be transferred to the real situation and will not be "wasted" on solely an ideological work.

### A STUDY VERSUS AN ORDER

While working with the NGO we were asked specifically to look into how the houses in the community could be better protected against the yearly flood. They did not try to restrict our approach in any way, but gave us clear indications on how they understood the situation and told us what they saw as urgent. This is also what we felt that the locals wanted us to look into, and we felt a responsibility to focus on this "assignment". On the other hand, this project was an opportunity for us to study a new situation that required overall strategic approaches as well. This led us to two approaches for the project: One aiming to improve the houses and one that focuses on overall strategies for development. Initially this was the approach we had since we wanted to both respond to the wish from the community and the NGO, while we at the same time found it necessary to investigate if other approaches could be equally important.

During the fieldwork we gradually realized the importance of this approach. The houses were the immediate problem that needed to be solved, but it could be solved more strategically than just focusing on the present situation. By including the future in the equation, small changes made today could facilitate and make a future development easier. Since we had time to study the community we believe it is valuable to look for possibilities for an overall development as well, and to propose how the area could be prepared for a future scenario. This is not just an approach that is important for us as architects studying the situation, but we believe, it is indeed important for the community, providing them with ideas and discussing opportunities for the future. We have therefore decided to send both specific proposals for how the houses could be upgraded and ideas for an overall strategic development of the area, aiming to include both technical and social parameters. Hopefully this could prove useful as a source of ideas for both the people living in the area and for the NGO.

## INTENTION ARCHITECTURE

A project working with an informal settlement could easily be labelled as intention architecture, a word that reads rather negatively. Even so, we believe there is nothing wrong with having good intentions. In our opinion, good intentions should be taken seriously and cultivated in order to make a meaningful project. Good intentions in themselves are never bad, so why should we ever restrict them?

However, it is important that the good intentions are mixed with a humble approach to the situation. The cultural, social and technical differences are often big and it is essential that we try to understand, but also dare to say that we will not know everything. A humble approach will make it easier to both receive and to provide ideas, and by having a good communication with the people involved the probability of a successful contribution is much higher.

*"Has aid failed? I think my answer to this is yes. But only because it hasn't failed enough"*

-David Damberger, Learning from failure<sup>2</sup>

There also seems to be a quite common opinion that "intention architecture" has to be successful. We believe this is a misunderstanding. Of course, the importance of a successful contribution could never be underestimated, but as long as the work is taken seriously, using a realistic framework and tries to adapt to the situation, we believe that failure is acceptable. However it is important that the potential failure is not overseen or hidden when the project is assessed. For a failure to have value it needs to be admitted and discussed. David Damberger explains that in Engineers Without Borders they embrace failure and discuss it openly. They have built the website [admittingfailure.com](http://admittingfailure.com) and publish an annual failure report in order to improve the development sector.<sup>3</sup> By being open about mistakes both you, and others, can and will, take learning from it.

In the end it is important that we as professionals, and private actors in the society, dare to ask critical questions to this type of work and don't get blinded by the intentions. As it affects people that often is in a position where mistakes could become critical, the work should be assessed for how it is done and what impact it makes. It should never be glorified or left out of the evaluation. If we want to learn and contribute, we are obliged to discuss both the outcome and the process.

## REFLECTIONS

We have tried to contribute to this debate by evaluating our work through writings, and even though it has been both difficult and time consuming, it has been very helpful. Both for this project isolated, but also for us studying this subject and developing our point of view. It has worked as tool for us to understand what we are working with, and we have gotten the time to reflect upon our actions. Through being open about our opinions and process we feel very exposed as we often have more new questions than answers after one statement. Anyway, we hope it will make the readings more interesting and that it can raise questions and interest. We also hope that our reflections will make more sense if they are understood as our personal and honest observations and that we don't believe they are definite. After spending 4 months in our own bubble, we have started to believe in our own argument and it is difficult to say if we have managed to communicate our discussions and reflections wisely. Working with our thesis has for sure been interesting, educative and inspiring for us personally, but we also hope that our work makes sense for the outsiders and that it can become a contribution for our collaboration partners.

## **WHAT HAVE WE LEARNT?**

Working with a situation so different from what we are used to in Norway it is easy to question the transfer value. Is such a project just considered as self-realization or have we learnt anything important? We believe we have.

As we see it, architecture is very much about working with people, and trying to find the best solution for the user. During our fieldwork we have lived with them, worked directly with them, questioned them and tried to understand them. The final project is therefore a reflection of the interaction between us, both as professionals and private persons, and the locals and the NGO. The realistic premises also play a part in this interaction. Earlier in our studies we have gotten used to defining the parameters ourselves to a certain degree, but by accepting the reality as a one of the parameters, it is not as easy (in many cases not possible) to escape difficult questions.

Architecture is also very much about context, and how you understand and interprets it is very important for the final product. During our fieldwork we have learnt a lot of methodology on how to approach a new setting. The context in which we have worked is of course very different from the ones we will meet back in Norway, but still the principles are the same; the product should fit in the context and be valuable for the affected people and in order to obtain enough knowledge it is important to approach any given situation with an open mind.

Working with different cultures and different situations also gives new information and new experience and we believe that it is essential to acknowledge that the world is different from what we are used to. It gives perspective, which is important both personally and professionally.

We also believe that we have learnt a great deal of the role of the architect in such a setting. It is definitely not just about building. It is as much about not building, about keeping open spaces, creating structures where a development can happen within, creating sparks that triggers something more and about building bridges between people. We have realized the importance of social skills in our profession. It is crucial to communicate ideas and to gain trust in order for people to believe in you. To establish a dialogue and a discussion with the people involved in the process has a potential to enhance the quality and relevance of the intervention the should not be underestimated. In the end architecture is very much about the people.





THE SITE

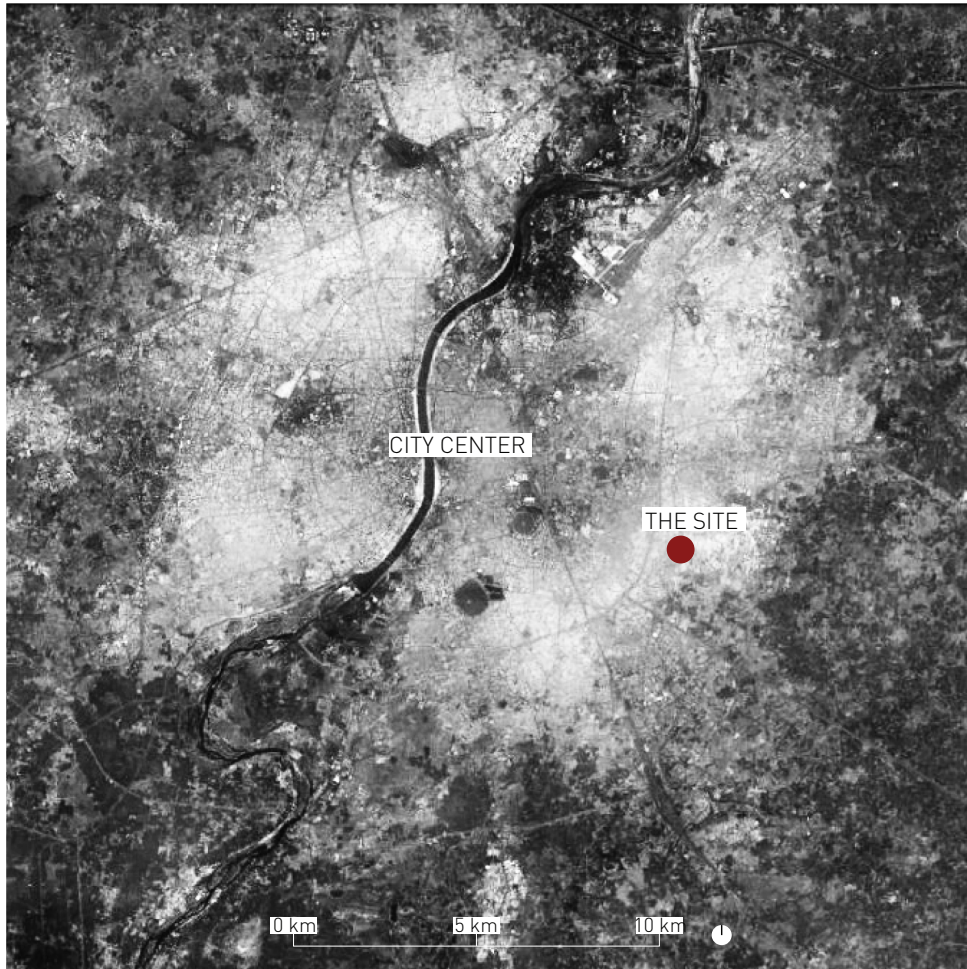
## LOCATION

In our project we have been working with an informal settlement situated in Ahmedabad, India. The small community is located about 6.5 kilometers away from the city center, but is today a part of the fast expanding city.

The settlement is located west of an open sewage canal only separated by a small road. And even though its location is in a relatively dense urban setting the community is quite isolated. It is quite isolated as there is a 2-3 meter high wall running along the borders towards the neighboring settlements in the west and in the south. The only access to the site is from the north.



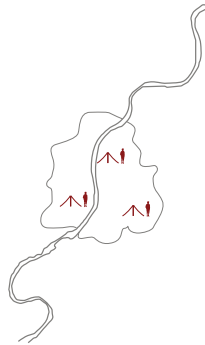






INDIA

Men and women with leprosy had to flee their native villages in whole India due to the high level of stigma towards people with the disease. Several were in an actual danger of being burned alive. Many of the domestic migrants chose to settle in Ahmedabad as the state of Gujarat was known to be liberal and provided them with a safe place.



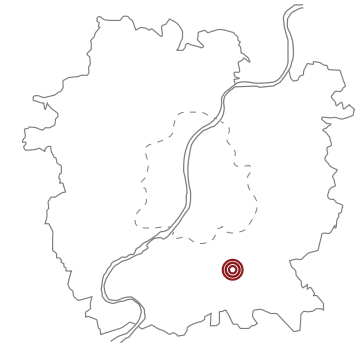
AHMEDABAD 1970

Those who chose to settle in Ahmedabad 40 years ago established small non-formal settlements in the city center and around the riverbanks.



AHMEDABAD 1975

In 1975 the Ahmedabad Municipality Corporation wanted the migrants out of the city and gave them a piece of land in the jungle. Still not being totally accepted, the "untouchable" leprosy patients could not access free land in the city



AHMEDABAD TODAY


Today the community has become a part of the fast growing city, owning valuable land within the city boundaries



## A LEPROSY COMMUNITY?

Before we went to India we didn't know exactly where we were going to work, but we had been given a brief introduction to the community by our contact person. In the beginning he, and later the NGO we collaborated with, stressed the fact that community faced several difficulties as a leprosy community, that the leprosy patients had been very excluded from the society and how difficult their situation was in general. It was always referred to as the leprosy community.

This was also our first impression from the site visit. Leprosy patients do make a strong impression and it is obvious that they are facing several difficulties in their daily life. But, although it is important to acknowledge the history and origin of the community, we rather quickly understood that the situation had changed. Today the leprosy patients represent a minority in the community and the social stigma regarding the disease is not present. The majority of the community was healthy and the overall opinion was that they didn't feel excluded at all. The high wall around the community, which we in the beginning interpreted as a symbol of exclusion, wasn't anything more dramatic than an agreement made in order to define borderlines and land ownership. Even though the leprosy patients are an important part of the community, the community is much more than a leprosy community.



I came here with my parents when I was young. Originally this was a leprosy community, and at that time everybody in the community had the disease and we struggled to become included in the society. Now things have changed. We are no longer excluded and there are no new cases of the disease. I still have to beg in order to get money, but as long as my kids and grandkids stays healthy, everything feels so much better.

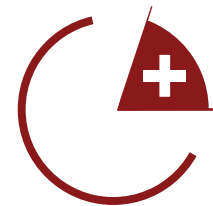
## COMMUNITY FACTS

It would have been easy to jump to conclusions or to find problems if we intended to do so, but even though we acknowledge that the community is facing several challenges, we want to stress that this community is a place with many qualities as well.

We believe it is important to neither pity them nor to be nostalgic about their lifestyle, but instead do our best to take their situation seriously. In order to move away from first impressions, general perceptions and a numeric approach we are convinced that it is essential to conduct a thorough fieldwork.



550 people



100 with leprosy  
decreasing



127 houses

Built area



72%

FAR



73%

Density



10 pers /  
100m<sup>2</sup> used land

# REALITY IS CHALLENGING

*..In our earlier projects at the university it has been quite “easy” to generalize and reduce the complexity of a given situation without reflecting on what we actually have removed from the overall picture, while so far in this process, reducing or choosing parts of the community to represent the bigger picture has felt quite difficult since we are intervening with real people that are dealing with real problems. If we had reduced the community to merely number and statistic from the beginning it would have felt like if we had excluded the individual from the process.*

*Using some reduction and a conceptual approach in order to emphasize a goal or statement will always be important in a design process, but it will also always be difficult to reflect the diverse life in such a simplification. In the previous design projects we have done at the university, we have usually had a logical, but artificial, distance to the reality of the given project. This has meant that we have been able to implement our personal reality into the project, a reality that often is very different from the reality. Thus, the information we then use in order to define the design parameters is solely based on what we as individuals have chosen to emphasize, or leave out of the equation. Even though the final design always can give an answer to one or more important and interesting questions, it will maybe not answer to any relevant question for the given situation. When we are involving the community, NGOs and other stakeholders and are working in the field, we need to build our project on real premises. In our case it means that we will need a lot of information. We cannot allow ourselves to conclude too early.*

*We know that we will need to make decisions based on a conceptual understanding of the reality and probably find a more narrow scope for our assignment during the next weeks in order to make it more comprehensible and manageable in the short time we have available. But, so far, it feels very difficult to find a valid way to conceptualize the reality when the reality never is one certain thing. Of course we have to be careful so we don't use all our time solely on dialogues and information gathering. At the same time as it is dangerous if we jump too early to conclusions, it will be dangerous if we let ourselves be totally paralyzed by all the analysis. We will need to take some action.*

- “getting to know the community”  
extract from reflection III

“

*Today.. we got a little room in the community centre and have established a small base where we will be living for the next weeks. It feels quite strange to be here without anybody we know or anybody from the organization, but it will be nice to stay here for a longer period of time and get to know the people living here. A scary part about moving out here is maybe that our project suddenly became 100 times more real. Anyway, in the end, we believe this is the only way to get a better understanding of the situation.”*

-“first night in the community”  
blog post 6. feb. 2014





FIELDWORK



## HOW TO APPROACH THE COMMUNITY

Even before we travelled to India we found it difficult to know how we best should approach our first meeting with the community. We felt that we only had one chance to make a good impression and that it was difficult to come to a new place as an outsider when we knew that we needed acceptance and trust in order to conduct a valid work.

In our first visits to the community we decided to leave our cameras behind, hoping that it would reduce one of the barriers between the local residents and us and thus make it more easy to contact people. Even though the approach still makes sense for us, it is difficult to examine the outcome of the action as we mostly were showed around in the community by some leaders from the NGO during our first visits. But even though we didn't immediately started to talk with as many people as we had hoped, we believe it had an affect. At least the NGO leaders that showed us around seemed quite shocked when we didn't want to bring our cameras, as all the foreigners usually took a lot of pictures. Perhaps also the locals noticed our choice.

At the same time as we had focused on how we wanted to approach the first visits to the community, we had stated as a personal goal that we wanted to live in the community for a period of time. Evaluating our fieldwork this was, by far, the most important decision we made in order to gain trust and insight in their situation. We lived in the community for nearly four weeks and managed to become accepted among the locals by investing time and hard work. Spending all our time with them, we showed them that we did our best both, professionally and socially.

Looking back, we feel convinced that it isn't as much about the first impression as we might first feared, but rather about using time and showing patience and interest. Even though professional skills is important in order to gain respect in a process, social skills are almost as important when you want to gain trust and understand a situation.



## MAKING THE MAP

Early in our field work we understood that it did not exist a good map of the community, and that both the local leaders and the NGO found it useful to have one. At that point we did not know what else we should do, apart from getting to know the people living there, so we decided that we could make this map. After all, a map was something we would need later in the process and we saw it as an opportunity for us to be active in the field and an excuse for us meet the locals.

Working seriously with the map helped us to gain trust and we felt that we gradually became accepted. Through the work and the many conversations, we received lots of valuable information that introduced us to both qualities and challenges within the community.



“

*We have now spent the last two days mapping the community. It takes a lot of time and we are asking ourselves if it is worth it. Are we using too much time? Will we make use of it in our project or are we doing it only as a gesture to the community? We are for sure learning a lot about the community and meeting almost everyone living here, but the question is; wouldn't it be better ways to find this information and will it be possible to use all this information later on?... it all is a question of progress. At the moment we feel that we are very far from designing. Additionally your project almost seems to become more and more vague for every day, even though we are in the middle of a super real situation. But, since we now have started with the map we will need to finish it..”*

- blog saturday 8. februar 2014:  
Day 2 in the community



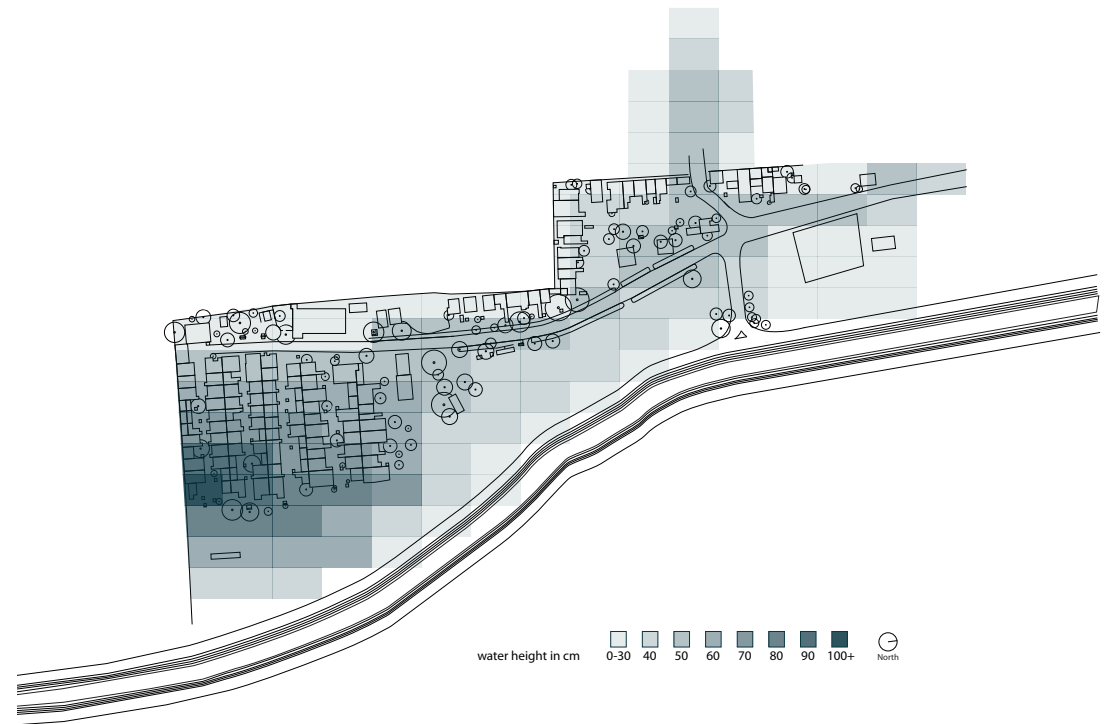


INFORMATION



## FLOOD

The community is located at the lowest part in the area and during the yearly monsoon it gets heavily flooded. Water pours in from the main road and the surrounding neighbourhoods and in the worst days the water level reaches nearly one meter inside of the houses. This is not only devastating for the houses, but it also represent a health risk as the water is mixed with contaminated water from the badly constructed sewage.



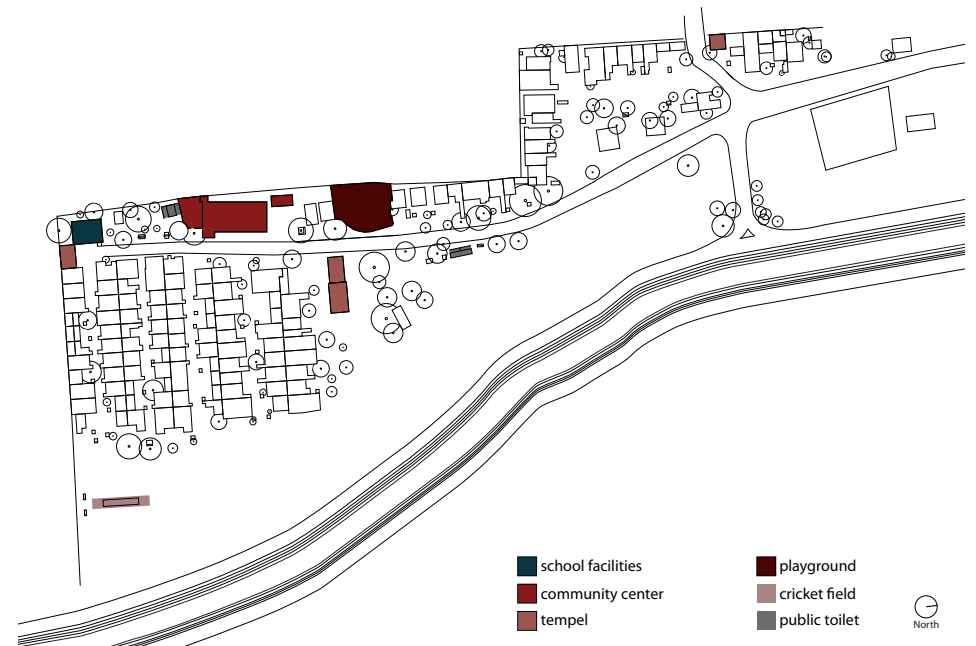
The water reaches this high inside my house. When I go to sleep I put bricks under the legs of my bed. Then I am sure I won't get water in my bed.





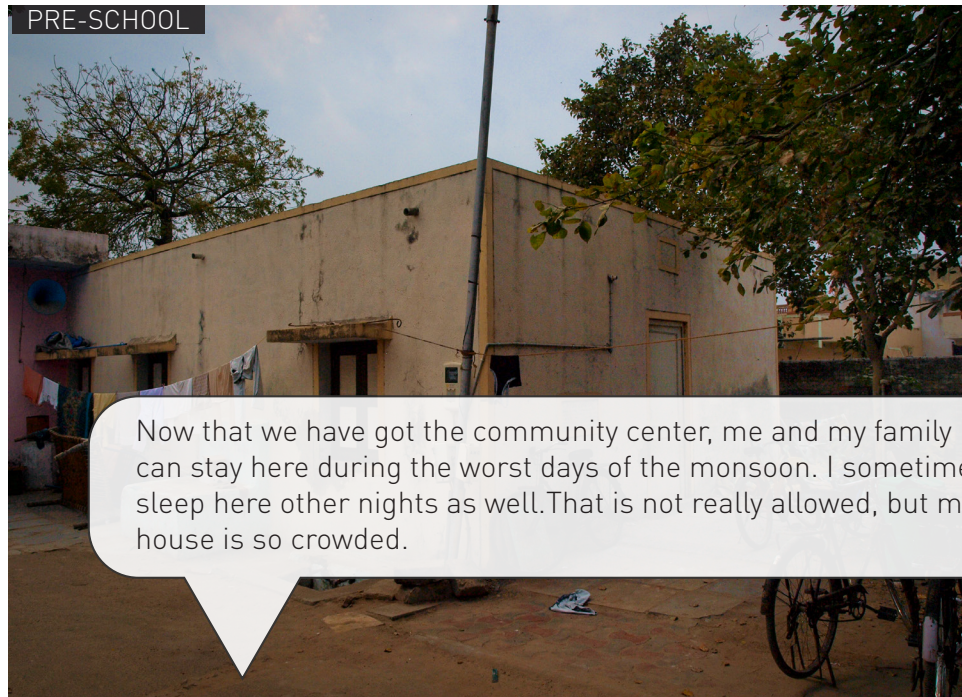
## PUBLIC FACILITIES

The community has access to several public facilities. Even though it exists a room for improvement they have gotten a community centre, a playground and money for a small pre-school by the NGO, and established several smaller temples and recreation space themselves.





PRE-SCHOOL



MAIN TEMPLE



COMMUNITY CENTRE



CRICKET FIELD





## SANITARY FACILITIES



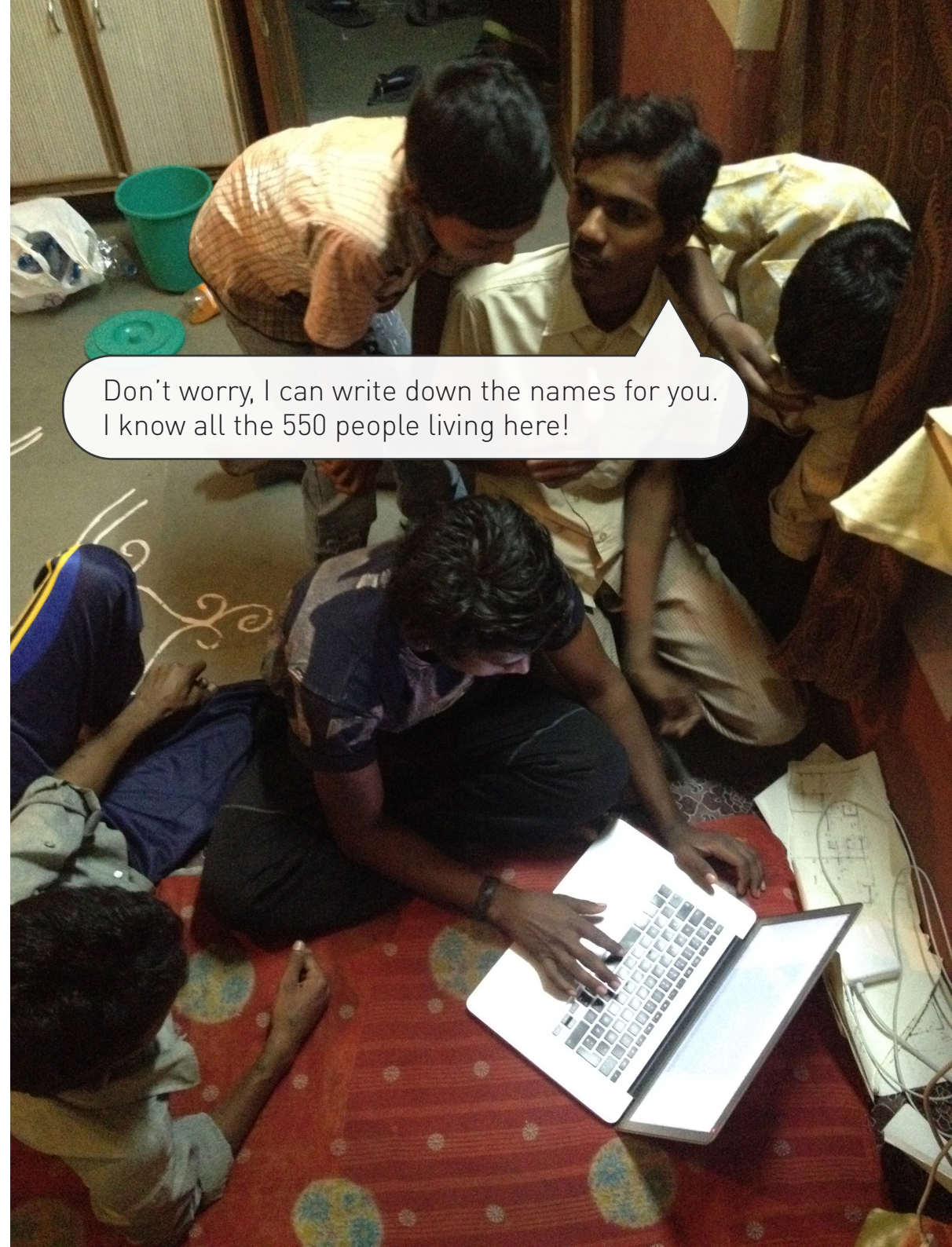
The government has provided some houses with a private toilet, but they are built so close to the ground that they get flooded and do not work during the monsoon. Some of them are not even connected to the sewage system. Bad planning! In the monsoon we are so many people sharing the public toilets, and they are so dirty. I really do not like it!



## SOCIAL CAPITAL

As many of the people in the community never have seen a map before we wanted to write down all the family names on the houses and hoped that this would make it easier for them to find their own houses and then understand and relate to the map. We asked if it existed a list or some document where we could find all the names, but as it turned out, that was not necessary. They knew all the names and just started to write it down and connect them to the correct house number. We asked ourselves how many names we would have known from the street we resides to in Norway. That is not many.

For us this illustrate the social capital existing in the community. A power that comes from the community as a unit, being well organized and established, having a stable population with good social connections and being a safe place to live. In a development process this asset should not be underestimated as it gives the community the collective strength to discuss and plan a future development.



Don't worry, I can write down the names for you. I know all the 550 people living here!

# LAND OWNERSHIP

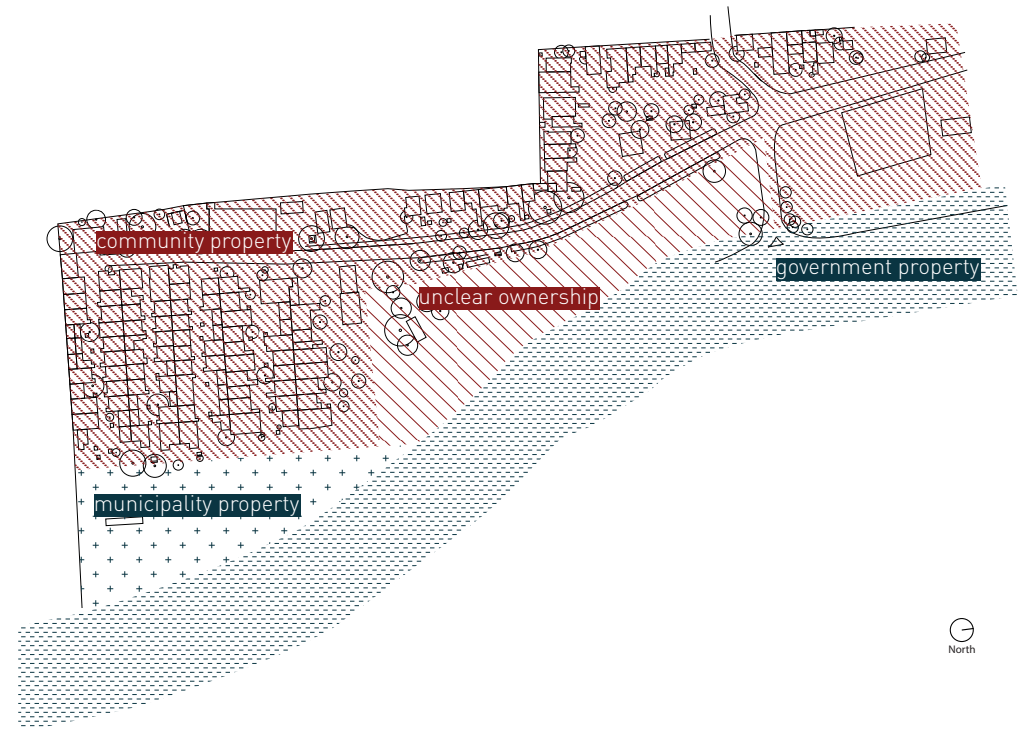
The different zones within, and in close proximity to, the community have a mixed ownership structure.

The main road is owned and managed by the central government of India, and there exist a plan of doubling the width of this road, which will be conducted within the next years.

The undeveloped area south-east in the community belongs to the Ahmedabad municipality. They have planned to develop this area as a park, but the plans are quite vague. We got the impression that the community to some extent can influence what this area is developed as, but they do not have the possibility to build on this land themselves.

Along the eastern border of the community there is a strip of undeveloped land which has an uncertainty regarding the ownership. The community believes it belong to them, but could not say anything for sure. We also talked to the local politician managing the area and the NGO without receiving a concrete answer. However, it seems like the community has a big influence on how to development this area. When we left they actually started to construct a pre-school sponsored by a local NGO in this area.

The rest of the land belongs to the community without any restrictions apart from an old Gandhi trust which states they are not allowed to sell the land.



area	owner	plans	limitations	community influence	possibilities
	the community	house upgrade	limited free space fixed plot boundaries	full	open (re-organization of plots, new design)
	the central government of India	road expansion, double the width	planned as road	none	more activity, economical benefits
	ahmedabad municipality cooperation	park / garden	ownership	big	undecided plans, municipality seems open for negotiations regarding plans and ownership
	unclear	pre-school	gandhi trust prohibits selling the land  need clarification regarding ownership before development	big	open (new buildings)



## THE MAP AS A STRATIGIC TOOL

*After we finished the map we printed a large copy (1,5m x 1,0m), which we introduced in the community. We were curious to see how we could make use of the all the work. When the locals were presented to it, they seemed very interested even though most of them had just a very basic, if any, knowledge of a map.*

*First of all it seemed as if the locals understood the map and were proud to see a drawing of their own community. They enthusiastically found their family name and recognized their own house. The map also seemed to give us more credibility in the community and they appeared grateful for the effort we had put into the process since a professional work can contribute to give their community legitimacy.*

*Secondly, throughout the last week we have had several meetings where we discussed the situation in the community and what to do in the future. After we had printed the map we started to gather around it using tracing paper and markers as discussion tools. In this type of interaction with the locals we experienced that all the information we were provided became much more precise. Earlier, we experienced that the answers we got tended to change depending on the person we were talking to. Now that we asked many of the same questions sitting around the map, it seemed like the information was much more valid. They could now root the answers to exact locations on the map and the information we were provided did no longer seem to depend on the person we asked. This was of course very helpful as we still had many questions.*

*We had a similar positive experience when we introduced the map to the NGO and the other stakeholders. During our work the NGO did not interfere too much with what we did. They were always very helpful, and we had a quite open framework for our work. However, after seeing the map they suddenly became much more involved, coming to the community many days in a row and discussing future possibilities with the locals and us. We also managed to get the local politicians, who have the responsibility of the development of the specific area to attend a meeting, and they were also very enthusiastic and it seemed like they wanted to help out in the process. We were very happy that our concerns about the time spent on making the map were somehow proved wrong and it was really interesting to see how the*

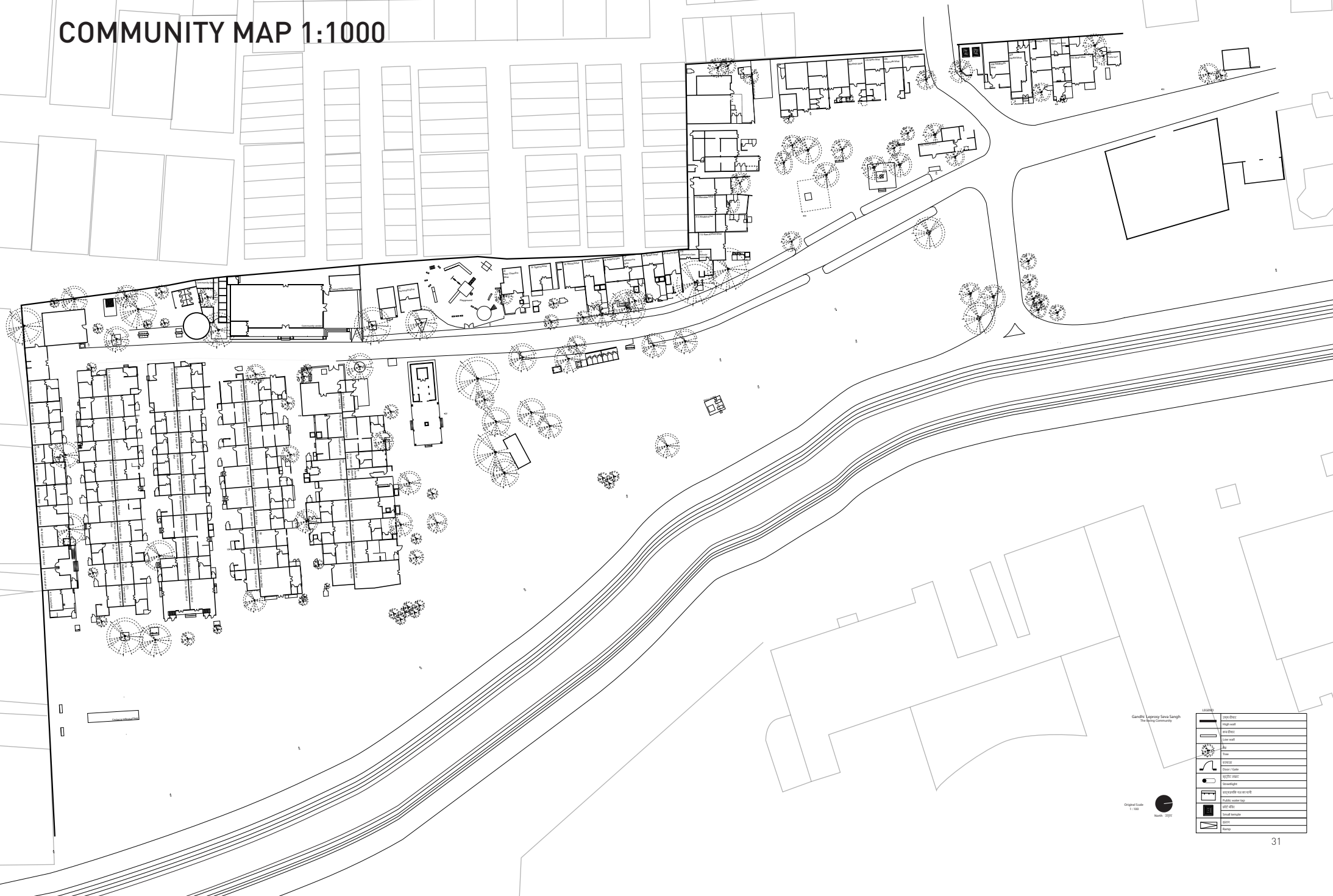
*map worked as a planning tool. What for us feels like a platitude in a planning process worked in this situation as a strategic move creating a spark that hopefully could support the development also later in the process.*

*By giving the map to them (it now hangs in the community centre), we have provided them with something tangible. It becomes a tool for them to use, and is not just a professional and passive drawing. A question we now are asking ourselves is if it would be possible for us to create several such experiences in the future?*

*We believe that this experience illustrates what our tutor, Hans Skotte, said to us before we left; "the most important is maybe not what you do, but how you do it." At least this statement makes more sense to us now, after returning from the fieldwork.*

- extracts from reflection IV: participation









# COMMUNITY MAP 1:1000



Gandhi Leprosy Seva Sangh  
The Indian Community

Original Scale  
1 = 100%

1

Legend	
	उच्च दीवार High wall
	निम्न दीवार Low wall
	पेड़ Tree
	दरवाजा Door / Gate
	सड़क रोशनी Streetlight
	सार्वजनिक पान का बगीचा Public water tap
	छोटा मंदिर Small temple
	झाड़ियाँ Bamboo

## ***What is participatory design?***

*After reflecting upon our process, we started discussing what exactly participatory design is, and how we have tried to include it in our work. At first we felt that we had not managed to involve the locals very much in the actual design process. They had not drawn any plans of the community in a future scenario, and we had not designed any houses together with them using architectural plans or models as tools. This was what we initially had thought of as participatory design.*

*However, the locals have undoubtedly played an essential role in the process. Not only by providing us with real knowledge of the situation, knowledge that will be essential for any future design, but also through establishing many premises for the design. By spending a lot of time with them, asking them questions, taking part in their daily life and showing a general interest how they live their lives, we believe that the locals have very much been involved in a design process. Perhaps this involvement has a more indirect character than what we first thought of as participation, but there is no doubt that the interaction we have had with the locals has proved to be important in order to provide a framework for the project and thus making the end-design potentially more valid as an input to the process.*

*Through our process we have been convinced of the importance of developing small-scale solutions that is possible to implement in a short-time perspective. Such interventions have the advantage of being controllable and are possible to conduct immediately as a response to the involved people's experienced problems and can absorb the premises they have helped to define. Another reason for such an approach is that we believe it is unnatural to just develop a designed master plan. Such a long-term solution will be based on too many personal and uncertain assumptions as it includes many variables that will change during time and depending on each other. We believe a designed master plan will be impossible, or even wrong, to fully implement, but by reducing the complexity of the overall development to a row of smaller changes it could be more manageable. Such an approach also has the potential of taking the continuous changing premises into consideration and involving the affected people in the process. We believe it is important to acknowledge development as a dynamic process and not as a finished product.*

*At the same time, a more conceptual design based on the experienced premises could make an impact, even though it will become difficult to implement as a whole. We consider a strategic approach that takes into consideration*

*the long-term possibilities as our responsibility as planners, and it could play an important role in communicating ideas and be a mean for discussion. For us this becomes interesting because it illustrates that what we are designing does not actually have to be implemented to influence the process, and the overall, conceptual perspective makes it possible for us to investigate broader than if we limit our design to their present economical, social and political situation.*

*In the end, both the small immediate intervention we develop and the study of possibilities will become important because it is the tension and duality that lies between the two approaches that, we believe, makes this interesting as a strategic project. An important question for our design then becomes; how can the small immediate interventions trigger an overall development and how can an overall development make an impact on the small-scale interventions?*

*During our fieldwork we have tried to include as many official stakeholders as possible since we as outsiders, and the community as the main stakeholder, possess little direct influence if we examine the bigger picture of the development process. We then need to include the local planning authorities, the politicians and the NGO if any bigger plans should be developed further. Their participation is as important as the one of the community, both in establishing the premises and in executing the development. If we establish such a base for our work we also become obliged to send the work directly back to the community and the other involved stakeholders. As we see it, participatory design should happen in all stages of the process and include all stakeholders.*

*Our role as architects could thus be understood as strategic acting. The process does not depend on the "genius" architect as an independent creator, but rather on our personal skills as communicators and process triggers. Planning could then be understood as a strategic tool to facilitate the development and not pretend to be the development itself. Even in our student project we need to take this into account and try to relate our project to the network we become a part of. This again provides guidelines for how we should convey our design; it will not be conveyed only for a professional group but should try to trigger an enthusiasm on several layers.*

*If we agree to these terms it is not necessary to reduce participatory design or planning solely to some drawings on a paper early in the process, but it is something that should be executed throughout the process and on different levels*





STRATEGY

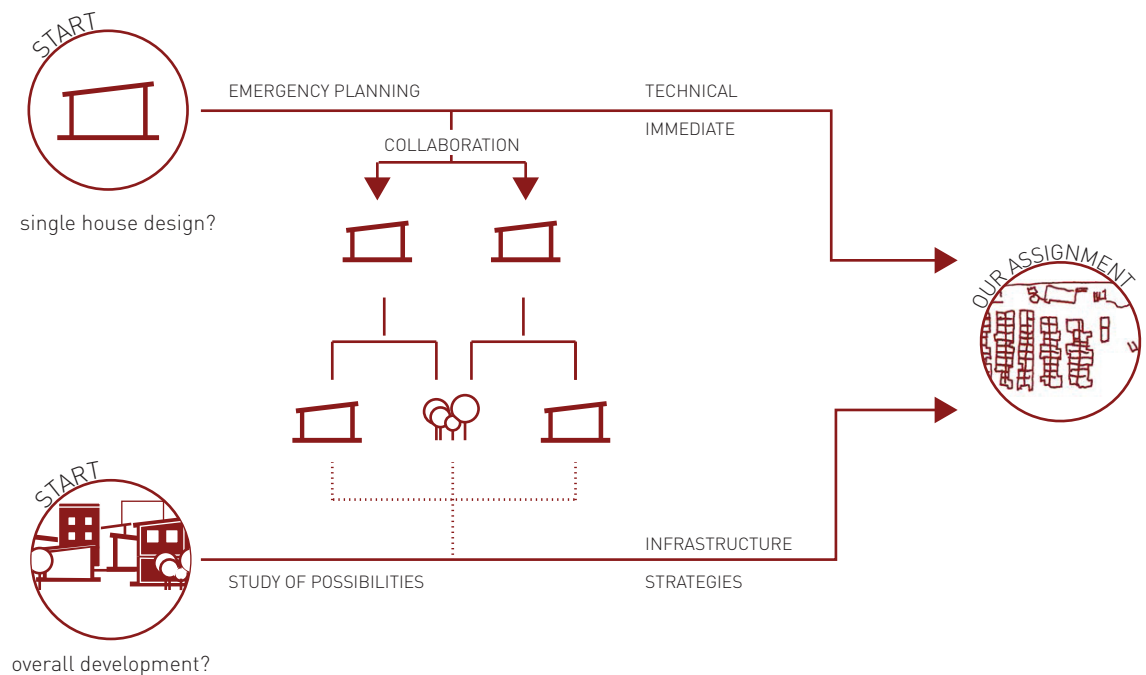


## OUR APPROACH

While the community and NGO mostly is focusing on a short-term house upgrade we believe it is our responsibility is to have a long term / overall perspective in mind while facilitating the upgrade. We will therefor try to use their immediate need for a house upgrade as our starting point, but try to connect the work to an overall development of the community.

Questions we have asked ourselves is; how can the individual house design trigger an overall development and how could the overall development have an impact on the individual house?

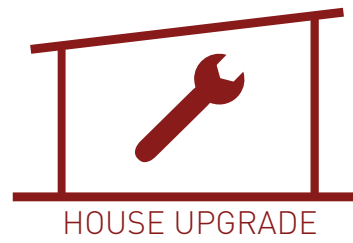
It is this tension between the long and short term perspective that we find interesting.













# THE HOME AS A VALUABLE ASSET

“

*The means of resistance are the assets and entitlements that individuals, households, or communities can mobilize and manage in the face of hardship. The more assets people have, the less vulnerable they are”*<sup>1</sup>

-Moser, Caroline O. N.

Having a house gives you a certain security. It provides you with shelter against climatic and social challenges and a sense of belonging. A house is a home, which is fundamental for human beings. However, a house is not only a shelter for protection, it also provides opportunities. As an urban study undertaken by the World Bank, providing experiences from different regions of the world, shows “...house ownership is by far the most important productive asset of the urban poor”<sup>2</sup>.

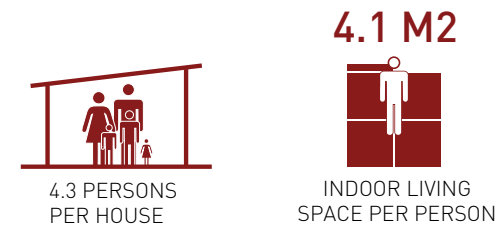
The house gives you a space from which you can run small enterprises. It lowers the threshold for entering the labour market, gives you a possible income from rent and the business opportunities provided is “especially important for homebound women, allowing them to contribute to the household income”<sup>3</sup>. However, in a typical informal settlement a factor that complicates home run enterprises is tenure security. Security of tenure is fundamental and “the removal of tenure-insecurity related obstacles that prevent or constrain households from using their housing effectively as a productive asset is possibly the single most critical poverty reduction intervention.”<sup>4</sup>

As this type of tenure-security, to some extent, is present in the community, it allows the inhabitants to plan for the future and to utilize their houses as an asset. Some women in the community are already running small businesses from their homes earning money from sewing clothes, sorting plastic spoons, cutting electrical wires or other activities associated with nearby factories. This work they manage to fit in between all their daily duties

as preparing the meals for the family, collecting water and washing clothes. Even though their earnings are very small (around 66 rupees or or 6,5 NOK pr day) their contribution to the household economy should not be underestimated, as it is enough to send one extra child to school. The house should thus be acknowledged as a contributor to their upward mobility on the social ladder.

When planning a development of the community the houses should have high priority. There is an on-going process in the settlement where some public facilities already are established and as we understood both from what we were told and from what we saw an upgrade of the existing houses should be next on the agenda. When facilitating a development of the houses it will be important to enhance the qualities of the home as an asset. We are aiming to provide more space, satisfactory working conditions regarding air quality, light and temperature and to provide infrastructure which we hope can support this understanding of the house. When focusing on the houses not only pragmatic spatial challenges should be dealt with, but ownership structures, social networks and possibilities for personal influence should be included in the equation. As we see it, it is not crucial for us to find the ideal plan solution, but rather recognize and acknowledge the importance of the house, and then try to facilitate a development where the most important decisions could be taken as close to the end-users as possible. We can, as professionals, come up with suggestions for the specific, but it is the ideas and principles that we are introducing that can make the biggest difference. In the end how they change, adapt and use the individual home should be up to them.

The houses in the community are in need of an upgrade. They are small, overcrowded volumes built without sufficient openings resulting in dark, badly ventilated and overheated spaces. The houses are built with a weak construction unable to support a much needed expansion and every year the houses get flooded during the monsoon. The worst days some houses have a water level reaching nearly one meter inside.

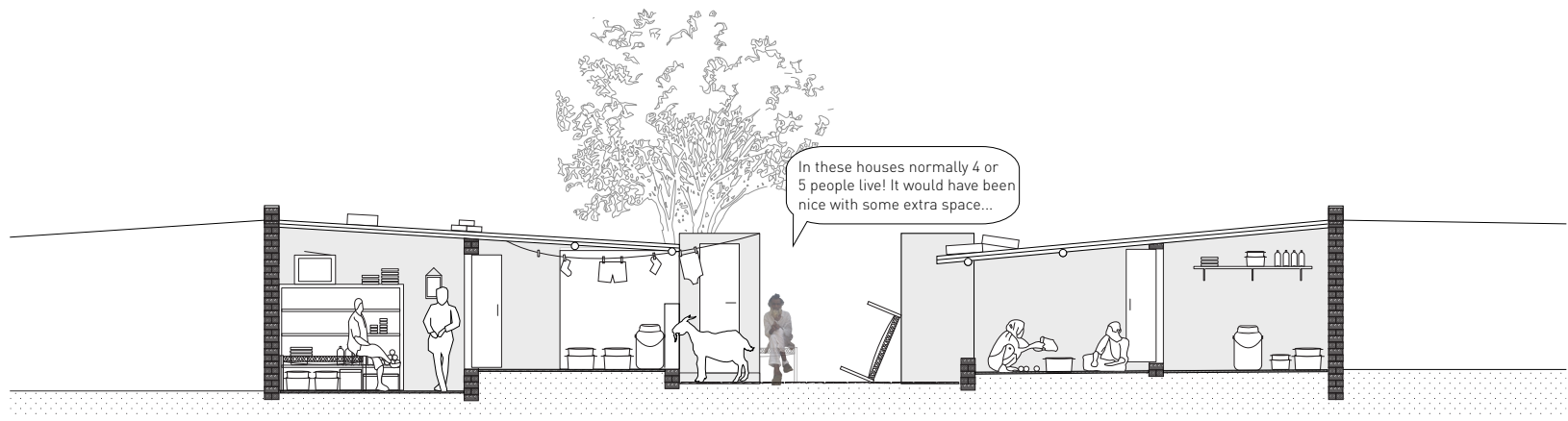






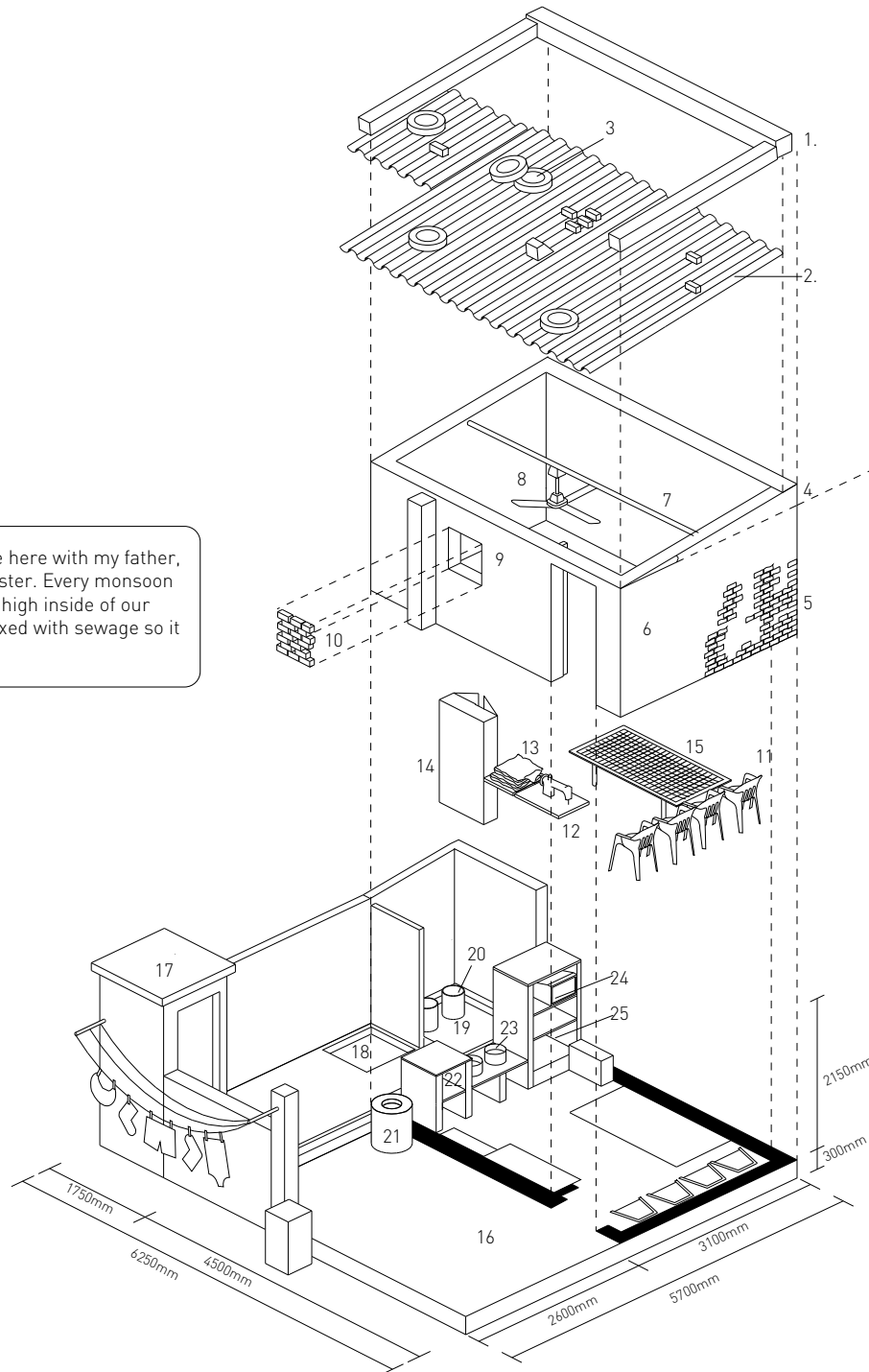
TODAY





TYPICAL STREET SECTION TODAY 1:100

Here is my house. I live here with my father, mother, brother and sister. Every monsoon the water reaches this high inside of our house. The water is mixed with sewage so it is a big problem!



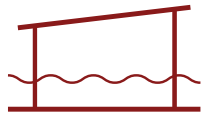
- 1. bricks to hold the roof down
- 2. corrugated steel roof
- 3. garbage to hold the roof down

- 4. sloping roof (5°)
- 5. burned brick construction
- 6. plastered walls
- 7. 100mm steel beam
- 8. mechanical fan
- 9. opening for ventilation
- 10. stacked bricks as sunshading

- 11. plastic chairs that easily can be stacked in the corner
- 12. small table for sewing machine (work space)
- 13. folded blankets (beds and dining place)
- 14. closet for clothes and valuables
- 15. bed

- 16. raised brick plinth to reduce flood damage
- 17. toilet
- 18. outside washing room for cloths and kitchen utenzils
- 19. bathroom
- 20. buckets used for showering
- 21. manually filled water tank
- 22. puja (religious) room
- 23. kitchen with gas burner
- 24. TV
- 25. storage of kitchen utenzils

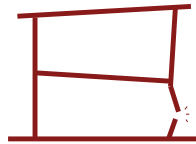
## MAIN CHALLENGES WITH TODAY'S HOUSES



FLOOD



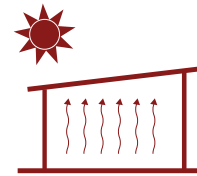
INSUFFICIENT  
LIVING SPACE  
+  
NO PRIVACY



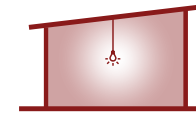
WEAK CONSTRUCTION  
NO POSSIBILITIES  
FOR EXPANSION



LIMITED  
AIR CIRCULATION



OVERHEATING



LIMITED  
AMOUNT OF DAYLIGHT



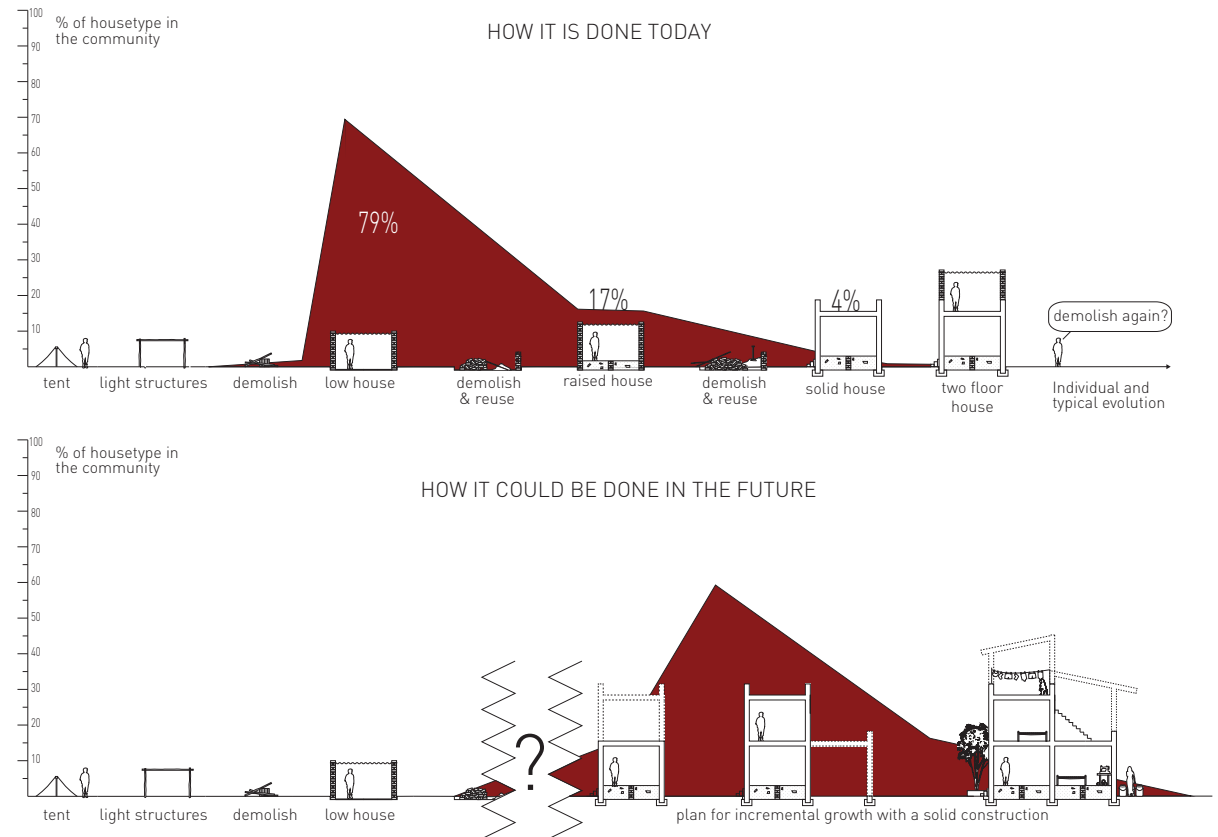
SANITATION



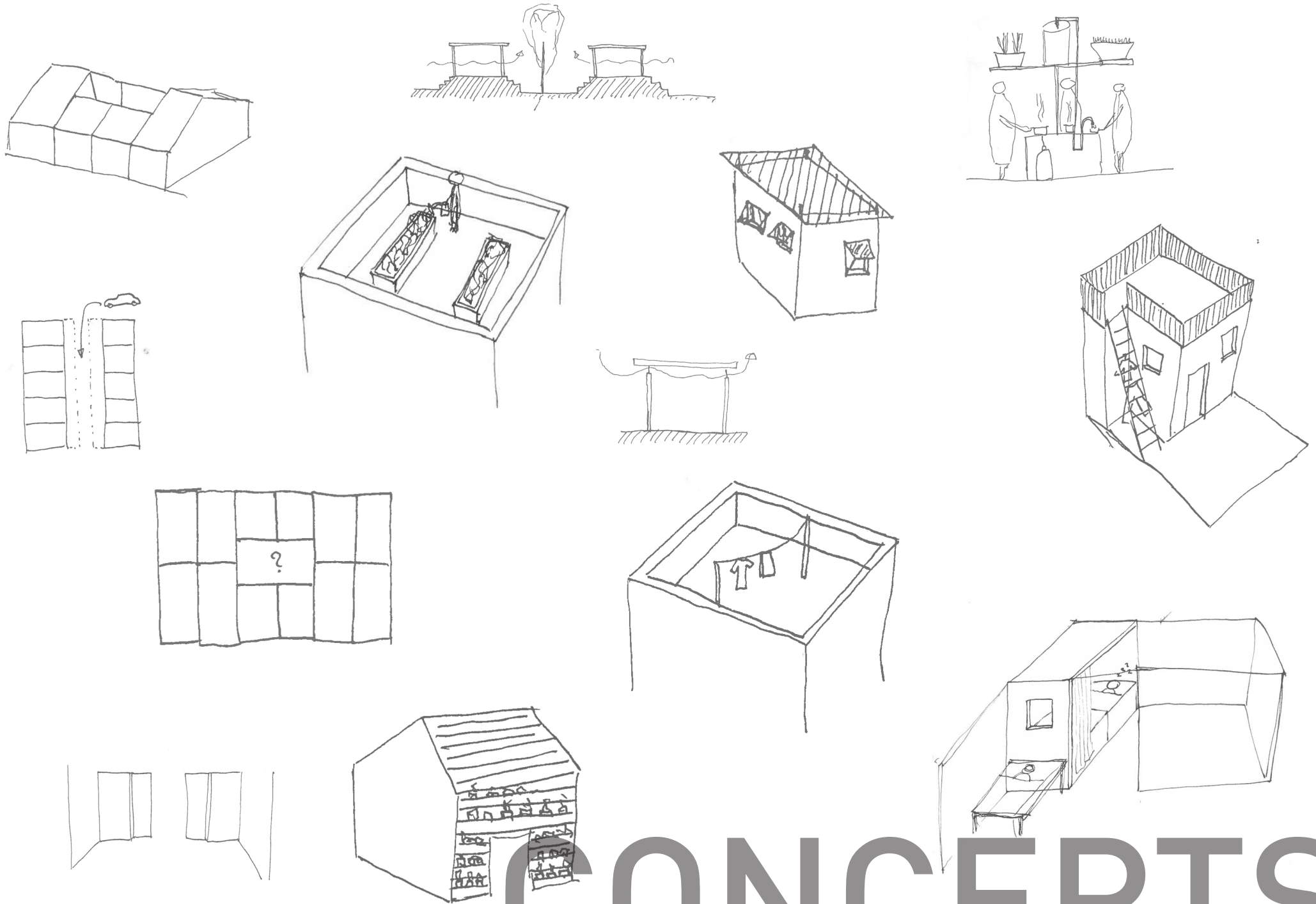
## A DEVELOPMENT IS HAPPENING

It is important to acknowledge that even though there are a lot of challenges with today's houses there is a development happening. Gradually the houses will be improved, but how they approach it is in our opinion not very efficient. A typical scenario is that they raise/improve their house just a bit, but build with a weak construction and without a plan for a future development. So when they want to further expand their house they typically tare it all down and start over again. Between every step in the development process they start from scratch.

We are raising the question; what if they already in the first phase of the process could plan for a future development? Then they could avoid having to tare down the house over and over again. In the first phase it would be a bit more expensive, but in the long run it will be both cost and time saving



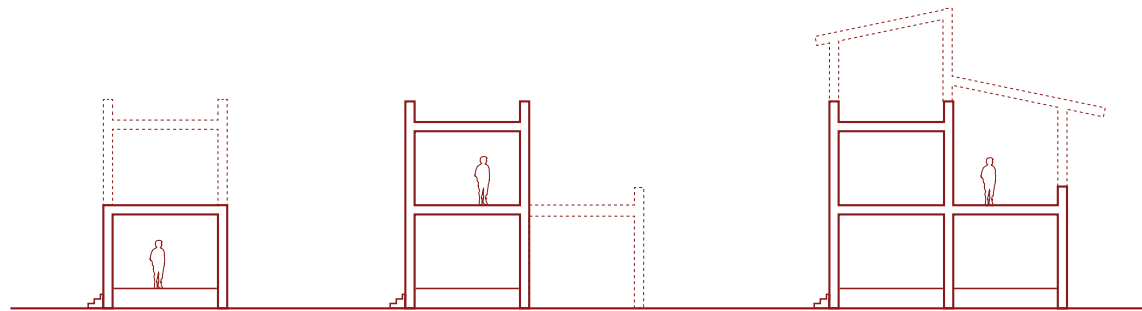




CONCEPTS



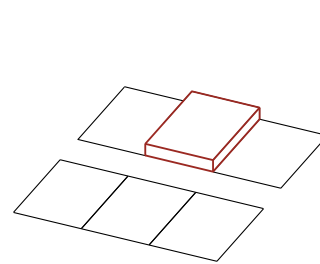
## MAIN CONCEPT FOR HOUSE DEVELOPMENT



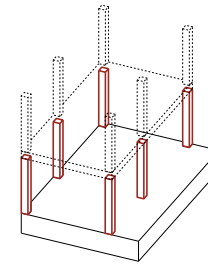
A structure that facilitates further development while at the same time works as an upgrade today.

## MAIN STRATEGIES

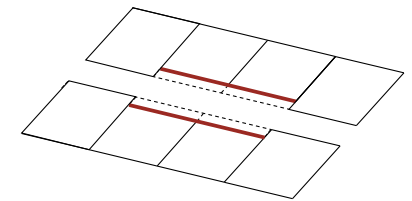
We propose a raised plinth to prevent the flood water from entering the house. The plinth should be a part of a solid construction that facilitates further development. For this development to be successful we believe it is necessary to widen today's streets.



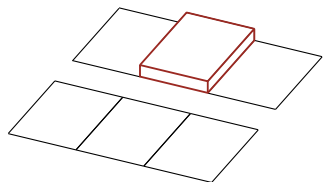
RAISED PLINTH



SOLID CONSTRUCTION



WIDER STREETS



## RAISED SOLID PLINTH

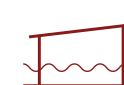
The main purpose with the raised plinth is to prevent flood water from entering the house. How high it is raised depends on the critical water level on the specific location, but most of the houses will have to raise their house with 40-80 cm. When raising the plinth we recommend it to be constructed solid enough to support a future expansion of the house.

To raise the plinth could be done on a household level as it could be part of an individual upgrade. The intervention takes short time to conduct, but It is recommended to use a constructor to ensure that it will be built strong enough. The initial investment will be higher than the way they do it today, but in the long run this approach will be cost saving as the plinth will not have to be rebuilt. The strategy should have a high priority as it deals with the immediate flood problems while it also is part of a future planning.

### WHY

- Keep water out of house
- A strong plinth facilitates future expansion

### AIMS TO SOLVE

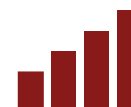


FLOOD



WEAK CONSTRUCTION  
NO POSSIBILITIES  
FOR EXPANSION

PRIORITY



HIGH

TIME FRAME

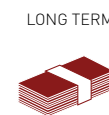


SHORT

INVESTMENT

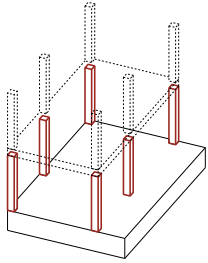


MEDIUM



LOW





## SOLID CONSTRUCTION

A solid construction allows further expansion of the house. In our opinion such an intervention should have high priority since today's living space is insufficient. The extra floor and a more solid roof will also prevent overheating in the summer.

We propose a strong brick plinth with solid concrete columns. To ensure the quality of the construction it is important to use a constructor. The intervention could be done on a household level as it could be part of an individual upgrade, and could be constructed quite quickly. The initial investment will be higher than the way they do it today, but in the long run this approach will be cost saving as it is a structure that will be used in a future development.

### WHY

- Facilitates future expansion
- A solid roof prevents overheating

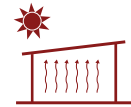
### AIMS TO SOLVE



WEAK CONSTRUCTION

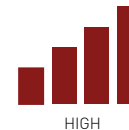


INSUFFICIENT LIVING SPACE



OVERHEATING

### PRIORITY



HIGH

### TIME FRAME

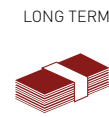


SHORT

### INVESTMENT



MEDIUM



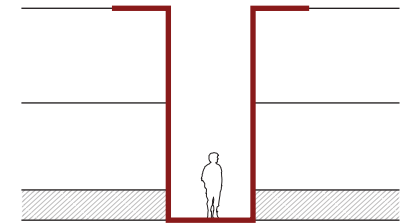
LOW

## CONSEQUENCE OF CONCEPT

A consequence of our concept of further expansion is the spatial experience of the street. Today the streets are narrow, but since the houses are relatively small the streets still feels quite open. When raising the houses, and later adding one more floor, the streets will be experienced very differently. In addition to the narrow feeling, the amount of daylight in the street will be reduced and the air quality will be worsened



TYPICAL SECTION TODAY - 2.25M WIDE STREET

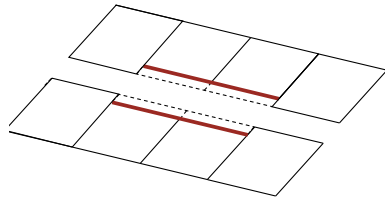


SAME SECTION, BUT WITH TWO STOREY HOUSES

Today, those who have expanded their house build on the whole plot. Then the streets get so narrow and dark. Luckily, there are only a few houses that have already expanded. I hope not all houses will do it this way because I spend so much of my spare time playing in the streets.







## WIDER STREETS

We recommend to widen the streets and suggest a minimum street width. Because of different plot sizes and street dimensions, each street should be treated individually, but an average street width of 3.4m is doable. This will prevent a too dense structure and will ensure a satisfactory amount of air and daylight once the houses are upgraded. A widening of the streets makes it possible to conduct a much needed improvement of the infrastructure. That will mean better sanitary facilities and better drainage, and today's situation with a mix of flood and sewage in the streets will be avoided.

To achieve wider streets it is necessary that whole street collaborates in the upgrade, but it doesn't need to happen all at once. The intervention itself does not require a high expense for the households, but if they will raise their house they will have to give up on some of their land. Even though this intervention means investment in land, we believe it should be highly recommended as it will have a big impact on the living conditions in the community if everybody is to expand their houses.

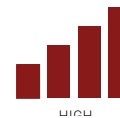
### WHY

- Improved infrastructure
- Improved spatial, air and daylight qualities
- Increased accessibility

### AIMS TO SOLVE



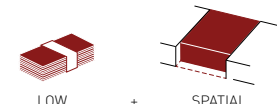
### PRIORITY



### TIME FRAME

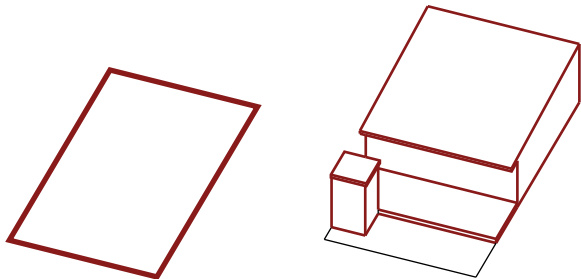


### INVESTMENT



TODAY

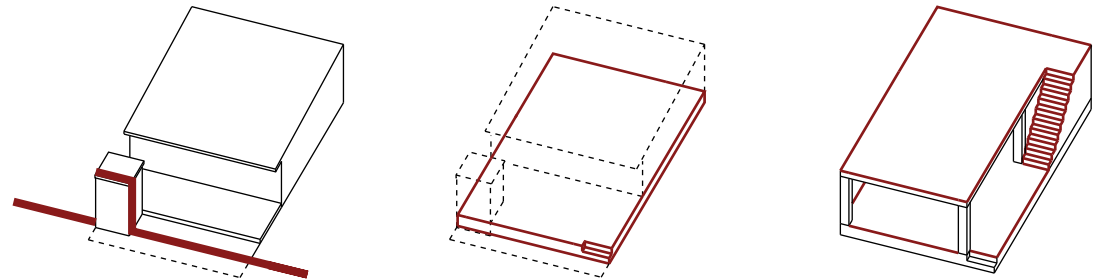
AVERAGE PLOT SIZE	AVERAGE USED SPACE
36.1 M2	31.0 M2



The average house today occupies 31 M2, using 89% of its plot

PROPOSAL

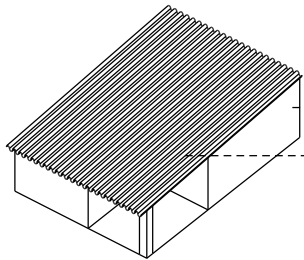
DECREASE IN PLOT SIZE	INCREASE IN USED SPACE PHASE ONE	INCREASE IN USED SPACE PHASE ONE
- 7.2%	<b>+8.1%</b>	<b>+97.4%</b>



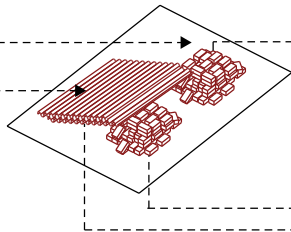
To be allowed to raise the house we recommend that an average 2.6 M2 of the plot is invested. Even though we propose a reduction of the average plot sizes, the residents will get an increase of 8.1% of the total living space already in the first phase of the development. When a second floor is constructed the living space is nearly doubled compared with today.

## DEVELOPMENT PRINCIPLES

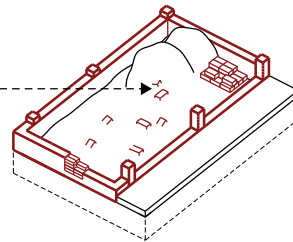
### PHASE 1 - TARING DOWN OLD STRUCTURE



TYPICAL HOUSE TODAY

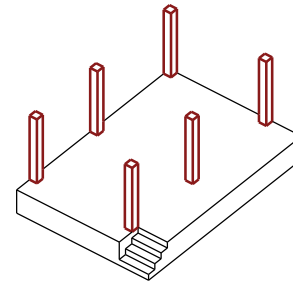


MATERIALS ARE SAVED FOR REUSE,  
EITHER AS FILL MATERIAL FOR BASE,  
AS SIMPLE ROOF OR WALLS  
DEPENDING ON QUALITY

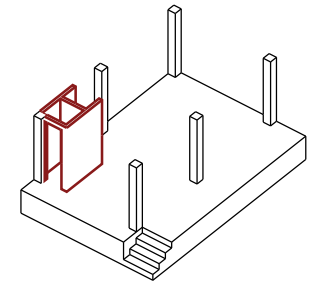


A RAISED, SOLID PLINTH.  
PREVENTS WATER INSIDE OF  
HOUSE AND FACILITATES  
FUTURE EXPANSION

### PHASE 2 - CONSTRUCTING THE SOLID STRUCTURE



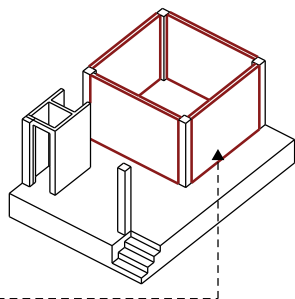
A STRUCTURE OF CONCRETE  
COLUMNS STRONG ENOUGH TO  
SUPPORT A FUTURE EXPANSION



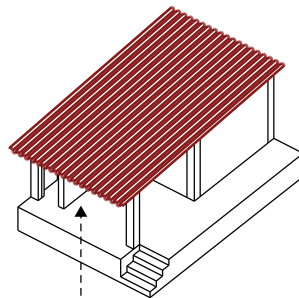
WATER CORE FOR EFFICIENT  
PIPE CONNECTION



### PHASE 3 - INHABITING THE STRUCTURE

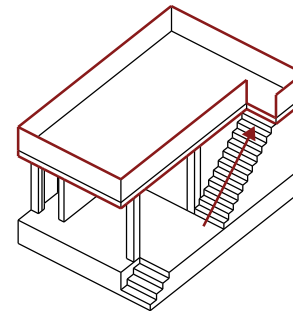


ONCE THE SOLID ELEMENTS  
ARE ESTABLISHED SIMPLE  
WALLS WILL BE FILLED IN  
WHERE NEEDED



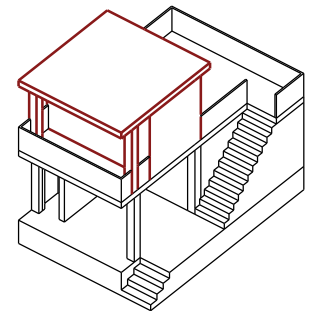
THE STRUCTURE COULD  
BE COVERED WITH A  
SIMPLE ROOF

### PHASE 4 - ACCESSIBLE SOLID ROOF



A SOLID ROOF PROVIDES  
MORE USABLE SPACE

### PHASE 5 - SECOND STOREY



A SECOND FLOOR  
IS ESTABLISHED

# MATERIALITY

The use of materials have not been the focus in our project, but in the proposals, we suggest to use bricks and concrete. Those are the materials used in the community today and are both locally accessible. While bricks are cheap, concrete are the preferred material for a stronger load bearing structure.

There is a potential for using other materials than the one they are using today or developing cheap and suitable materials, but this is a difficult discussion with both environmental and social aspects. For instance, bamboo, which is a cheap, local and strong material, is not wanted by the locals since it is asociated with temporary structures and considered as building materials just for the poor, while for us this material both has a big potential and an esthetic value.

The newly built community center in the settlement was constructed using a fancy recycled plastic material for the roof. This material was developed in, and for, other climatic conditions than those in Ahmedabad, so already the first summer this roof started to melt beacuase of the heat coming from the sun.

For us this illustrates the importance of using materials suitable for the local conditions and of being aware of its impact. In our drawings we show houses made out of concrete and bricks, but we do believe that the individual household should have the potential to influence the final decision.

	ACCESSIBILITY	COST	KNOWLEDGE	SOCIAL
BRICKS	EASY LOCAL	CHEAP	HIGH AMONG EVERYBODY	ACCEPTED
CONCRETE	EASY LOCAL	EXPENSIVE	HIGH AMONG PROFESSIONALS	ACCEPTED
STEEL	EASY LOCAL	EXPENSIVE	HIGH AMONG PROFESSIONALS	ACCEPTED
WOOD	HARD NEEDS IMPORT	VERY EXPENSIVE	LOW NOT USED IN AREA	CONSIDERED EXCLUSIVE
BAMBOO	EASY LOCAL	CHEAP	HIGH FOR TEMPORARY USE	CONSIDERED AS MATERIAL FOR THE POOR



When constructing the roof in the community center the NGO introduced a recycled plastic material. Today, the roof has started to melt.

# PRINCIPLES OF THE PLAN

When working with the houses the main challenges we initially stated have been important parameters for the design. In addition to the previously mentioned main concepts for the house upgrade we recommend four principles to be followed.

## Open layer

Outside of the load bearing, solid construction we propose an open layer. Parts of this area should not be covered by roof, which will improve the air quality and access to daylight. This area is also dimensioned in order to fit an outside stair to an additional floor.

## Increased openness

Today the volumes are very closed so by increasing the openness it is possible to achieve improved ventilation, better access to daylight and a feeling of increased space. However, when opening up the structure it is important to be aware of the need for protection against the sun.

## Water core

We recommend that the functions that require pipe connection are located together. This will be cheaper and easier to construct.

## Upgrade with your neighbor

Collaborating with your neighbor when upgrading has potential. It could be space efficient as you could share functions and construction and it could be cost saving as you could share structures such as infrastructure.

### PRINCIPLE

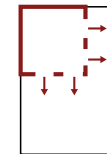
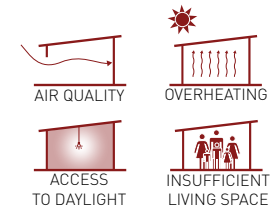
### EFFECT

### AIMS TO SOLVE



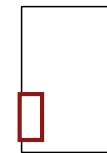
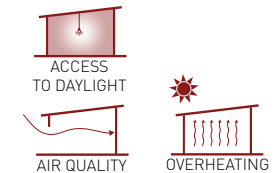
OPEN LAYER

- Improved ventilation
- Better access to daylight
- Facilitates vertical communication



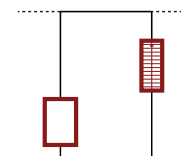
INCREASED OPENNESS

- Improved ventilation
- Better access to daylight
- Feeling of increased space



WATER CORE

- Efficient pipe connection



UPGRADE WITH YOUR NEIGHBOR

- Space efficient
- Cost saving upgrade
- Shared infrastructure
- Increased openness





## FRAMEWORK OF THE PLAN

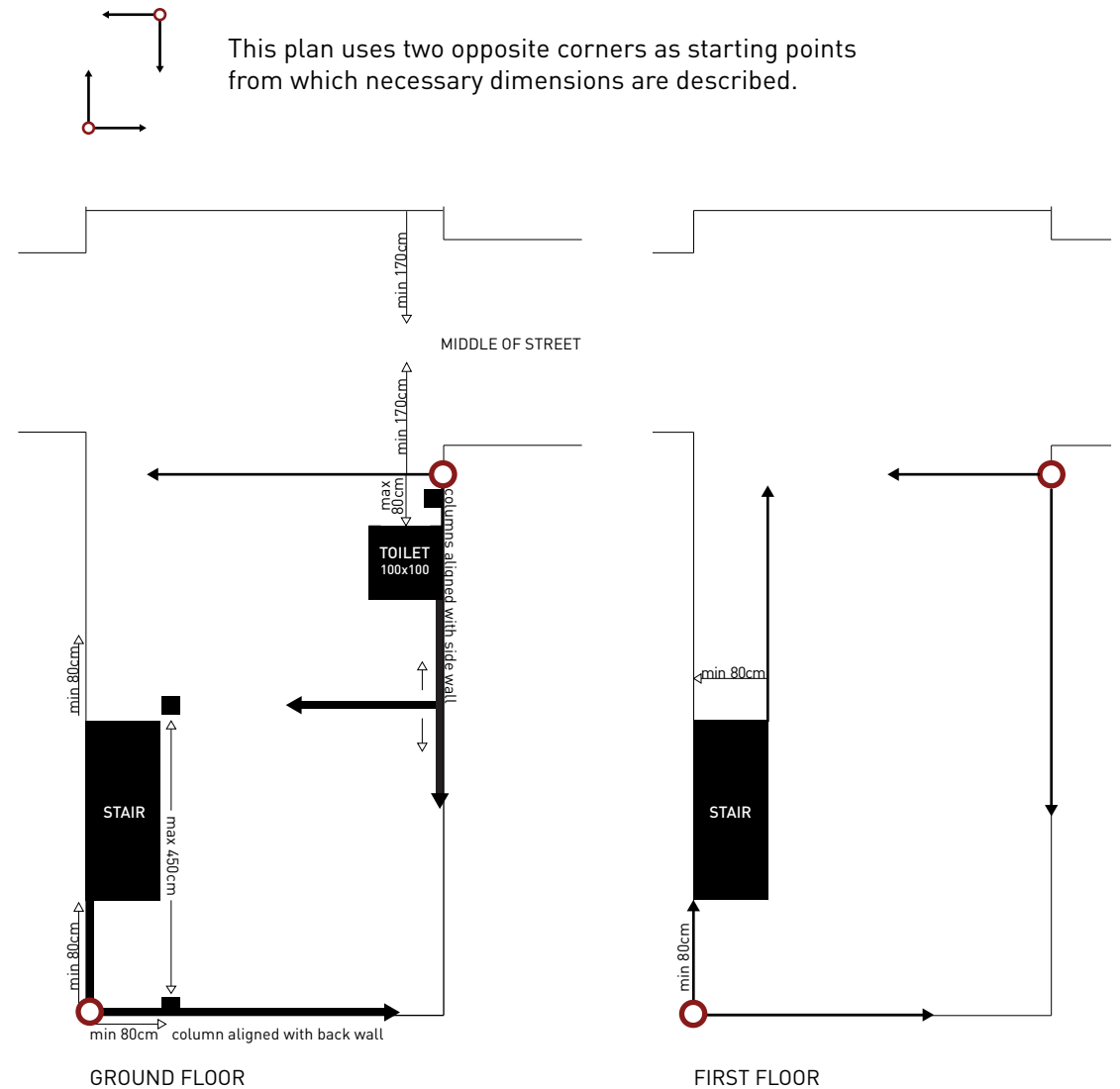
The concept in combination with the principles could be summed up in what we describe as a plan framework. The framework describes some necessary dimensions and suggest what we see as recommended locations for some elements, but intends to facilitate a flexible plan in which the resident could organize the house after his wishes and needs.

The plots in the community are quite similar, but there are some variations to the dimensions. This plan aims to take these variations into consideration as it is not limited to a certain plot dimension.

The location of the plot uses the middle of the street as its reference point in order to ensure a recommended street width

In this plan the toilet has a spesific location. The reason for this is that the sanitary system with its infrastructure does not have the highest quality. All the toilets are therefore located close to the boundaries of the plots, surrounded by open air. In our opinion this is reasonable, and we have used the same approach.

We also indicate an area for a future stair. In such small units a stair uses a lot of space, and should therefore be located close to the boundaries. The stair will need space for access in both ends, but apart from that it could be placed freely in this area. Wanting an outside stair, we suggest it to be located outside of the load bearing column structure in order for a flexible placement. The columns should be placed a minimum of 80cm from the border to ensure enough space for the stair. Elsewhere the columns should be aligned with the plot border to not take up unnecessary space. The span between them should not exceed 4.5m.



We believe a degree of flexibility is important to ensure freedom in how to organize the unit. The sketches show different variations within the framework provided.



“

*In the end how they change, adapt and use the individual home should be up to them.”*

-from “The house as a valuable asset”

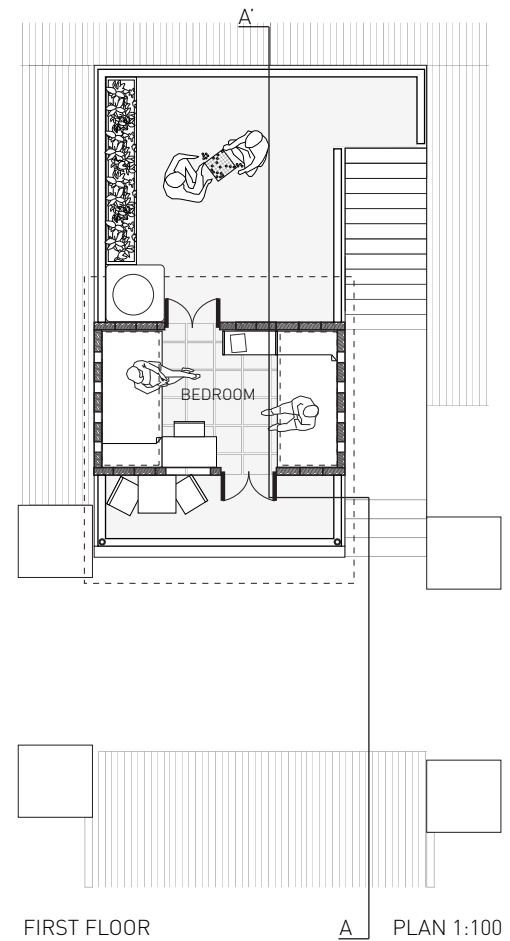
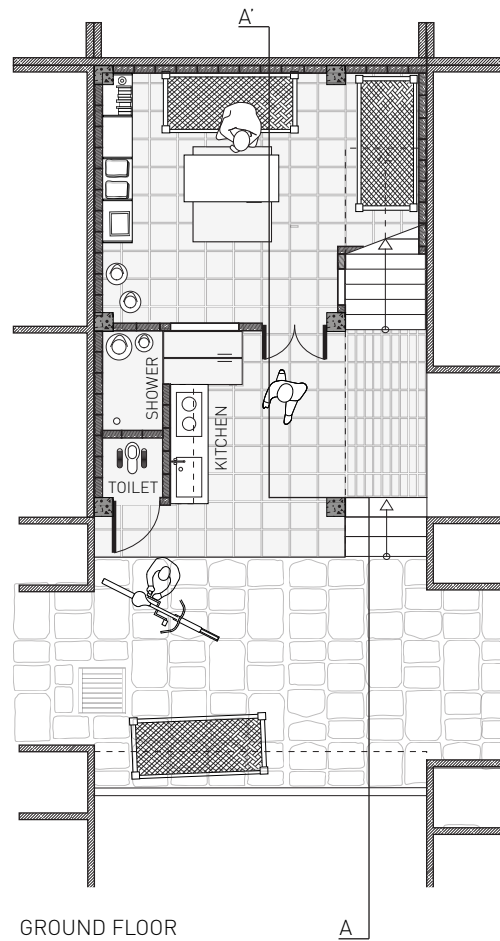
Even though we believe flexibility is important, we will in the following chapters present more detailed drawings presenting what could be considered our “dream house” based on the experienced premises.

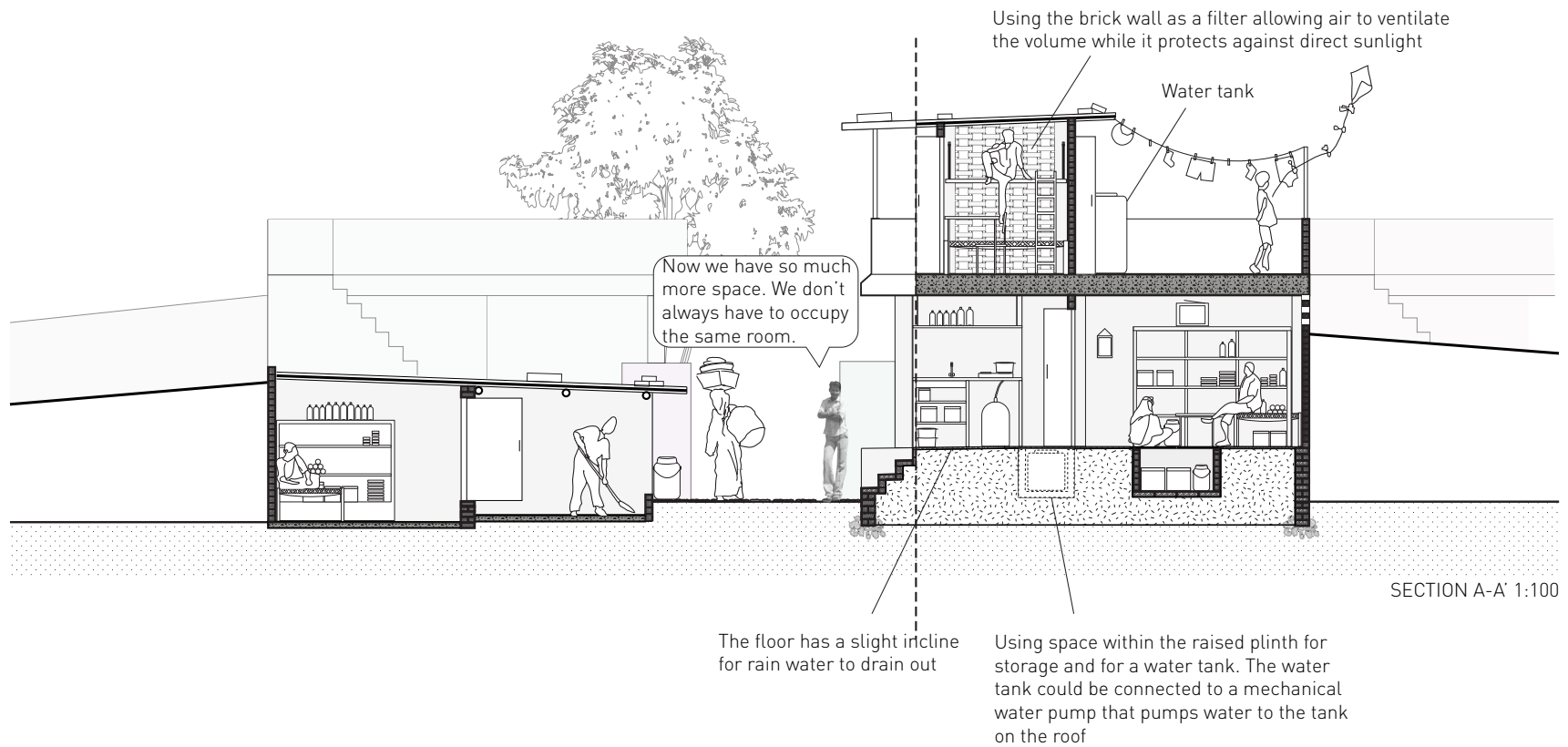




INDIVIDUAL













I really like it. It is much bigger than the one I had and I think it will work great in the monsoon as well. It is built higher than the water level last year!

Vijay! How do you like your new house? Looks nice from here!



“

*...relatively small changes in space can have a major impact on the quality of life of urban residents, especially those at the bottom end of the social scale. They have maximum effect with minimum means.”<sup>1</sup>*

-Burdett, Ricky. Professor of Urban Studies at the London School of Economics





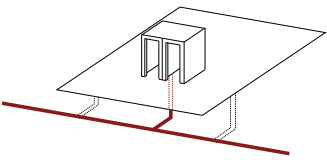
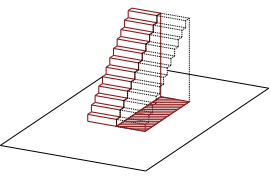
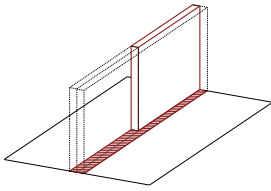
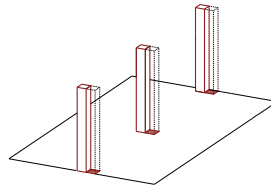
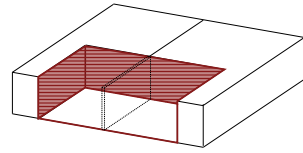
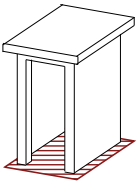
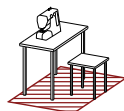

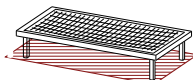
TOGETHER



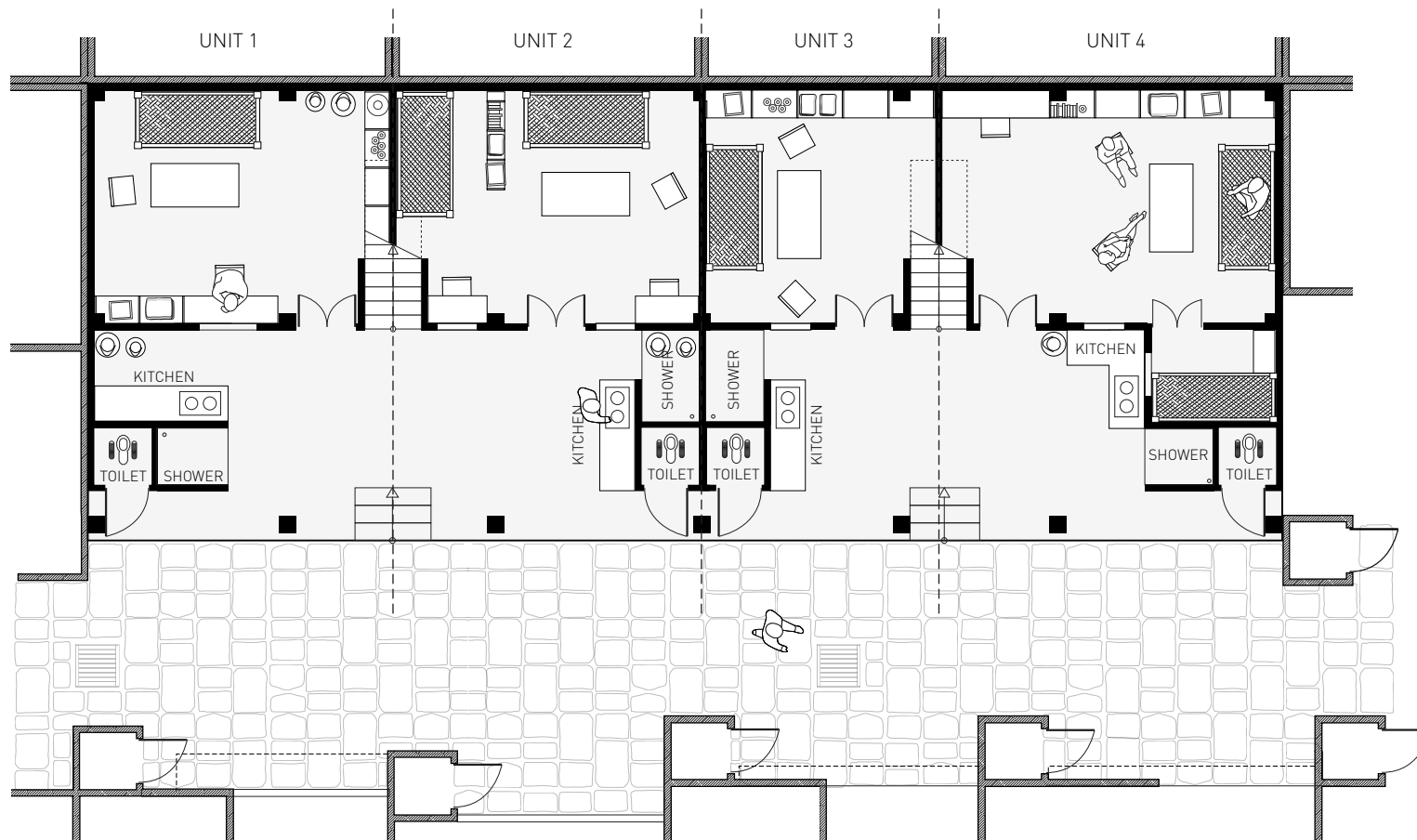
## WHY UPGRAPE TOGETHER WITH YOUR NEIGHBOR

Even though an individual upgrade of the houses are most likely to happen, we believe it is important to show the potential that lies within collaborating with your neighbor when upgrading the house since such an approach could be both space and cost efficient. By sharing infrastructure you save money and by sharing functions you could save both space and costs. In such small units a small addition in space should not be underestimated as it could have a big impact on the total living space.

POTENTIAL

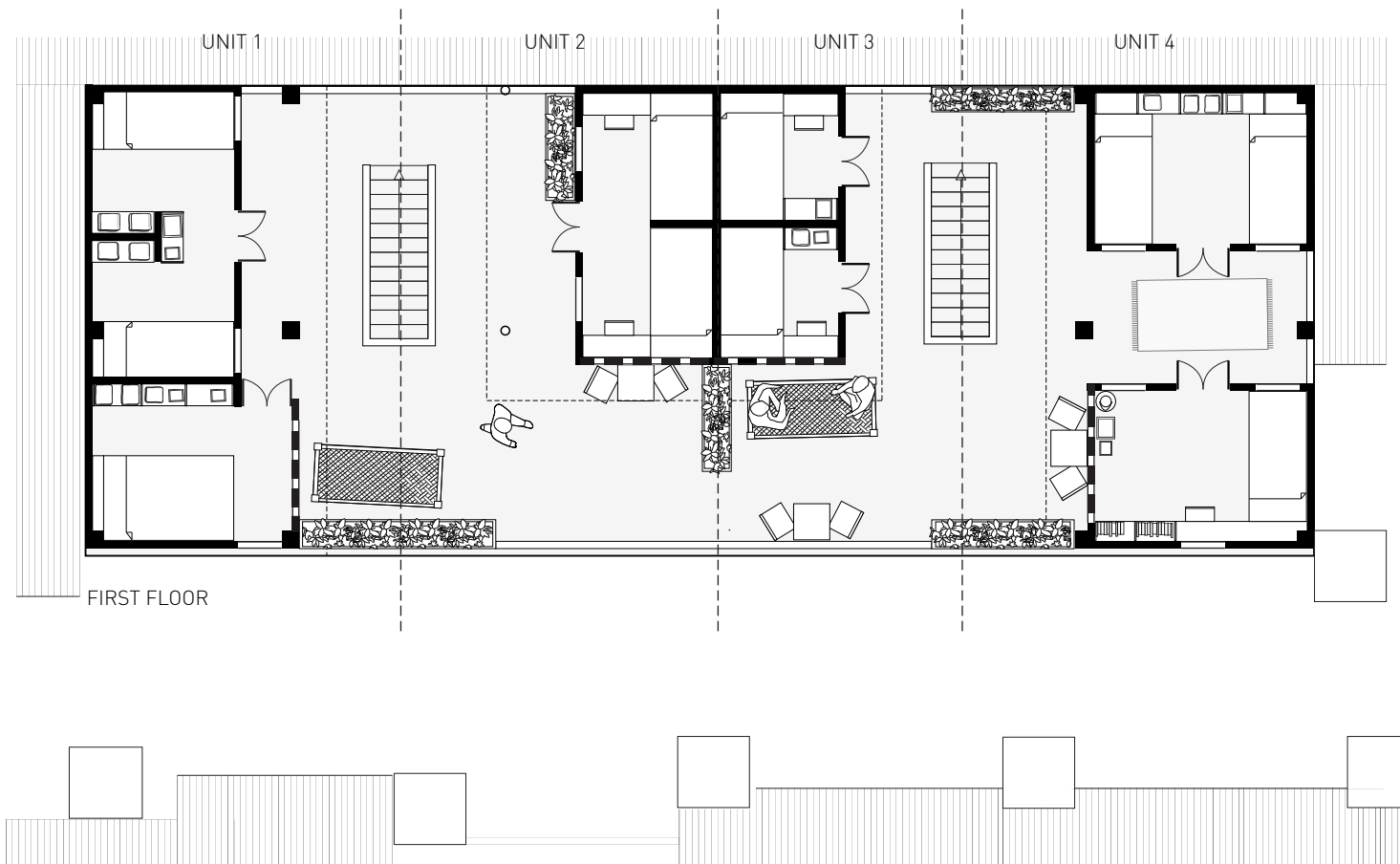
	SHARED INFRASTRUCTURE	SHARED STAIR	SHARED WALL	SHARED CONSTRUCTION	INCREASED OPENNESS
POTENTIAL		 <b>+1M2</b> EQUIVALENTS A TOILET	 <b>+1M2</b> EQUIVALENTS A WORK SPACE	 <b>+0.01M2</b> EQUIVALENTS STORAGE OF WATER BUCKET	
SPATIAL EFFECT	N / A				AN EXPERIENCE OF INCREASED SPACE
		<b>+2.01M2</b>  AN EXTRA BED			
COST SAVING	SHARED PIPE CONNECTIONS	<b>3000 ₹</b>	<b>25000 ₹</b>	<b>1875 ₹</b>	N / A
		The saving of <b>30000 ₹</b> equivalents nearly <b>three months</b> salary for a household			

\* calculations in back of the book



GROUND FLOOR 1:100

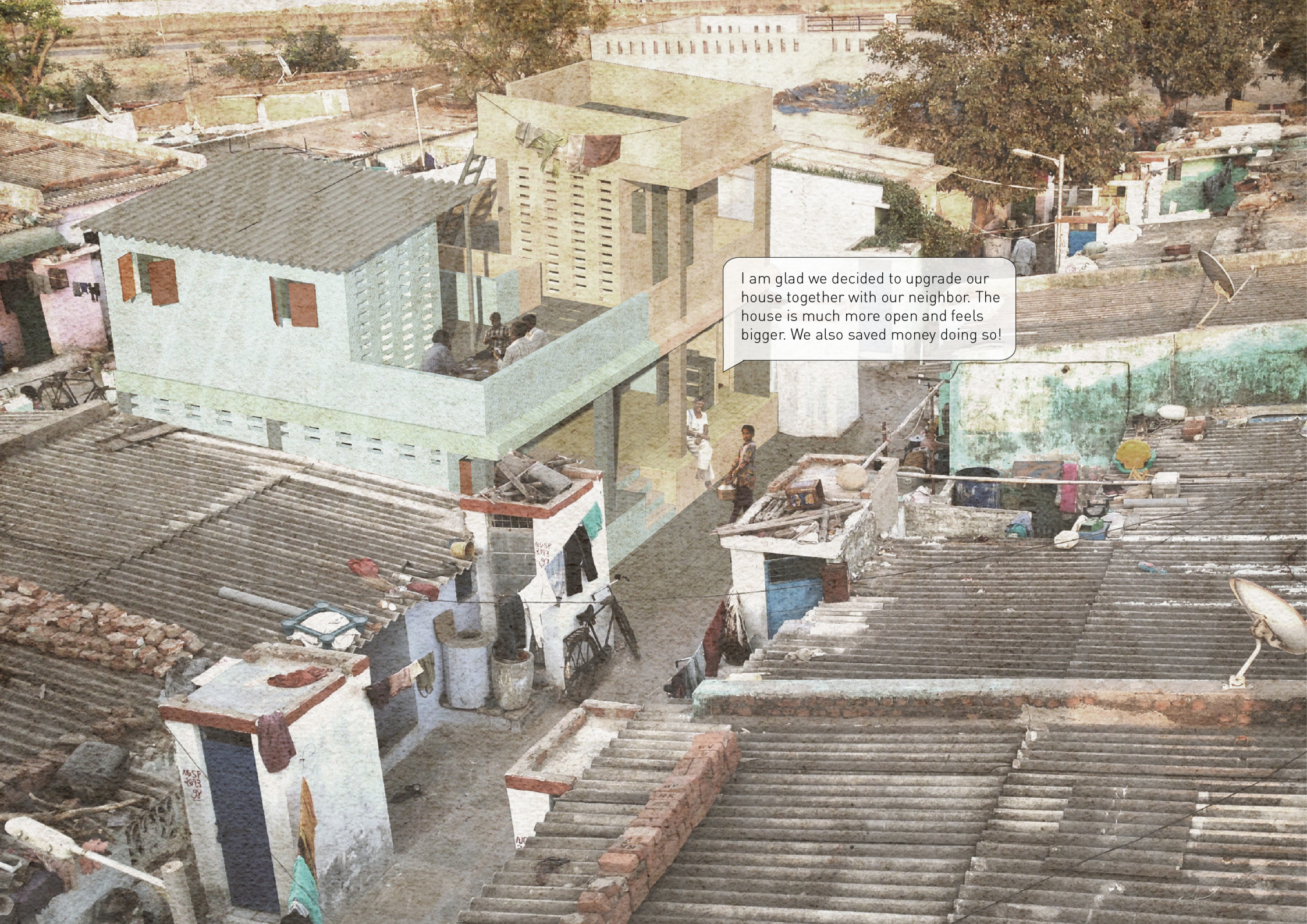




FIRST FLOOR 1:100







I am glad we decided to upgrade our house together with our neighbor. The house is much more open and feels bigger. We also saved money doing so!









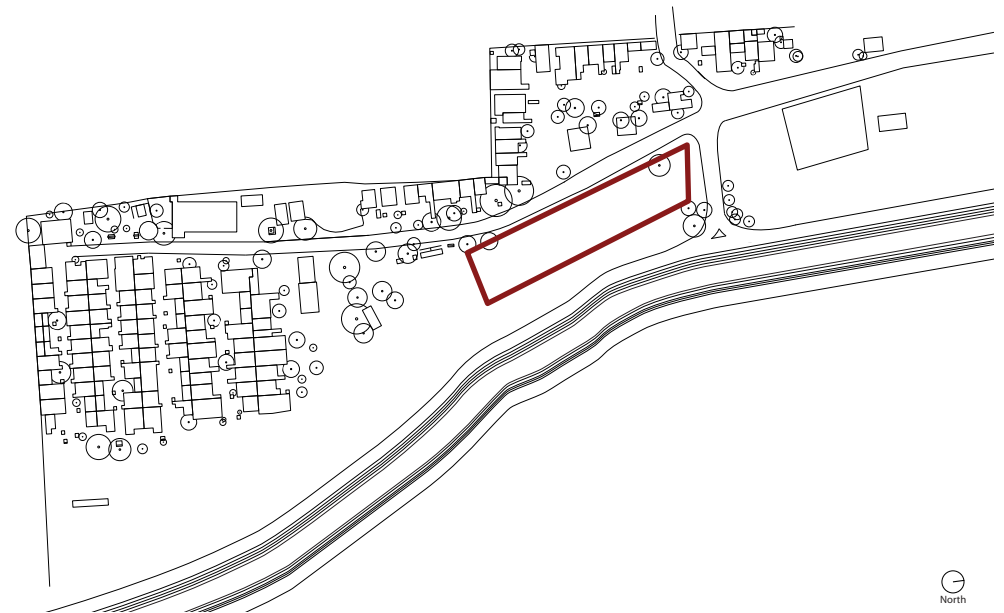
NEW TYPOLOGY



## WHY / WHERE

In the coming years there will be a need for new houses in the community when today's younger generation grow older and decide to move out of their parents house.

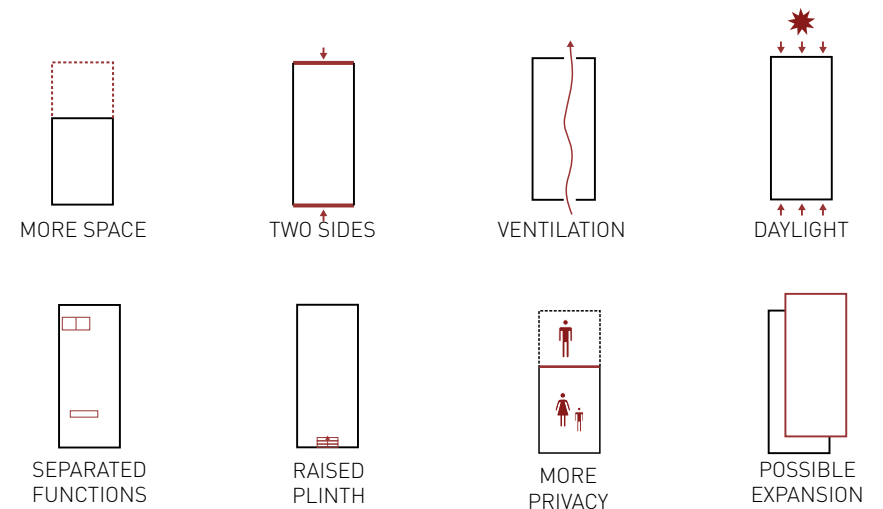
The location we propose for this development is today open, unused land and not established as a public space.

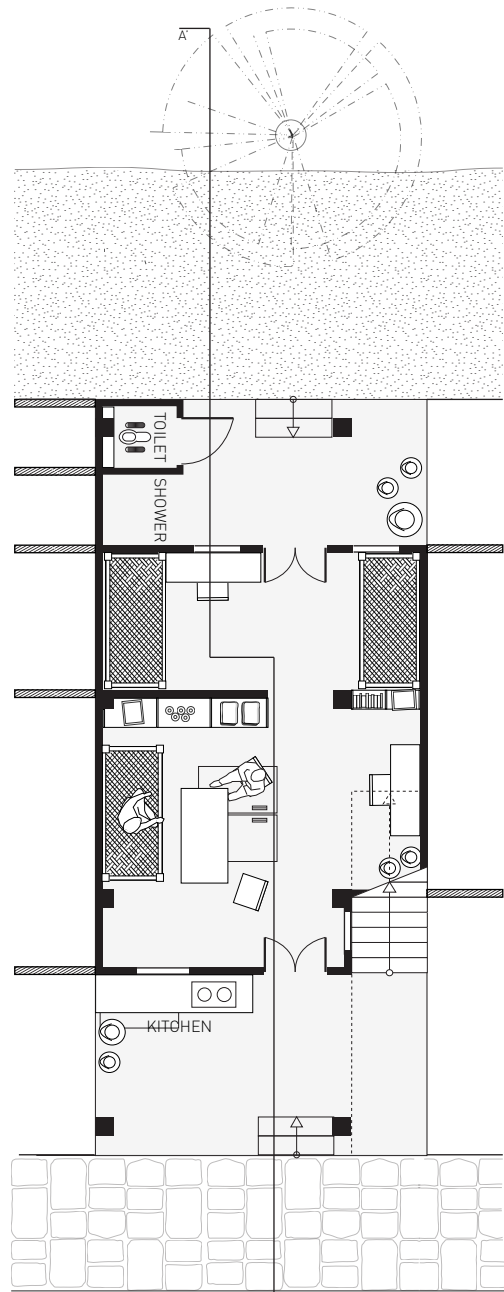




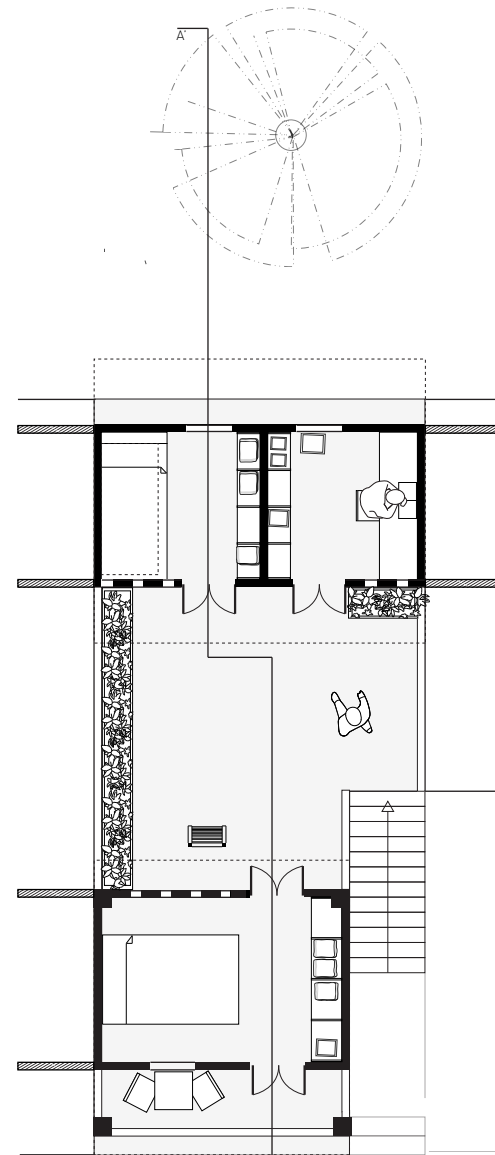
## IMPROVEMENTS

The new typology proposed is very much based on the other plans for the house upgrade, but aims to include, what we see as ideal, factors that would improve the living conditions in the community. The biggest change from the other plans is that this proposal has two sides, allowing air to circulate through the volume, ventilating it. One extra facade also improves the daylight facilities within the volume, and makes it possible to separate functions more easily than in the other proposals. By making the volume slightly longer it is possible to add an extra room inside. The extra space provided means that the residents do not have to occupy the same room at all times. This we believe, adds a certain sense of privacy which is not present in today's structure.

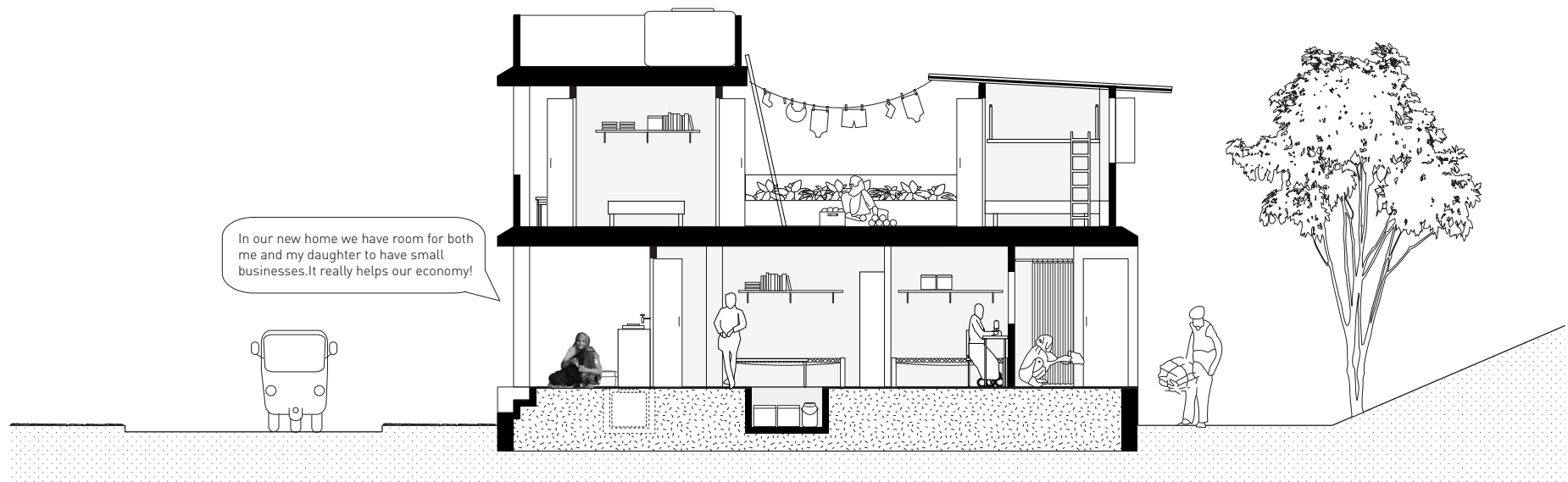




A GROUND FLOOR 1:100



A FIRST FLOOR 1:100



SECTION A-A' 1:100



“

*We consider a strategic approach that takes into consideration the long-term possibilities as our responsibility as planners, and believe it could play an important role in communicating ideas and be a mean for discussion. For us this is interesting because it illustrates that what we are designing does not have to actually be implemented to influence the process, and the overall, conceptual perspective makes it possible for us to investigate broader than if we limit our design to their present economical, social and political situation.”*

- reflection IV: Participitation



SUGGESTIONS FOR THE OVERALL DEVELOPMENT

### 3 MAIN CHALLENGES

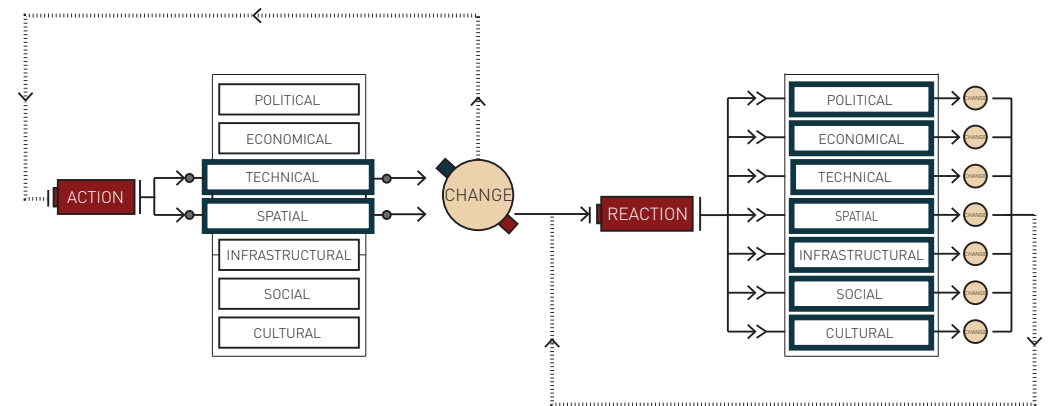
In order to approach our work with overall strategies we have chosen to divide the experienced problems into three main categories; flood, spatial and economy. By grouping the problems we found it easier to be more specific in our interventions, trying to target different challenges individually and then later relate the intervention to each other.





## THE VALUE OF SMALL INTERVENTIONS

In an urban context there are many parameters (political, economical, cultural, spatial, social, infrastructural etc) that are closely linked together, making a development a very complex matter. By making a change to one of these parameters, the premises for the others will change as well; meaning that one simple intervention within one of the parameters potentially can trigger a bigger development in the overall picture. By focusing on one of the parameters you reduce the complexity and thus make the situation more controllable. In our project we have used the house upgrade as our starting point but we still believe it will be important to have the bigger picture in mind.



## WHAT TO PLAN?

*Even though we strongly believe that we as architects and planners have the responsibility to plan for the future and that the social capital present in the community will enhance the possibility for a development to happen, we have been asking ourselves; what is the role of planning in this context where most things emerges unplanned based on immediate needs.*

*In the beginning we started to work with a conventional zoning plan, sketching future possibilities for an imaginary goal. This method helped us to be concrete about what we pictured could be useful to implement in the future, but at the same time we felt that a conventional master plan made little sense for the community as they don't access the resources needed to conduct such an overall development in one step. Even though we are in a situation where we can give recommendations as professionals, our proposal could easily become alien and irrelevant for the locals if it is dependent on a linear process and communicates only an utopian situation. In our opinion we had to change our approach and rather try to communicate that our suggestions should be understood as impulses that wanted to "cultivate an environment for change from within" as Nabeel Hamdi describes it and not as instructions for how to arrive at an ideal solution.*

*We believe that a development (at least in this specific case) should focus on today's situation and try to improve it within the existing familiar framework rather than focus on a major reorganization. We understand planning not as the solution, but rather as a tool in the process that should be used strategically, and has called our work with the overall development, a development plan and not a master plan. In our opinion it implies that it is the development that is the important and not a final scenario.*

- extract from reflection







## OUR GOAL

Working with the overall development we believe that the most valuable contribution is the work we do with infrastructure and zoning. Infrastructure is essential for development to happen and together with defining zones for public program, new houses and commercial activity, and suggest valuable space to be preserved, it could define a framework for development to emerge.

Even though we believe that it is the bigger guidelines and suggestions, rather than the detailed design that is most valuable, we will also try to show some possibilities within the framework. In the following chapter we will present our suggestions separately as we believe this will make it easier for the involved stakeholders to process, discuss and make use of our work. Even though they are presented this way and several of them could work individually, we do believe they will have a bigger effect if they are seen in relation to each other.

# TODAY'S SITUATION

Original Scale  
1:100

North

Legend

- High road
- Low road
- Wall
- Gate
- Tree
- Open space
- Building
- Ramp

89

Original Scale  
1 : 100

89

## THE VALUE OF THE EXISTING

We find great value in much of the already existing space in the community and will recommend that as much as possible of the public space they use today is kept accessible also in the future. Our experience is that the community themselves want to build houses and/or public program on much of it, as this land is proven well-functioning and is for them the easiest land to make use of in a short-term perspective.

### TEMPLES

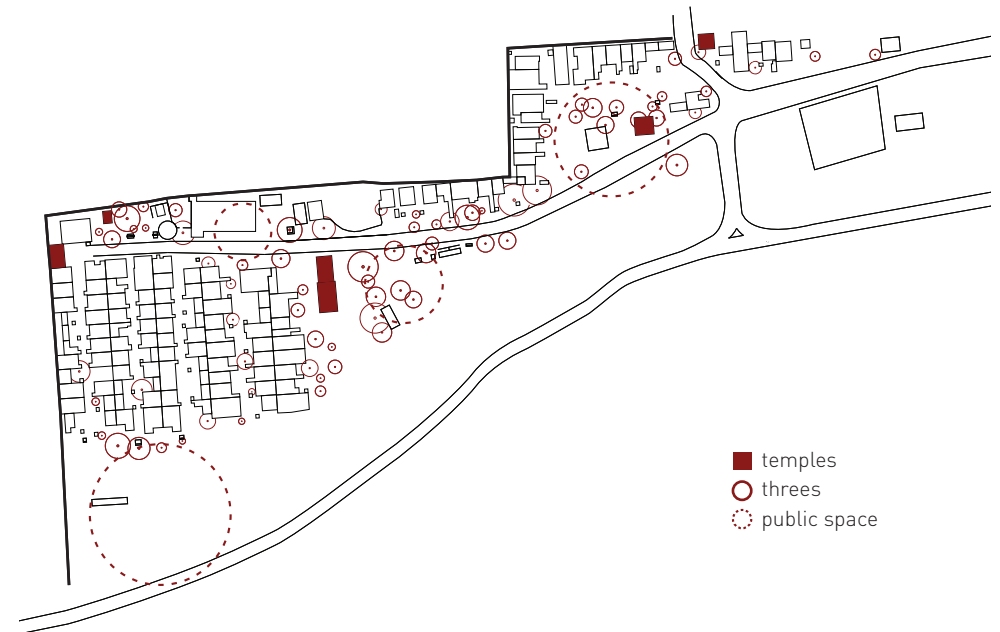
We are recommending that every existing temple should be maintained also in the future as they are important religious places and defines well-established space in the community. They are already influencing their surroundings positively as they preserve and shapes public space in the community.

### TREES

We are both encouraging and assuming that the green spaces and existing trees will be preserved in the future development as they are important for public space in the community offering shade, fresh air and visual stimuli.

### PUBLIC SPACE

The community possesses several bigger public spaces in undeveloped areas of the community. This space is well used and offers a variation to the dense housing structure. They are rather well-located and distributed and placed in connection with valuable trees and access points. Even though the community want to build new houses on this land we are suggesting that the inhabitants should try to preserve and rather develop this land further as public accessible land instead of privatizing it.







I think we should start building some new houses here as this land is easy to use

but, we are using this space every day



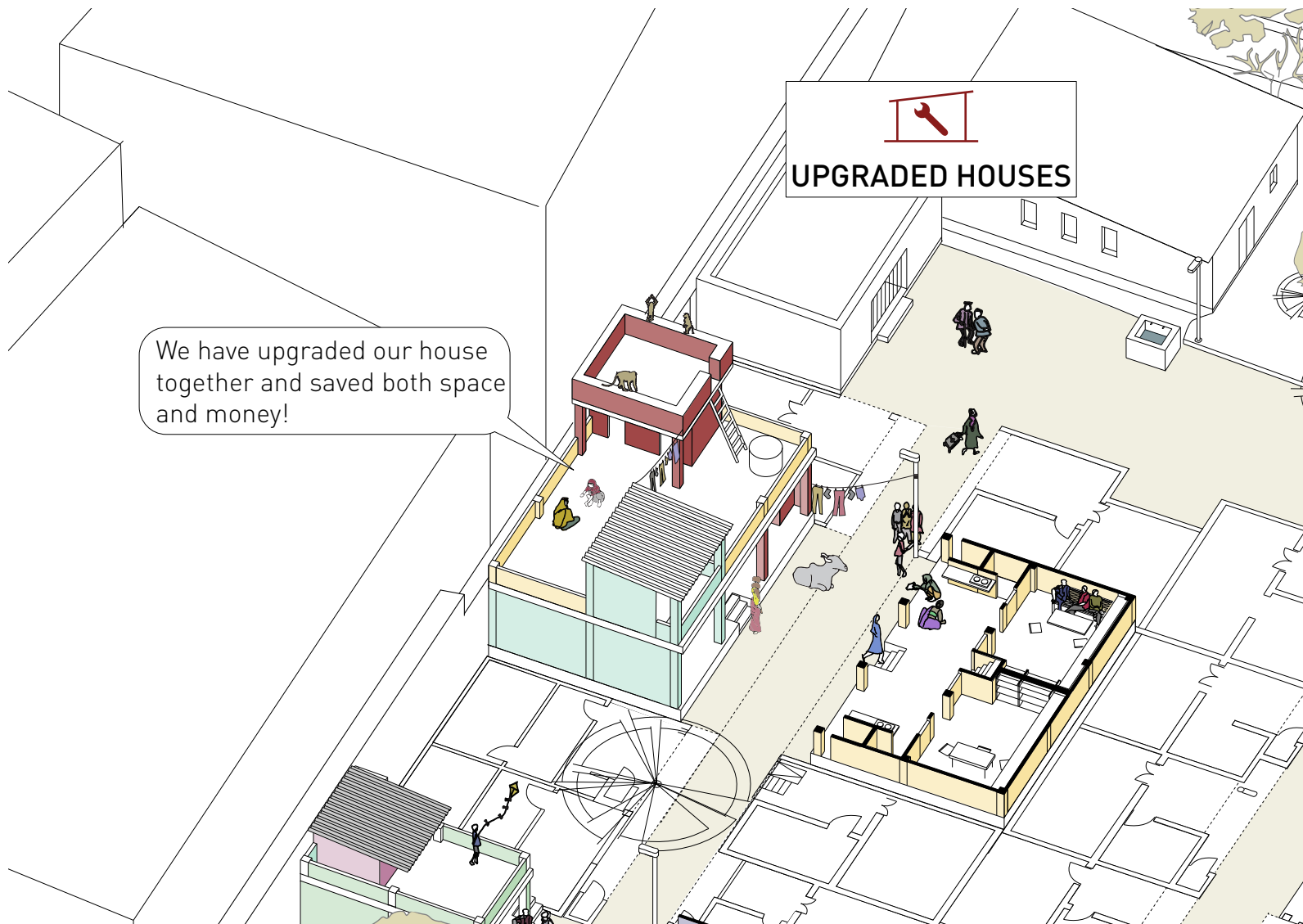
We are using this old landfill everyday for our cricket matches. My team is always winning

## HOUSE UPGRADE

As earlier discussed we believe that a house upgrade is the single most effectful thing to do in the community. Not only will this be important for the individual family through providing a better house, but we believe it could be proved important for the community as a whole

A house upgrade could and would probably happen individually, but we believe it is possible to find guidelines that would be beneficial for the entire community. In our suggestion a individual houseupgrade can lead to improved streets and infrastructure for the community over time. Even so, it is important that the individual household benefit from the process.





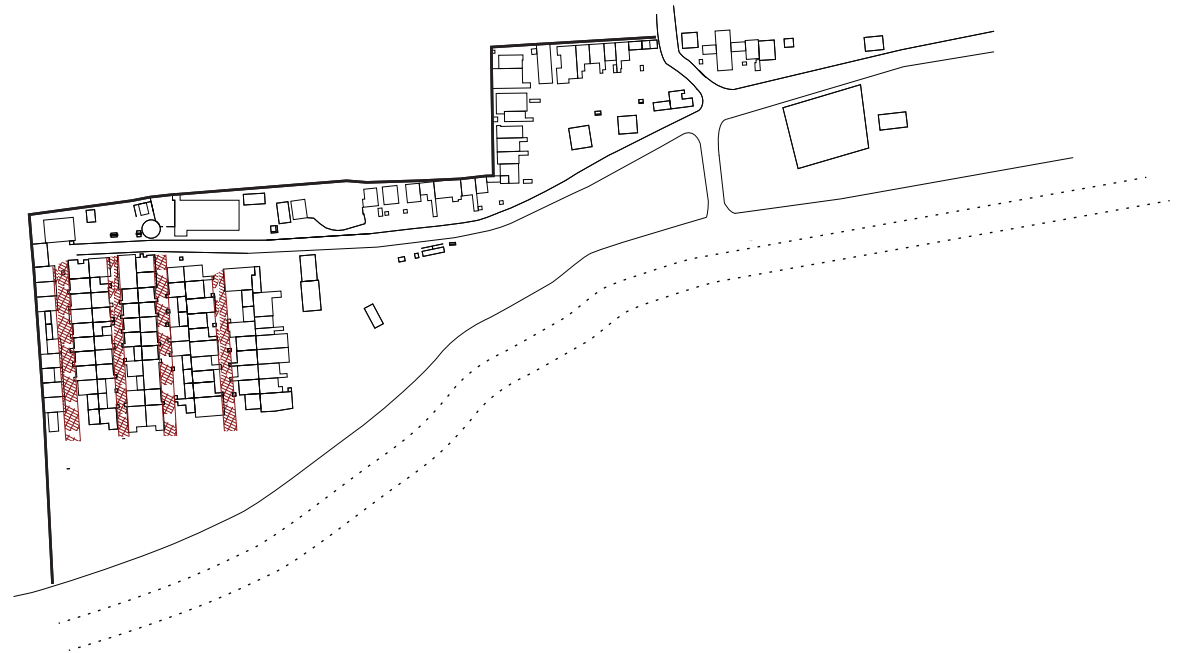
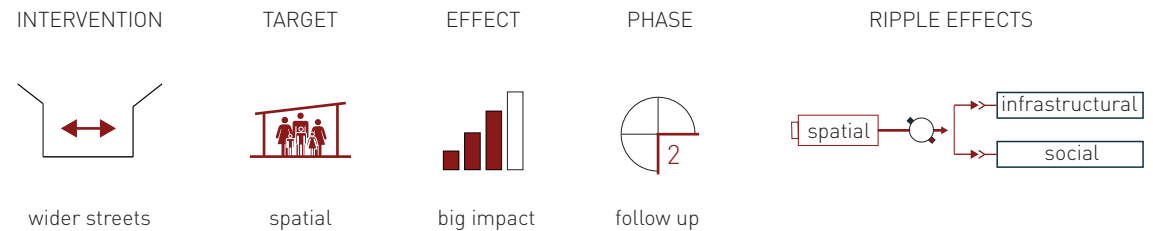


## WIDER STREETS

If the houses start to expand vertically from today's situation the streets will be experienced very differently.

In addition to a narrower spatial feeling the amount of daylight in the streets will be reduced and the air quality will be worse. A wider street system would be recommended as it will improve the street access, ventilation and better the spatial quality. Implementing wider streets while the houses are rebuilt will make place for a better drainage line, an improved sewage system and an upgrade of the general infrastructure.

As the street widths varies today, the different streets will need individually adapted solutions in order to find a recommended width.



## NEW HOUSES

In the coming years there will be a need for new houses in the community when today's younger generation grow older and decide to move out of their parents house. This is very likely to happen as it is economically affordable for the families since the community already is in possession of the land. Therefore the economical arrangements will be way better than elsewhere in the city.

The location we propose for this development is today open, unused land and not established as a public space.

The new tyopology proposed is very much based on the other plans for the house upgrade, but aims to include, what we see as ideal, factors that would improve the living conditions in the community.

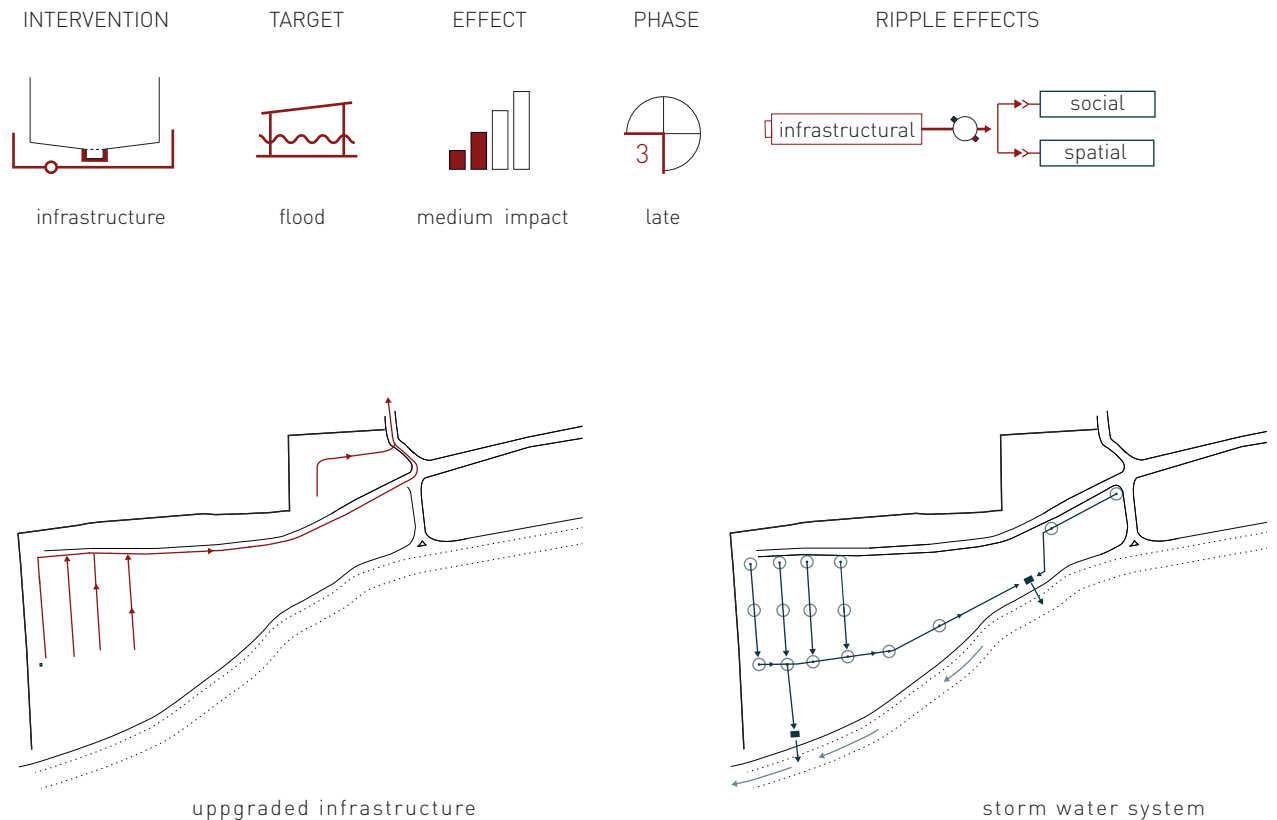


# INFRASTRUCTURE

As it requires a big operation to upgrade the infrastructure in an already existing neighbourhood, a holistic development should be thought of from the beginning. If we are introducing wider streets it will be possible to upgrade the infrastructure at the same time.

It should be considered to include streetlight and electrical underground wires, making storm water grooves, connecting the households to the sewage pipes and making the pavement more durable

The water grooves are not constructed in order to solve the flooding problem alone but aims to increase the drainage efficiency and reduce the flood water in the streets. If the grooves are connected to the water pump(s) or other similar interventions the flood water will be removed quite quickly into the open sewage canal. Today it only exists very few catch pits in the community, so if the infrastructure is upgraded, new ones should be constructed





## BASIC PRINSIPLES

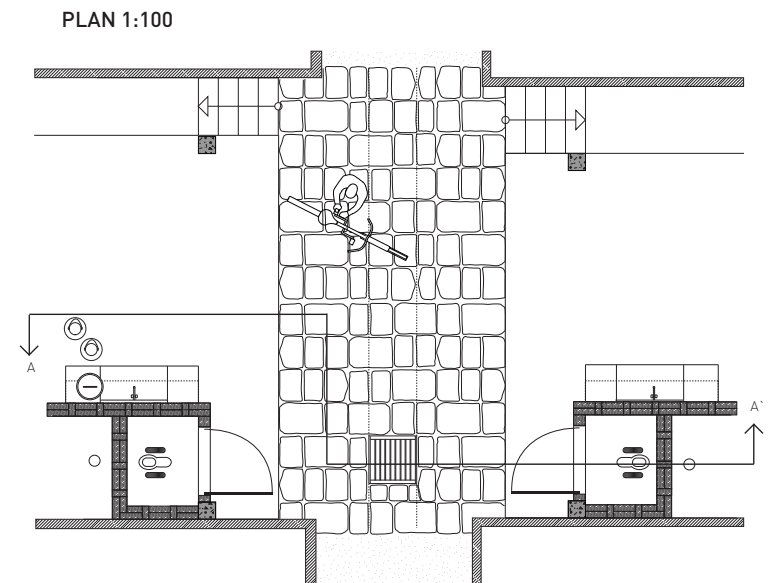
We suggest that the water grooves are placed in the middle of the street as this will lead water away from the house and thus reduce the water damage on the construction. This design also makes the drainage system cheaper to construct and easier to maintain as it will be sufficient with only one longitude groove. Underground storm water piping will be unnecessary as the street is both narrow and relatively short. Instead the storm water can be carried away in the shallow water grooves.<sup>1</sup>

In order to prevent dangerous situation the groove should be covered. In our suggestion the different catch pits are covered with simple metals grills that could be removed for maintenance and cleaning.

Today several streets are covered with granite stone, but in some places it only exists dirt roads. If possible the community should try to support a development where they construct solid roads in the whole area. The already existing granite stones could be used further, as stone tiles offers a cheap, durable and aesthetic alternative to asphalt or other similar alternatives.

It already exists a semi-functional sewage system in the community, but if possible, an upgrade should be conducted. First of all, wider pipes should be implemented in order to prevent clogging and the pipes should be connected to the individual houses as fast as possible.

As there will be no heavy-traffic in the area the pipes could be placed approximately 50 centimetres under the ground level without being damaged.<sup>2</sup> If possible the pipes should be collected and placed in a small culvert.



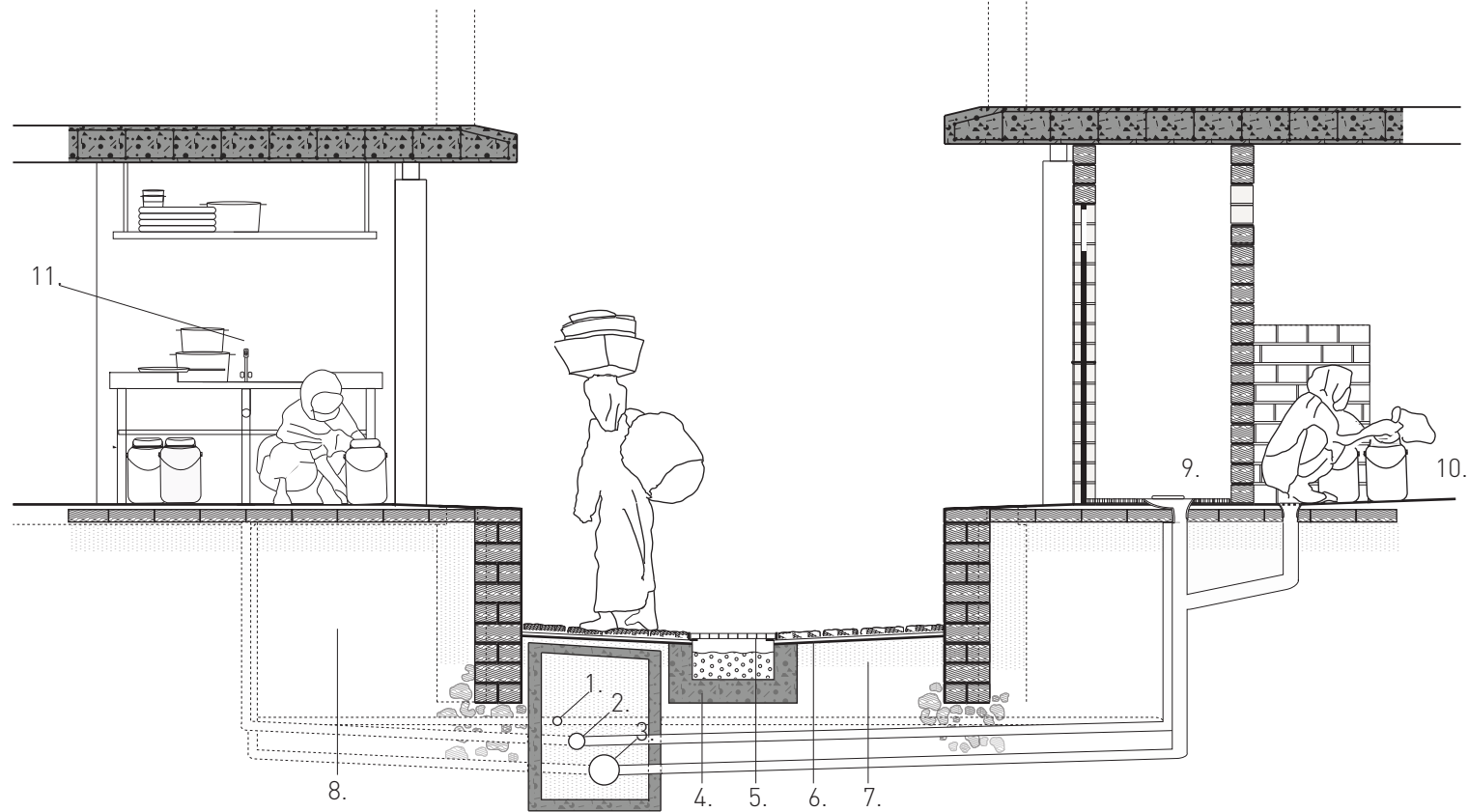
1. Kost, Christopher., Nohn, Matthias. 2011.p16

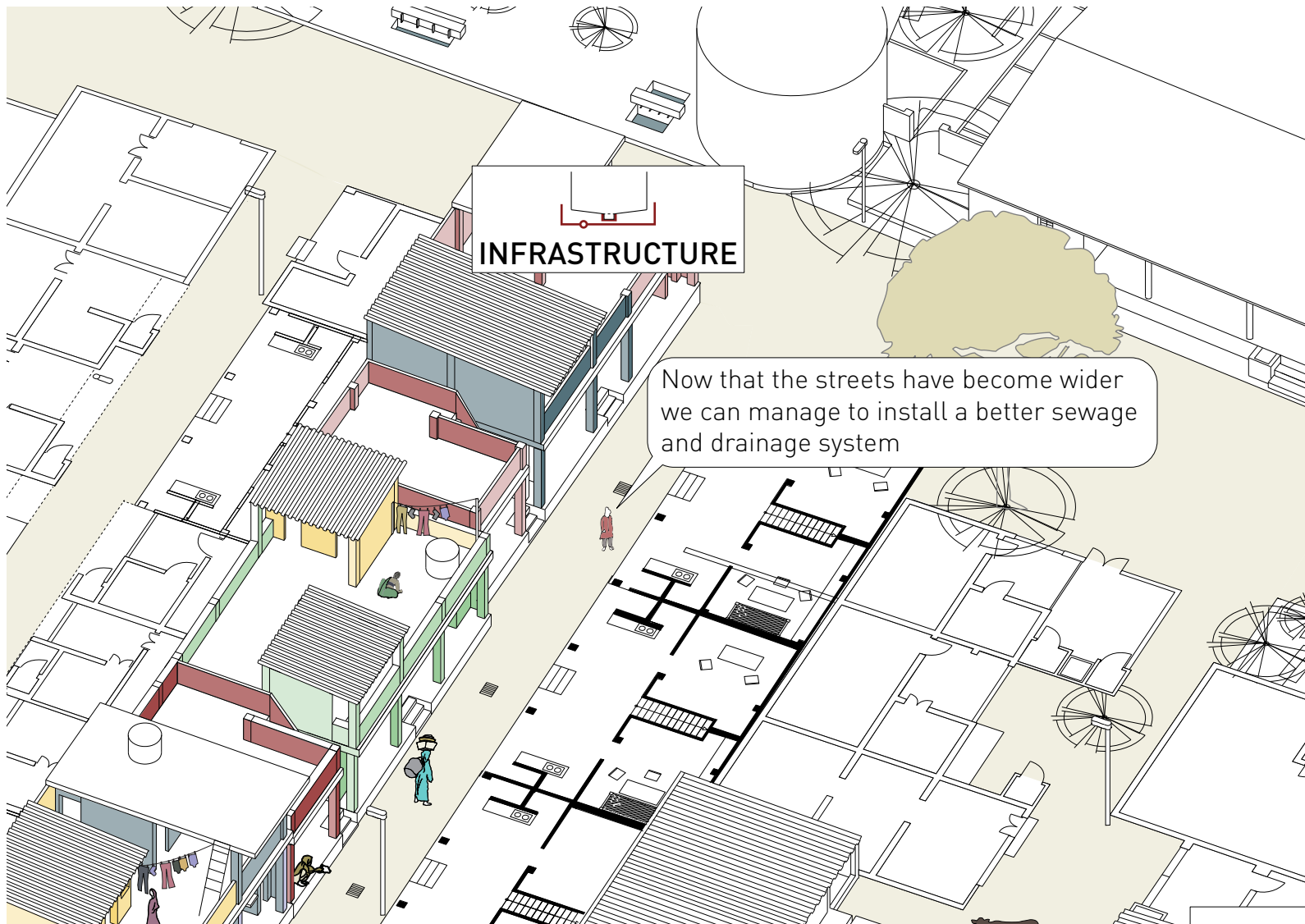
2. Mathisen, Kjersti Os, Amundsen, Silje Høyem., 2011. p41

# SECTION A-A' 1:50

1. ELECTRICITY 50MM
2. CLEAN WATER 100MM
3. WASTE WATER 200-300MM
4. CONCRETE STORM WATER COLLECTOR
5. CATCH PIT GRILL LEVEL +0.00M
6. GRAVEL

7. SAND
8. INFILL IN PLINTH; STONE, GRAVEL AND OLD BRICKS
9. TOILETS
10. WASH ROOM
11. WATER TAP







# WATER PUMP

In order to reduce the flooding we are recommending that a new water pump should be installed in the south-east corner of the community. We believe that this will be the most immediate and efficient action that could be taken by the municipality.

Water is today gathering in the south-east corner as this is the lowest point in community. A water pump installed higher in the terrain could use suction to remove water and pump it out into the canal. This intervention could be installed without any further intervention, but also be connected to an upgraded infrastructure later in the process. This makes a water pump a cost efficient intervention to implement both in the short and long perspective.

The pump station will not remove the flooding problem alone, but drastically reduce the time it takes to get rid of the surface water.



### BASIC PRINCIPLES FOR WATER PUMP DESIGN

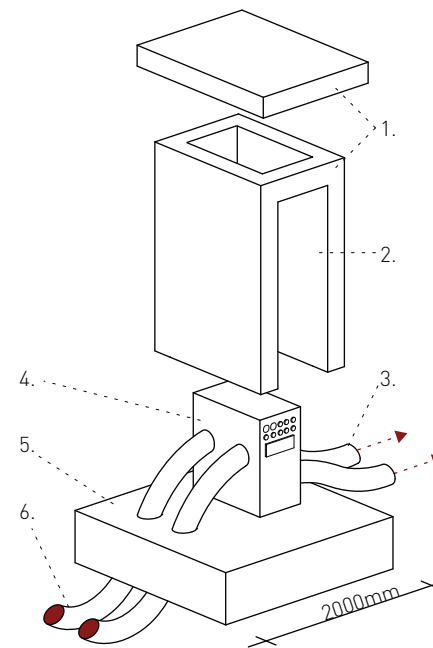
The machinery needs to be placed in a secure shelter to prevent vandalism and interference from outsiders. At the same time it should be accessible for maintainance and routine controls.

### ADDED VALUE TO THE WATER PUMP

We suggest that the water pump is installed with the overall development in mind and that it is used to create a useful space as it anyway will take up valuable land.

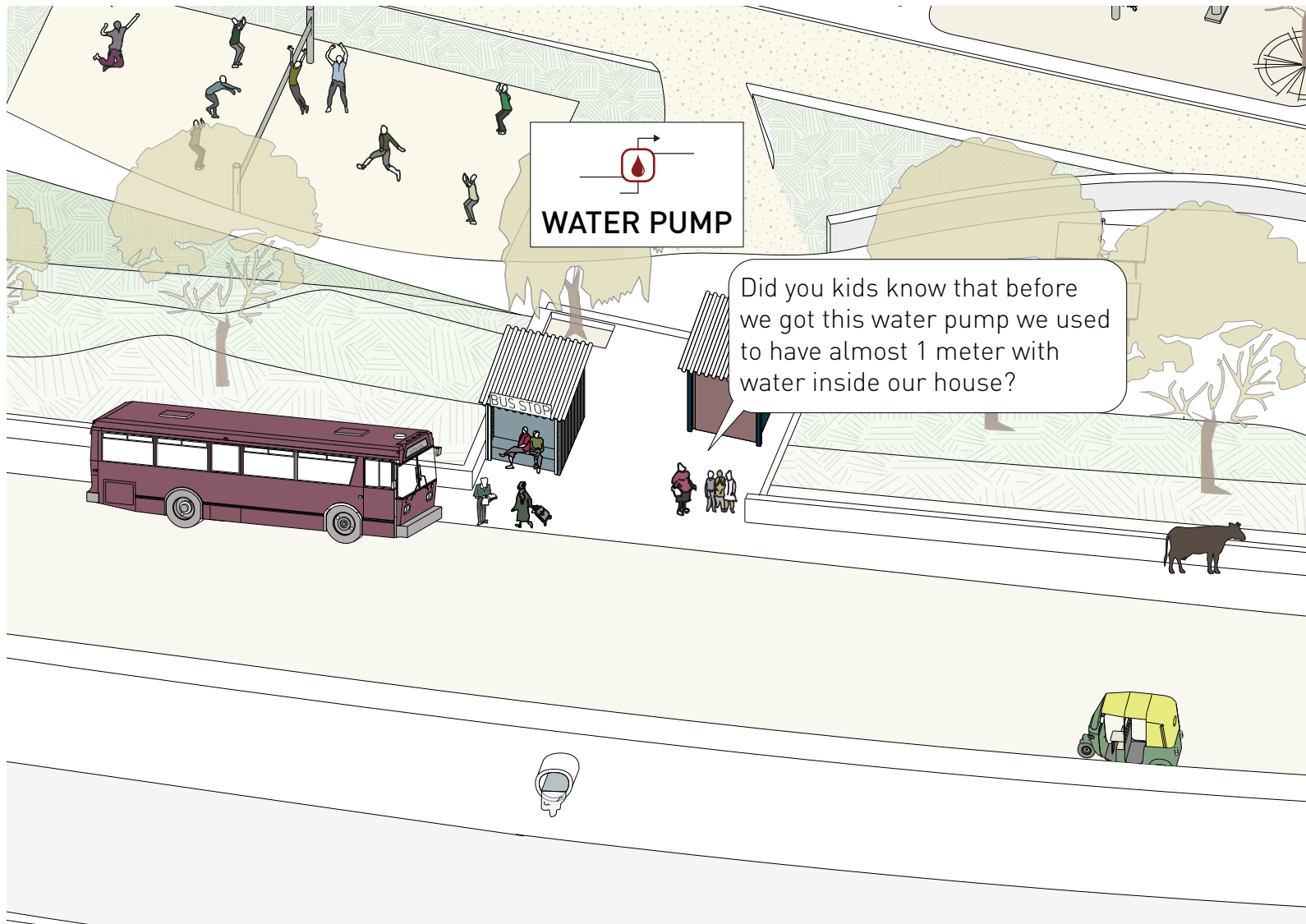
In addition to the water pump it will be possible to use the solid plinth for other functions such as storage space for the community and a small bus stop if the bordering main road is developed as planned.

We believe that such small additions can create other valuable ripple effects and maybe be the start of developing additional space for commerce or recreation.



### BASIC PRINCIPLES FOR THE DESIGN

1. solid walls and roof for protection
2. access for maintainance
3. pipelines connected to the canal
4. machinery running the pump
5. solid plinth to prevent flooding
6. pipelines connected to manholes





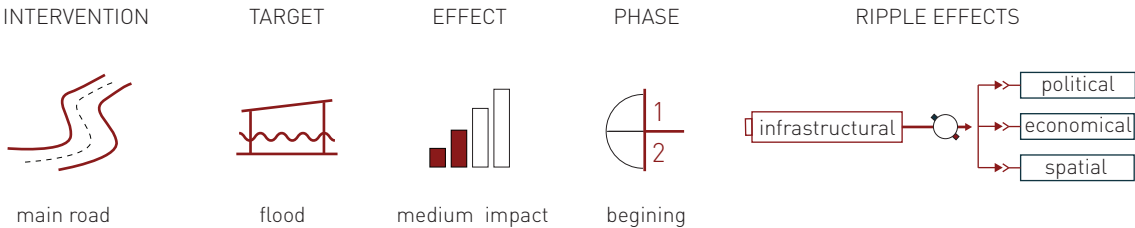




# NEW MAIN ROAD

As the government is planning to widen the main road situated parallel to the community we are suggesting some improvements to the road design.

Today the road inclines towards the community instead of towards the canal on the opposite side. The result is critical for the inhabitants in community as an unnecessary extra amount of floodwater is coming directly into their neighbourhood.



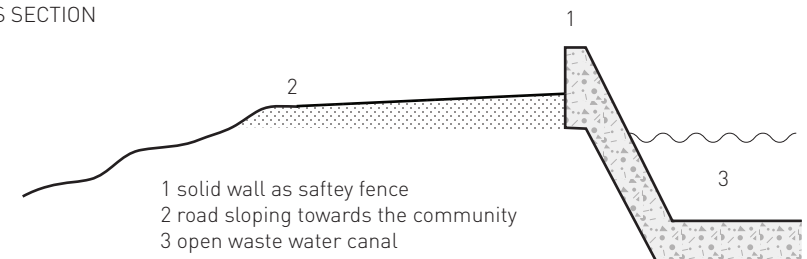
### BASIC PRINCIPLES

The municipality should make sure that the new road utilizes its inherent possibilities and it is natural to direct the inclination towards the canal. If the municipality choose to do this it becomes important that they are rebuilding parts of the safety fence at the same time. This should be more porous in order to drain the water naturally and remove surface water from the road.

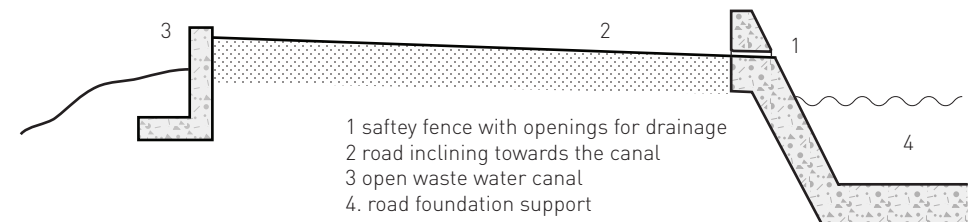
A wider road will also result in more activity around the community and raise the land values as the area becomes more developed and accessible. This activity could become beneficial for all stakeholders involved if the road is rebuilt properly.

It is a lot of potential for public space organized around the road that also could become better utilized for commercial activity and public transport. It is important that this is taken into consideration .

TODAYS SECTION



SUGGESTED PRINCIPLE SECTION





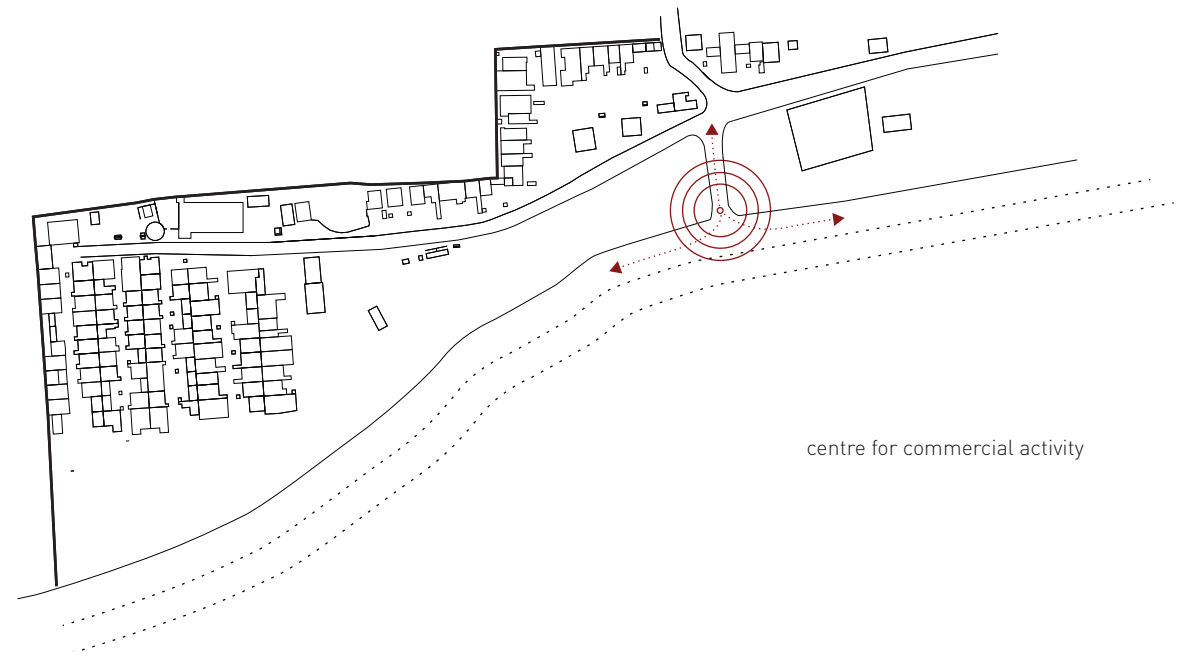
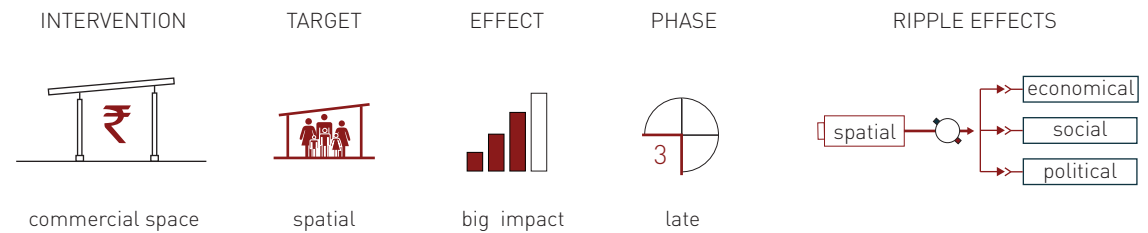
## COMMERCIAL ACTIVITY

As it exists a big aspiration for local entrepreneurship in the indian culture we will try to facilitate a development that can support the creation of new economical possibilities in the area.

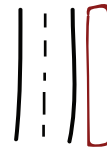
A lot of informal business is already happening in and around the community and we believe it would be beneficial if this type of vendings and services are taken into consideration when developing the new infrastructure and zoning.

Typically these businesses take up space planned for footpaths and carriageways along the road, but we believe that rather small measures could be taken in order to prevent this from happening and at the same time provide the vendors with access to valuable land.

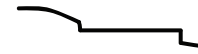
If the main road is developed as planned it will increase the thoroughfare of people in the border of the community and it will undoubtedly become a big potential for new economic activity in the area.



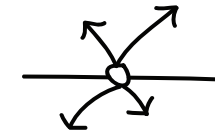
concept



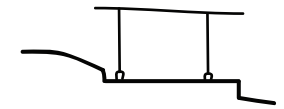
preserve space  
around the main road



establish a building pad  
in the terrain



provide infrastructure  
such as electricity and water points

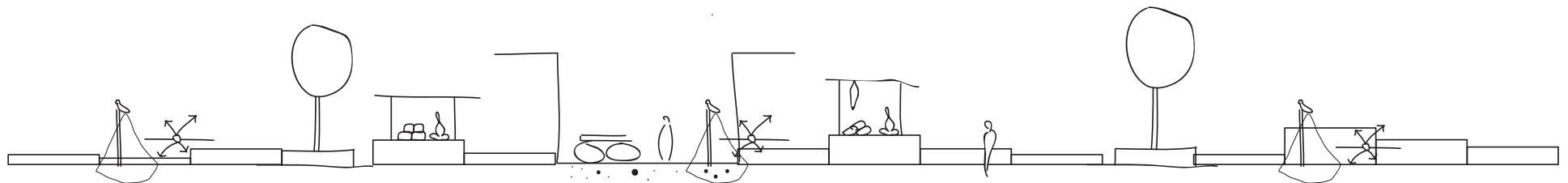
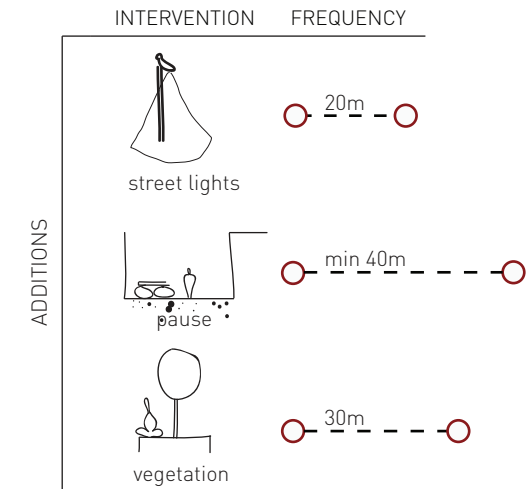
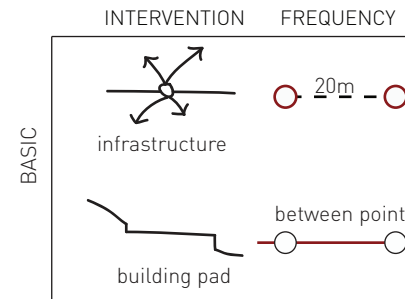


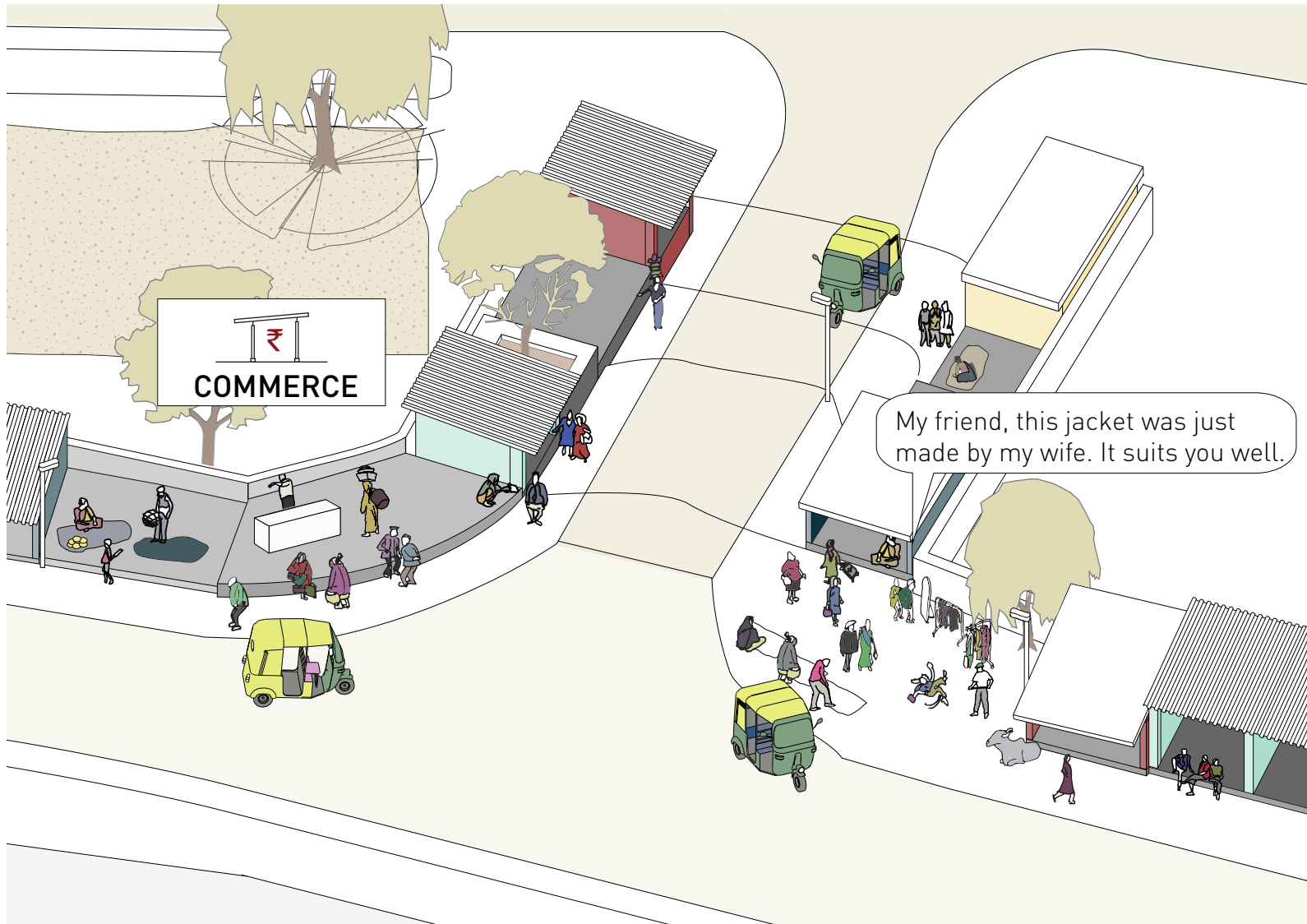
let the space become  
inhabited and used

## BASIC PRINCIPLES

We will not suggest a big commercial building, but rather try to facilitate for business to emerge. A 5 meter wide strip of space should be preserved around the main road while infrastructure and building pads are provided by the local authorities.

If such simple actions are taken the space could be developed differently, offering opportunities for the community to start small businesses, rent out space to external shop keepers or use it as an addition to the park or public space for recreation.







“

*The informal economy, previously considered a parasitic irrelevance on the edge of the “main” industrial economy, now represent 70 percent of all jobs in India... It is a form of labour that is often less secure, and which offers none of the social-security benefits or long-term guarantees of industrial work – but, to its immense benefit, it is a form of work that is available to almost everyone who comes to the city. On the whole, it appears that the informal, self-employed economy, even though it is more chaotic and often untaxed, is providing better livelihoods for rural migrants than the old lifetime-job economy.”*

- Doug Saunders, 2012



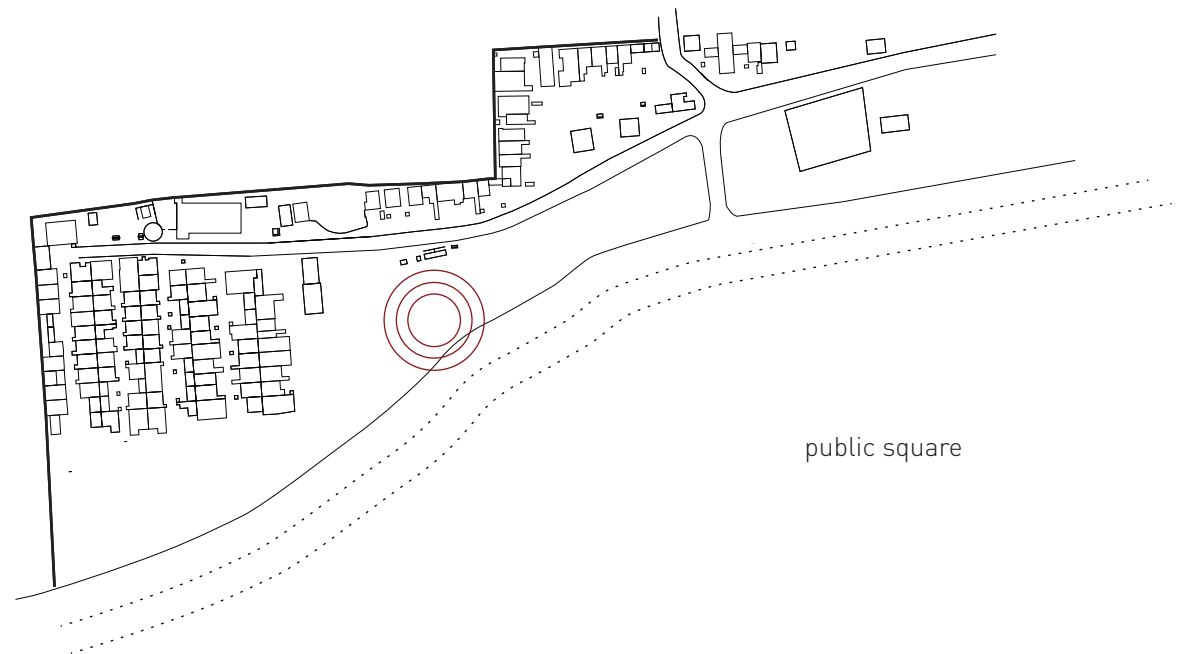
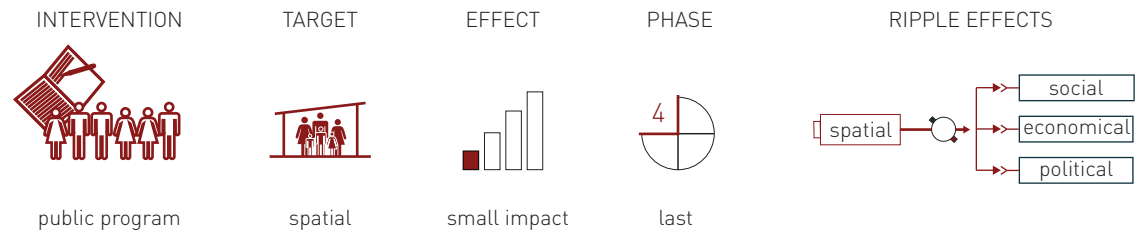


## PUBLIC PROGRAM

Even though some public program already exists and a new pre-school is getting built by the municipality, it could still be advocated for improved public facilities in the community,

In a short term perspective the need for any new public program is not very urgent, but as a part of the planning it becomes important to preserve space for a possible later development.

We believe it would be beneficial to keep space available in the centre of the community as this space is easy to access, is a place where it is relatively easy to construct new buildings and is connected to other already existing program such as the main temple, the small playground and the new pre-school .



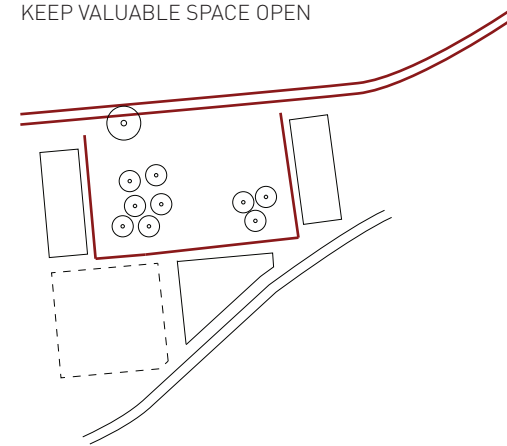
## BASIC PRINCIPLES

We recommend that any new buildings are organized around the existing trees as this space is well-functioning today and should not be removed as a response to other short-term needs.

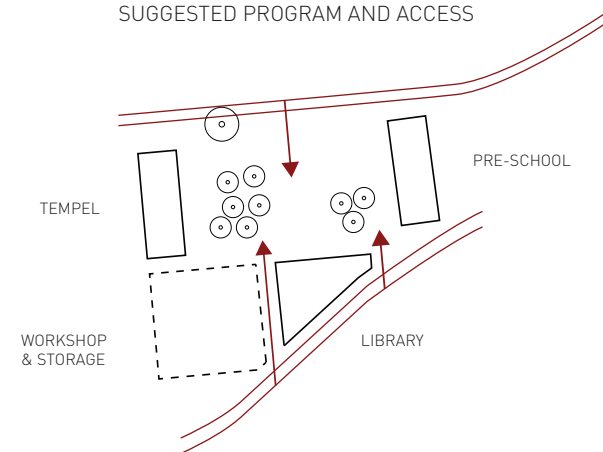
The community has announced several different wishes and everything from a public swimming pool to a library and a small guest house has been mentioned in the discussions. We suggest in addition to the already existing temple and the upcoming pre-school a library and a building for workshop, work spaces and storage.

We propose that the square could be entered mainly from the community, but also from the main road, and suggest to establish axes that ensures connection both ways.

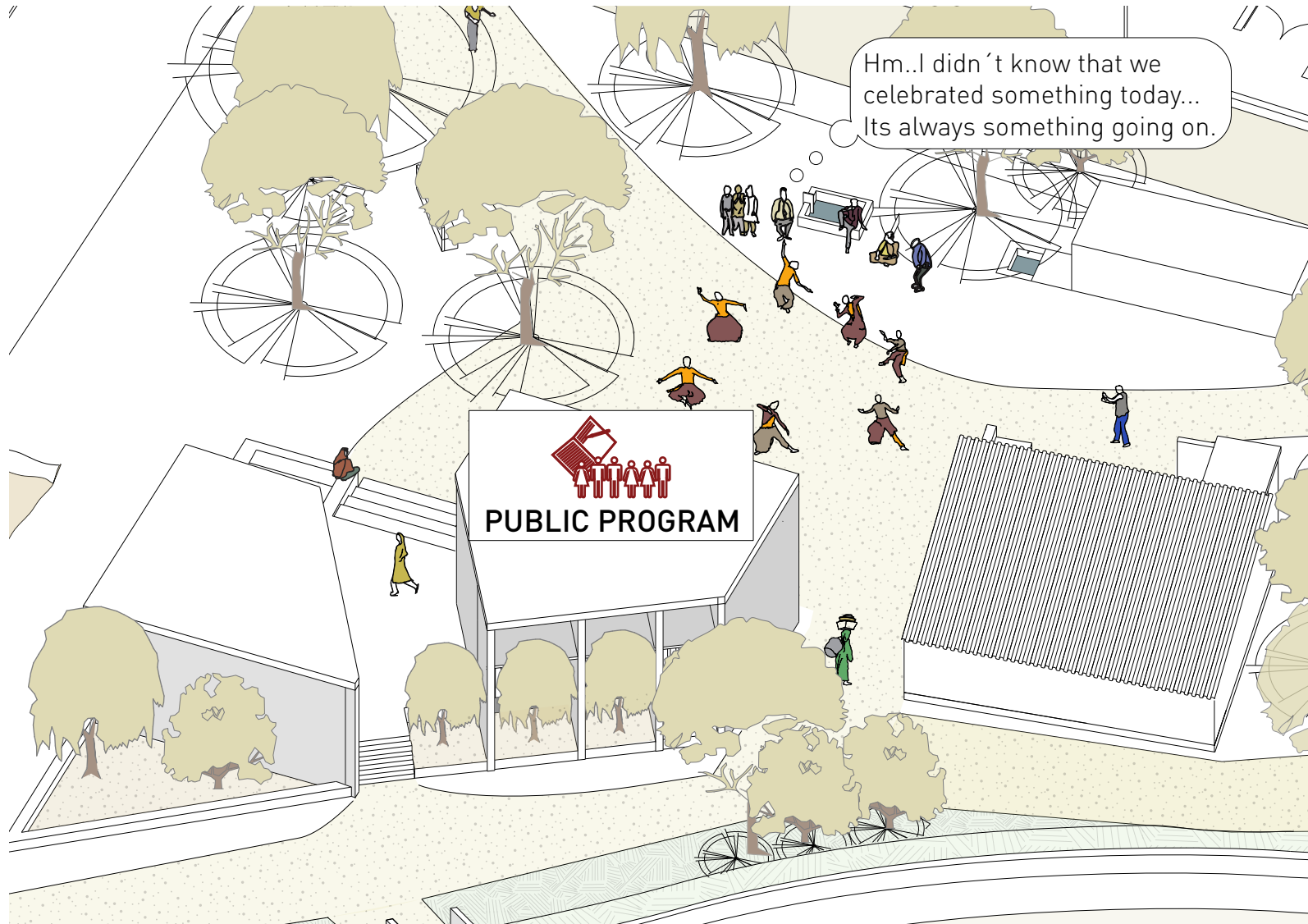
KEEP VALUABLE SPACE OPEN



SUGGESTED PROGRAM AND ACCESS









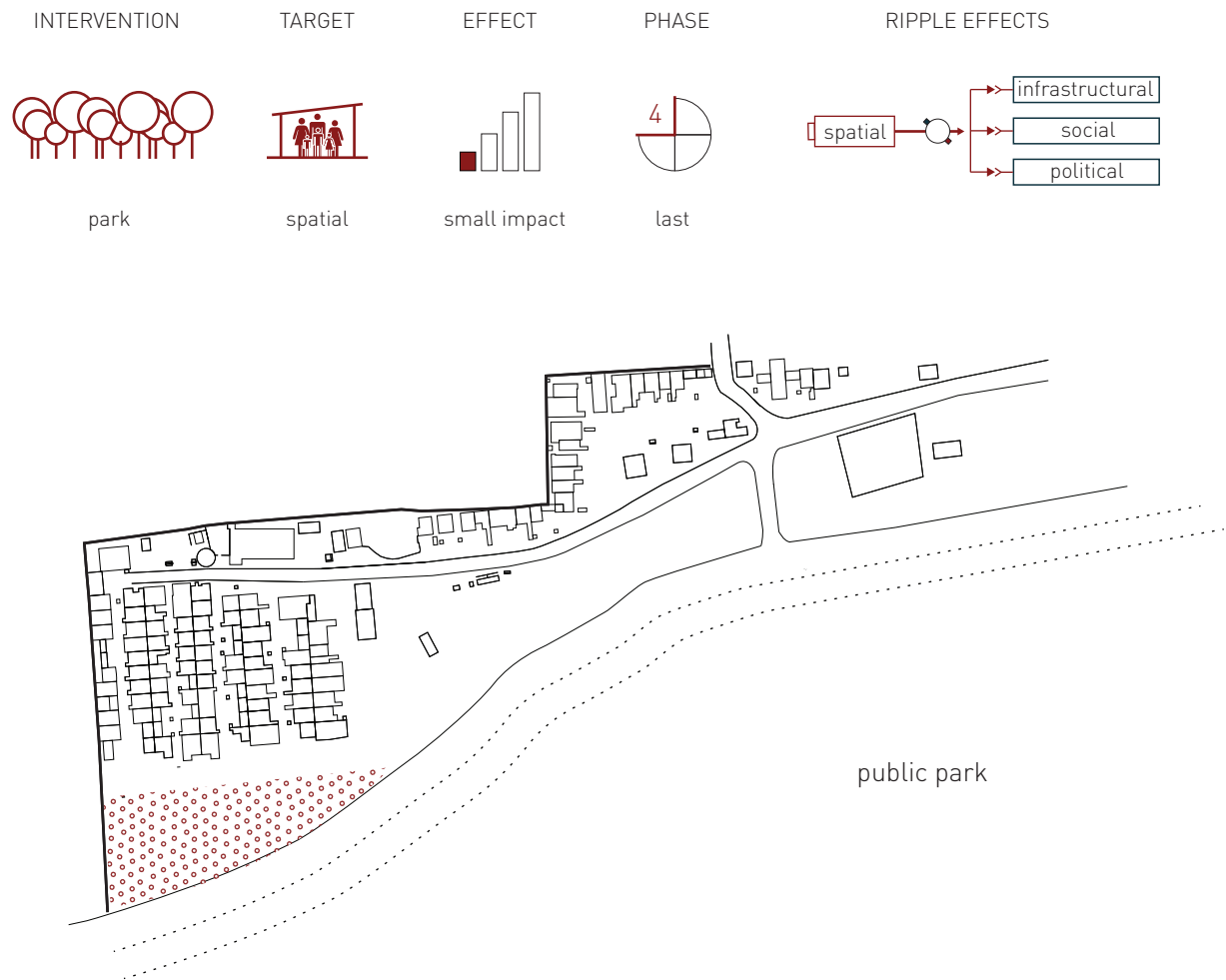




# PUBLIC PARK

The municipality has already suggested a park in the south east corner of the community and since this land is owned by them they have the right to develop it as they want. Isolated, a park will have little impact on the community apart from a beautification of the space, but indirectly it could become beneficial for the community indirectly.

If the park is constructed the municipality will be obliged to take action against the flooding as a park will be difficult to sustain if contaminated flood water access the park every monsoon. At the same time, the land will become public accessible and could be a good recreation area for the residents. As the park becomes public it will also increase the thoroughfare of people which could be beneficial for the community economy.



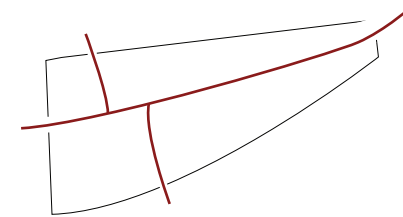


## BASIC PRINCIPLES

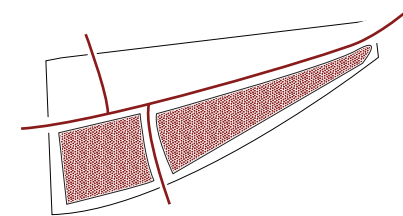
If the park should be developed it should be done with the community in mind as they are the ones using this land today. Instead of making an enclosed park we suggest to use the land to connect neighbouring areas and make a valid spatial expansion of the community.

An enclosed wall around the park is beneficial for the maintenance of the park, but if this is done it could increase the flooding problem in the community and exclude the inhabitants from using it. We are therefore recommending to find a solution in-between a totally open and totally enclosed park and suggest a buffer zone with activities that separates the private from the public. It could be obtained through vegetation and a smaller recreation program with exercise equipment and benches.

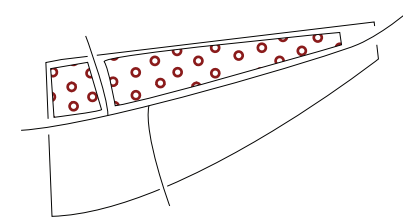
Bigger program should be placed on the other side of the footpath and towards the main road as this should be easy accessed by bypassers.



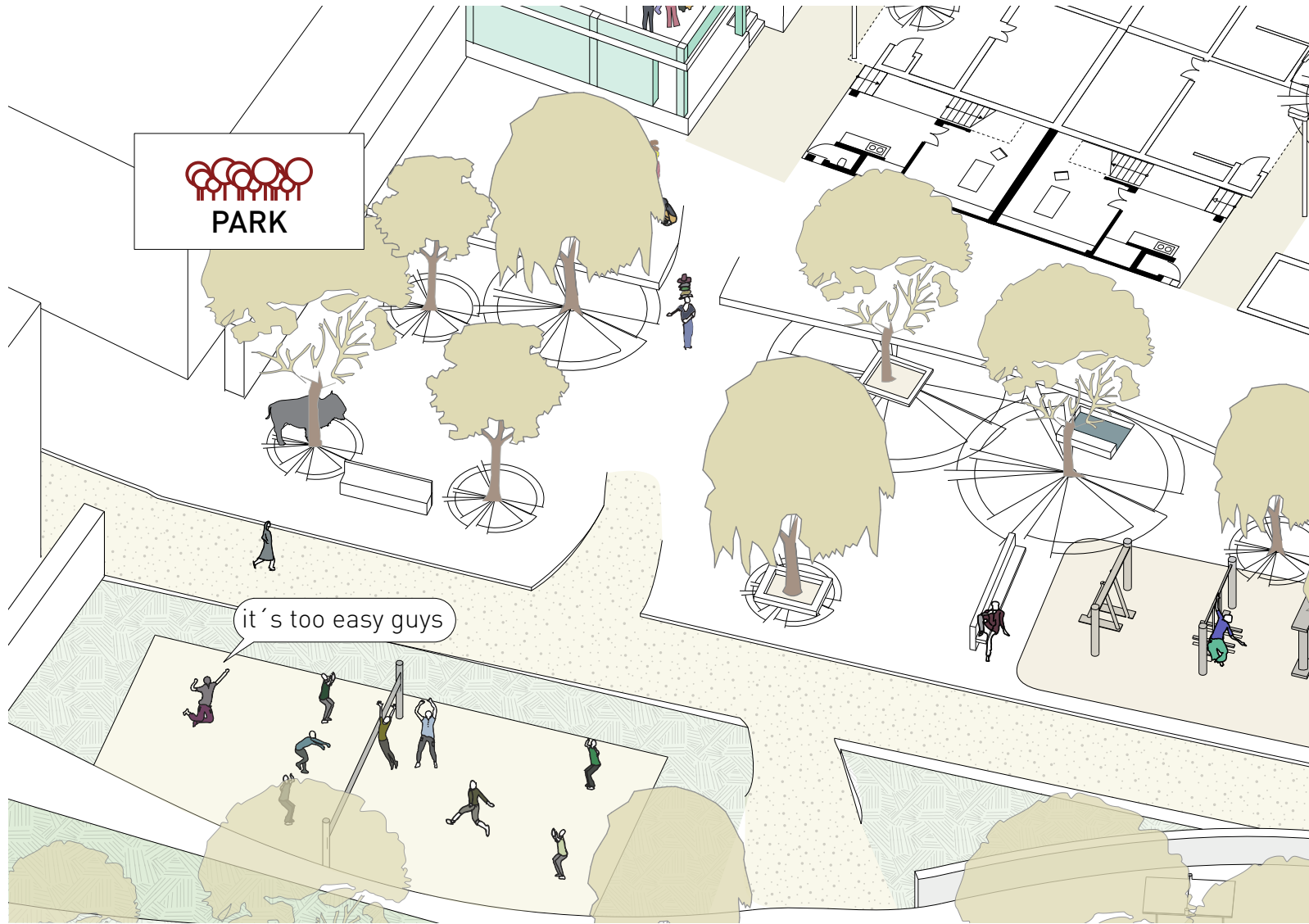
access



public program as recreation and



semi open buffer zone towards the private community

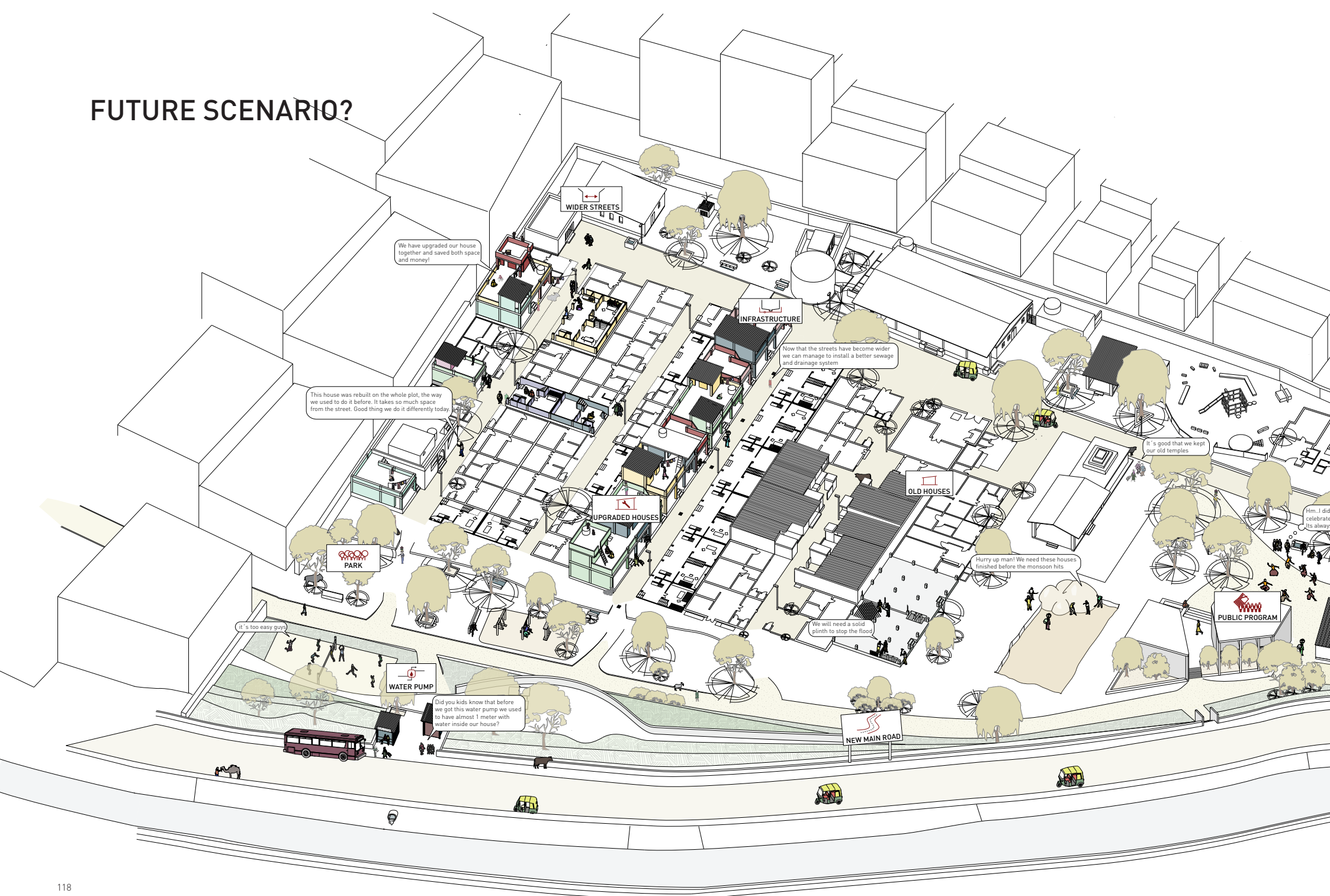








# FUTURE SCENARIO?











REFLECTIONS



## INTRO

The reflections are attached in their entirety as they were at the time they were written, and indicate our point of view at the given time in the process. The texts should not isolated be considered as the reflection work in our project, but should be seen in connection with the rest of the text presented, and on the blog in general ([www.ritanagar.blogspot.com](http://www.ritanagar.blogspot.com))

The reflection texts are intended as bigger discussions surrounding topics that have been important for us in the process, and have helped us to sort out ideas and develop an architectural answer. Some of the discussions focuses specifically on our project while others are more distanced and discuss more general and theoretical considerations. We believe both have had value for us in developing the project.

## SUMMARY FROM OUR WORK IN JANUARY; PREPARATION FOR THE FIELDWORK

21. januar

We are now one day away from departure to India, and it is time for a brief summary of what we have done so far.

In order to understand what we were going to do in our preparation we are referring to our preliminary work from December:

- *Study the topic through literature and case studies*
- *Define the site and what we are going to do*
- *Collect maps and other relevant information about the site and the people living there*

*In this period our goal is to get a knowledge database that will help us approach the work when we arrive in India. We will read literature and study projects that deal with informal settlements and development strategies, and discuss these texts. This way we get an idea of different theories regarding the challenges while we start our own thought process. At the same time we will collect information about the settlement in which we will work and keep a dialogue with our contact in India in order for us to evaluate the ongoing process and specify what we are going to work with during our stay in India.*

### Preparations

Because it has been difficult to know exactly what we are going to do and where we are going to work when we arrive in Ahmedabad we have approached the project through literature. By studying theory and different projects with similar topics and challenges, as we will be facing in India, we believe that we have gotten some knowledge and inspiration that will be useful during the process, both in the field and back in Norway.

We have also been in dialogue with our contact person in India, Abhijeet, in order to clarify were it is possible for us to work, what kind of processes that exists and if there are any organizations that want us to contribute. This dialogue has resulted in a site right at the outskirts of Ahmedabad where an organization called Manav Sadhna is working on the development of a non-formal settlement.

The organization seems to be very much involved in the society, having already contributed to the construction of a community centre and a school. The settlement is a former area where people with leprosy were coming to live after they got excluded from their originally settlement. The inhabitants have been coming from different parts of India and this has resulted in a diverse society consisting of people with different social and religious backgrounds. Based on what they first told us the main challenges the settlement are facing today are, physically, the need of a better drainage system, socially, that the inhabitants are struggling with a getting a source of income and culturally, that they are excluded from their society.

### First impressions of the dialogue with the NGO and Abhijeet Singh Chandel

Based on some mail correspondence and a couple of Skype conversations it is hard to get a real impression of the site and how we can contribute. However, when we were presented pictures from the site we were at first a bit concerned. Compared to many of the case studies that we have been studying, the site was less urban, less dense and it seemed to be several different public spaces in the area already. Of course it is impossible to say anything for sure before we visit the site, but for us it was difficult to understand how we could intervene in this setting.

Having thought about it, we are now more positive to the discussed assignment. We believe that the location in the outskirts of the city could be very interesting as the city of Ahmedabad is expected to be one of the fastest growing cities in the world during the next decade. This means that this site, most likely, will have an urban character within the next couple of years. For us this is interesting since the interventions should have in mind these upcoming changes, and at the same time contribute immediately.

One of the things they mentioned as a potential starting point was the drainage problem in the area. This is a usual challenge in such a settlement, but due to our technical background we were afraid they wanted us to look at this problem isolated. If we are going to work directly with the involved stakeholders we have to be honest about our skills and resources, and since



our background is not ideal to solve infrastructural problem we had to ask ourselves how we could contribute to solve this problem. We believe that if we are going to work with the infrastructural problem we need to have a more holistic approach to the development process. Since we have the time and resources to look into the settlement for a longer time, we may have the possibility to address connected needs in the housing, urban layout etc. So if this is something they want us to look into, we believe that we have to approach it with a broader perspective than “just” pipe dimensions and inclinations.

The settlement itself is a relatively small community consisting of roughly 100 small households. This could be to our advantage as it might become easier to get to know people and to get an understanding of their situation. The fact that the organization is very much established in the society and seems to be very positive to collaborate with us is also ensuring. We believe it could be easier and more relevant to go into an already ongoing process than inventing an imaginary project. After all, the most important aspect of our project is that it should be relevant for the involved stakeholders.

### **What to do when we arrive?**

In our preliminary work we stated that we wanted to find out which specific area we were going to work with in order to collect maps and information about the given settlement. We have not managed to do so. Even though we are preparing to work on the above-mentioned settlement, we have to wait until we have arrived in India before we take the final decision. This uncertainty is not unexpected, but we can't stress the decision and base our work on assumptions done from Norway.

Since a lot is still unclear we need to get our work started as soon as possible in Ahmedabad. We are planning to arrange a meeting with our contact person and the local NGO at the first day, and at this meeting our goal is to get a clearer understanding of their work, the possibilities they see and how we can utilize each other's resources.

After the meeting with the formal stakeholders in the project, we want to visit the given site. We are expecting that the first days of our fieldwork will

be influenced by some uncertainty and natural scepticism from the local community. Therefore we are planning to leave our cameras and cell phones at our accommodation in the beginning. By doing so we hope that we can appear less intimidating and that it could help us to start a direct dialogue with the inhabitants.

To sum it up, things are still a bit unclear, but we are quite positive to how things are at the moment. We know that it would be impossible to prepare fully for our fieldwork, but we are very much looking forward to get started!

## REFLECTION II

### - AFTER ONE WEEK IN AHMEDABAD

2. februar

We have now been one week in Ahmedabad, but there have been so many impressions and so much to take in so it feels like we have been here much longer. Anyway, it is about time we start to write down some reflections about our work. We have written regularly about our experiences and we feel that we have managed to document our process fairly well in writing so far. Our initial goal was also to write down our reflections on what we have been through, and in this way get a greater understanding of it. This is also what we intended to do in what we have been writing so far, but we have realized that what we have been writing is more an explanation of what we have done. We think this has value as a documentation tool so we will continue with it, but we need to also reflect more on our methods. We believe we need to discuss not only what we did, but also how we did it, what was successful about the approach, what did not work out, why did it happen, how should we approach the same challenge next time, etc. In this way we will get into kind of a circular process where we do something, we reflect on what we did, learn from it and then do it again a bit differently. In this way we are, to a greater extent, able to learn from what we did.

After one week, ideally, we should have come further, but it has been a week adjusting to the new environment. We have been in meetings, visiting sites, done research and we also have had a minor setback due to some food poisoning. A slow start in such work is probably not uncommon, since we don't depend solely on ourselves, but it sometimes feels a bit frustrating when things don't go as planned. This of course makes planning hard, but we try to be flexible, and that seems to be very important. At the same time as flexible is good, we believe we also need to be clearer on what we want to do and achieve for every day and meeting.

We believe we approached the meetings we have been to a bit too passively – hoping that the other part had a clear idea of what should be done and so on. At least in the meeting with the second organization, we believe we would have gotten more out of it if we had managed to be clearer in what we wanted to do. But we were also provided with a lot of information so it was hard to take it all in and to be prepared for everything. The meetings have also been arranged through Abhijeet, and we should probably have

discussed more with him about what exactly the other part was expecting from the meeting, in order to be better prepared ourselves. It will be very important for us to remember this when we are going to arrange meetings with the local community in the next weeks. At the same time we need to discuss with them in advance what they expect and want from the given meeting. If we don't manage to set a clear agenda and share our expectations before, it might be difficult to be flexible in a positive way during the meeting.

The site visit was quite good, we believe. We might have been better prepared with questions for the visit, but we wanted to just go there with an open mind to get an impression, and that was quite ok. We also went there without any cameras and hoped this could prevent an extra border between the local people and us. Since we were accompanied by a local contact person from the NGO it is difficult to say if it had an effect or not, but we will try to do the same for the next visit. Not documenting everything through photos and films might feel a bit inefficient in terms of a normal design process, but through the dialogues and our presence we hope to easier get accepted and we still believe it will help us later in the process.

During the last week we have had several discussions around the given site and other suggested assignments. Compared to the literature studies we did before we travelled, our own earlier experiences and what we expected, the site appears quite different and it makes us unsure if we are doing the right thing. The fact that a lot is done already at the site also makes us a bit concerned if our work will become too narrow and small for a thesis, and if we scale it too much up, become too big and unrealistic for our collaboration partners. At the same time, we do believe that we will have the opportunity to take what the NGO has stated as their (and the community's) goal and try to see it in a bigger perspective. We hope that we can manage to look into the most present needs and, at the same time, look towards the future. Since the city grows as fast as it does, we believe it is important to try to make the settlement prepared for a future scenario, and as long as what we do is based on information and actual challenges that we reveal through our field work, we believe that our work will be relevant both for the NGO and the community.

## DAY 2 IN THE COMMUNITY. MAPPING ALL DAY LONG - WHAT WILL HAPPEN TO THE DESIGN

8. februar

We have now spent the last two days mapping the community. It takes a lot of time and we are asking ourselves if it is worth it. Are we using too much time? Will we make use of it in our project or are we doing it only as a gesture to the community? We are for sure learning a lot about the community and meeting almost everyone living here, but the question is; wouldn't it be better ways to find this information and will it be possible to use all this information later on? We haven't found ways to include people in the process (don't know if it would have been interesting at this stage) and we are maybe using too much time on something that wouldn't directly influence our design. We have got a lot of useful information during the last couple of days and had some interesting meetings, but it all comes back to the question of progress. The work is interesting, and especially if we focus on the anthropological research, but our problem is that we at the moment feel that we are very far from designing. Additionally our project almost seems to become more and more vague for every day even though we are in the middle of a super real situation. Since we now have started with the map we will need to finish it, but hopefully we can find methods where we could use the information to our advantage and not only be producing stories from our fieldwork.

## FINISHED MAP

11. februar

The map is finished and we are going to print it out in the morning. We have maybe used two days too much on mapping and making it, but when we first had started it was difficult to stop. The map is made a bit differently from how we would have made it back home, but after showing our sketches and drafts to some of the people we understood that many of them had never seen a map before. Since we are going to use it in the upcoming community meetings we learned that we needed to put energy in adding "strange" details. We had to be as precise as possible drawing the public space so they could easily recognize it and navigate on the map and when we made a house it became naturally to add the family name, their house number and correct type of doors. We also chose to add a legend in Hindi / English so they more easily can understand the different symbols themselves. It will be interesting to see how we can make use of it and how they will respond when we bring back a printed copy.



## REFLECTION III - FINISHED MAPPING, GETTING TO KNOW THE VILLAGE

16. februar

### Mapping

After 5 days living in the community we have now finished the map. It has been very interesting to work hands-on in the community, but as feared it took quite a long time to finalize the map. We could maybe have stopped mapping after two days and rather just chosen parts that could represent the bigger picture, but we found that somehow difficult.

If we just had mapped a small part of the area people would get angry/disappointed and wonder why we didn't plan to include them in the "development." We felt this already the first day when people often asked us to measure their houses ASAP. It was actually difficult to explain them that we didn't manage to do all houses at once. The fact that we included everyone will hopefully make it easier to do the same also later in the process.

If we don't want to make conclusions based on convenient assumptions we need to meet as many people as possible. We would need to listen to more than one side of the story cause even when we ask specific questions and are looking for facts; we are very often getting two different answers.

The community wanted a map and we believe it can be used in the process. At the same time as we didn't need such a detailed map of the community, we would at some point have had to make a map of the area.

By mapping the whole community we have gotten a lot of additional information that would be impossible to get out of some pre-made GIS-files or Google maps. One concern is however if we will manage to use this information efficiently and reasonable.

### Reality is challenging

It is also strange how it in our earlier projects has been quite "easy" to generalize and reduce the complexity of a given situation without reflecting on what we actually have removed from the overall picture. While so far in this process, reducing or choosing parts of the community to represent the bigger picture has felt quite difficult since we are

intervening with real people that are dealing with real problems. If we had reduced the community to merely numbers and statistic from the beginning it would have felt like if we had excluded the individual from the process.

Using some reduction and a conceptual approach in order to emphasize a goal or statement will always be important in a design process, but it will also always be difficult to reflect the diverse life in such a simplification. In the design projects we have done at the university before we have usually had a logical, but artificial, distance to the reality of the given project. This has meant that we have been able to implement our personal reality into the project, a reality that often is very different from the reality. Thus, the information we then use to define the design parameters is solely based on what we as individuals have chosen to emphasize, or leave out of the equation. Even though the final design always can give an answer to one or more important and interesting questions, it will maybe not answer to any relevant question for the given situation. When we are involving the community, NGOs and other stakeholders and are working in the field, we need to build our project on real premises. In our case it means that we will need a lot of information. We cannot allow ourselves to conclude too early.

We know that we will need to make decisions based on a conceptual understanding of the reality and probably find a more narrow scope for our assignment during the next weeks in order to make it more comprehensible and manageable in the short time we have available. But, so far, it feels very difficult to find a valid way to conceptualize the reality when the reality never is one certain thing. Of course we have to be careful so we don't use all our time solely on dialogues and information gathering, but also make use of our architectural tool kit and let them take more part in the process. At the same time as it is dangerous if we jump too early to conclusions, it will be dangerous if we let ourselves be totally paralyzed by all the analysis. We will need to take some action.

### How to continue?

Since we have quite a short time left in Ahmedabad we will now need to force ourselves to change method for the next week. Even though we still

have many unanswered question, we know that; no matter how much we want to understand the complexity of the community, we will never understand everything. For almost every answer, a new question will appear. So, for the next week we will try to involve the community and let them define some of the problems, but also look for possibilities. We hope that we can use the map of the area in combination with our preliminary understanding of the situation and inspire them to take part in such a discussion.

In the coming days we will arrange some community meetings and try to involve as many people as possible. We have printed out several maps, bought tracing paper and markers and will ask them to draw and show us what they are imagining. Not only on the household level, but on the community level. We believe that if they are getting engaged in this process, our need to understand the complexity will be reduced. After the last three weeks we do know a lot about the situation, but for the next week we will try to do more architectural workshops in order to find systems, possibilities and challenges.

After one week we know that probably 90% of the houses need to be re-built higher, that the drainage and sewage need to be improved and that a better source of income need to be established for most of the households. On the other hand, we don't know how to realize all this things if they don't want to get involved themselves. In some way it seems like they have gotten used to receiving help from NGOs and donors and are waiting passively for them to take action in order to improve their living environment, but if they want to change their neighbourhood and take control of their own future, they need to be more active participants. We hope that we can be a part of starting that process.

Even though we will need to go back to Norway and work out a proposal based on this fieldwork, we do hope that the fact that they have been included in the process can make them relate to our final proposal. It is important for the future of the project that the community, the NGO and other stakeholders we are involving will feel ownership to the result, and don't necessarily take it as

the solution, but rather as an option. When we are finished with our thesis we will, as stated earlier, send our suggestions back to both the community and the NGO, and we hope that they will recognize what we have discussed and follow some of it up. Anyway, the next 10 days will be very important for the rest of our work.

## REFLECTION IV - PARTICIPATION

3.mars

### **Finishing the fieldwork**

After living in the community for almost three weeks, we have now packed our bags, finished the fieldwork and said goodbye to our new friends. It has been a great experience from which we have learnt a lot.

### **The importance of local knowledge**

From the start of our fieldwork we have had as a goal to involve the local people as much as possible in the process. Those are the ones with knowledge about the present situation and we believe it was essential to get under their skin in order to get an understanding of how things work in the community. Only by obtaining such knowledge we will be able to develop a project that has value for them and thus have the possibility to become successful, not necessarily as the project we plan, but as a process that generates involvement. This approach is mainly based on the idea that if the people that are affected by the future development take part in the planning process, they will feel ownership to the project, which then will become more solid as it is rooted in the local community

### **Limited input?**

Especially the younger generation has been very interested in our work from the beginning, providing us with information and helping us in our work. After nearly three weeks living in the community we feel somehow integrated and that we have gotten at least a basic understanding of their situation. However, it has been quite challenging to include the local people in what we thought of as the design process. When we have tried to make them come up with ideas on how to develop the community towards the future, it has been difficult to get relevant input. More concrete buildings (like their own houses) seem manageable, but when it gets more complex we are struggling to get them involved in a discussion about new possibilities within the development. They are in a situation where their main concern is the immediate future, and planning far ahead is not a priority. That is of course understandable. Perhaps their limited contribution to a planning of an overall development has to do with what they see as their opportunities?

From the meetings we have had with the community, they have provided us with information on what kind of buildings/program they would like to see in the future. These buildings are not necessarily a reflection of what the community needs, but perhaps what they want. But maybe that is ok? It is definitely a valid input that should have value in the planned development of the area.

However, what we searched for in these discussions was strategies for a bigger development of the area that could strengthen their overall economy as well as improve their houses etc. Our goal was to investigate how the area could be better prepared for a future development, not only as the community isolated, but as a part of its context. On this matter it was really difficult to get direct feedback.

### **The older generation gets involved**

During the fieldwork we have especially struggled to involve the older generation in our work. This, we believe, is partially because of their limited knowledge of English, but it is probably also because they are more sceptical to outsiders coming to their community, in which they have lived their whole lives, having opinions on how they should develop their community. We believe we had to prove our intentions and ourselves in a greater way to them, than to the younger generation in order to get acceptance. During the last days we finally managed to reach out to this generation as well. It seemed like the map, in combination with having meetings with the NGO and the local politicians inside of the community, proved to them that we tried our work seriously. For us, this experience illustrates the importance of spending time in the community you are working. It takes time to get accepted and to get somehow integrated, but we believe it is a very important factor if you want to understand the situation and how the different mechanisms that are the driving forces in such a settlement works.

### **What is participatory design?**

After reflecting upon our process, we started discussing what exactly participatory design is, and how we have tried to include it in our



work. At first we felt that we had not managed to involve the locals very much in the actual design process. They had not drawn any plans of the community in a future scenario, and we had not designed any houses together with them using architectural plans or models as tools. This was what we initially had thought of as participatory design.

However, the locals have undoubtedly played an essential role in the process. Not only by providing us with real knowledge of the situation, knowledge that will be essential for any future design, but also through establishing many premises for the design. By spending a lot of time with them, asking them questions, taking part in their daily life and showing a general interest in how they live their lives, we believe that the locals have very much been involved in a design process. Perhaps this involvement has a more indirect character than what we first thought of as participation, but there is no doubt that the interaction we have had with the locals has proved to be important in order to provide a framework for the project and thus making the end-design potentially more valid as an input to the process.

Through our process we have been convinced of the importance of developing small-scale solutions that is possible to implement in a short-time perspective. Such interventions have the advantage of being controllable and are possible to conduct immediately as a response to the involved people's experienced problems and can absorb the premises they have helped to define. Another reason for such an approach is that we believe it is unnatural to just develop a designed master plan. Such a long-term solution will be based on too many personal and uncertain assumptions as it includes many variables that will change during time and depending on each other. We believe a designed master plan will be impossible, or even wrong, to fully implement, but by reducing the complexity of the overall development to a row of smaller changes it could be more manageable. Such an approach also has the potential of taking the continuous changing premises into consideration and involving the affected people in the process. We believe it is important to acknowledge development as a dynamic process and not as a finished product.

At the same time, a more conceptual design based on the experienced premises could make an impact, even though it will become difficult to implement as a whole. We consider a strategic approach that takes into consideration the long-term possibilities as our responsibility as planners, and it could play an important role in communicating ideas and be a mean for discussion. For us this becomes interesting because it illustrates that what we are designing does not have to actually be implemented to influence the process, and the overall, conceptual perspective makes it possible for us to investigate broader than if we limit our design to their present economical, social and political situation.

In the end, both the small immediate intervention we develop and the study of possibilities will become important because it is the tension and duality that lies between the two approaches that, we believe, makes this interesting as a strategic project. An important question for our design then becomes; how can the small immediate interventions trigger an overall development and how can an overall development make an impact on the small-scale interventions?

During our fieldwork we have tried to include as many official stakeholders as possible since we as outsiders, and the community as the main stakeholder, possess little direct influence if we examine the bigger picture of the development process. We then need to include the local planning authorities, the politicians and the NGO if any bigger plans should be developed further. Their participation is as important as the one of the community, both in establishing the premises and in executing the development. If we establish such a base for our work we also become obliged to send the work directly back to the community and the other involved stakeholders. As we see it, participatory design should happen in all stages of the process and include all stakeholders.

Our role as architects could be understood as strategic acting. The process does not depend on the “genius” architect as an independent creator, but rather on our personal skills as communicators and process triggers. Planning could then be seen as a strategic tool to facilitate the development and not pretend to be the development itself. Even in our student project we need to take this into account and try to relate our project to the network we become a part of. This again provides guidelines for how we should convey our design; it will not be conveyed only for a professional group but should try to trigger an enthusiasm on several layers.

If we agree to these terms it is not necessary to reduce participatory design or planning solely to some drawings on a paper early in the process, but it is something that should be executed throughout the process and on different levels.

### **The map as a strategic planning tool in the development process**

After we finished the map we printed a large copy (1,5m x 1,0m), which we introduced in the community. We were curious to see how we could make use of the map since we had spent quite a lot of time making it. When the locals were presented to it, they seemed very interested even though most of them had just a very basic, if any, knowledge of a map. During the process we were quite sceptical to the value of this relatively time consuming work, but evaluating it now we believe it was a smart move that opened new doors and possibilities.

First of all it seemed as if the locals understood the map and were proud to see a drawing of their own community. They enthusiastically found their family name and recognized their own house. The map also seemed to give us more credibility in the community and they appeared grateful for the effort we had put into the process since a professional work can contribute to give their community legitimacy.

Secondly, throughout the last week we have had several meetings where we discussed the situation in the community and what to do in the future.

After we had printed the map we started to gather around it using tracing paper and markers as discussion tools. In this type of interaction with the locals we experienced that all the information we were provided became much more precise. Earlier, we experienced that the answers we got tended to change depending on the person we were talking to. Now that we asked many of the same questions sitting around the map, it seemed like the information was much more valid. They could now root the answers to exact locations on the map and the information we were provided did no longer seem to depend on the person we asked. This was of course very helpful as we still had many questions.

We had a similar positive experience when we introduced the map to the NGO and the other stakeholders. During our work the NGO did not interfere too much with what we did. They were always very helpful, but we had a quite open framework for our work. However, after seeing the map they suddenly became much more involved, coming to the community many days in a row and discussing future possibilities with the locals and us. We also managed to get the local politicians, who have the responsibility of the development of the specific area to attend a meeting, and they were also very enthusiastic and it seemed like they wanted to help out in the process. We were very happy that our concerns about the time spent on making the map were somehow proved wrong and it was really interesting to see how the map worked as a planning tool. What for us feels like a platitude in a planning process worked in this situation as a strategic move creating a spark that hopefully could support the development also later in the process.

By giving the map to them (it now hangs in the community centre), we have provided them with something tangible. It becomes a tool for them to use, and is not just a professional and passive drawing. A question we now are asking ourselves is if it would be possible for us to create several such experiences in the future?

We believe that this experience illustrates what our tutor, Hans Skotte, said to us before we left; “the most important is maybe not what you do, but how you do it.” At least this statement makes more sense to us now, after returning from the fieldwork.

### **How to continue?**

Now that we are finished with the fieldwork, we will have to continue our work from back home in Norway. We have established a contact network in India and will try to stay in contact with them throughout the process. Hopefully we can send them updates from our work and get feedback also before our project is due. This way we believe the project becomes more solid and have a bigger chance of becoming relevant for our collaboration partners. Not necessarily as our exact design, but hopefully our project can provide them with a base with ideas on how to develop their houses and their community, and by staying in touch we have the possibility to support this process.

## **REFLECTION V - HOW PLANNING CAN BECOME USEFUL FOR THE COMMUNITY**

20.april

In the text Reflection IV: Participation we asked how our work with the overall development could become relevant and useful for the community, as we believe that; “... it is unnatural to just develop a designed master plan. Such a long-term solution will be based on too many personal and uncertain assumptions as it includes many variables that will change during time and depending on each other. We believe a designed master plan will be impossible, or even wrong to fully implement.” In that text we mostly advocated for a process that should aim to include as many official stakeholders as possible since we as outsiders, and the community as the main stakeholder, possess little direct influence if we examine the bigger picture of the development process, and therefore establishing networks could be a valuable contribution to the process.

When conducting the field work, involving stakeholders and establishing networks was a strategic move to try to push for a development. Our presence (as white foreigners) actually made things happen, and we managed to discuss the community and a possible development with local politicians, engineers, the NGO and other involved stakeholders. This network is of course mostly important for the community and the people working with the development, but we also felt it was necessary for us to be able to later contribute with our work from Norway. Maybe a bit naively we expected to be part of this network also after our return home, but as time passes our connection slightly vanishes. We have contact with the NGO and send them our work, but our potential to influence feels very much reduced when we are not present. However, the network and process established during the field work are hopefully still ongoing.

We still believe that the work we do regarding the house design will become relevant for the community, as this design is more tangible, easier to communicate to, and make use of by the NGO and the community. The suggestions for the overall development, on the other hand, might be more difficult to make use of, as the network of stakeholders is not as clear and the ideas are less concrete than with the houses. We have tried to respond to this challenge by breaking our development plan down into pieces that could be evaluated and discussed both



separately and in correlation to each other and hope that our ideas thus can be made relevant. Still, we feel forced to raise the question; how can our ideas for the overall development become relevant for the community when they possess relatively little capital or political influence, and our presence can't contribute to put a focus on the community?

### **Social capital – a possibility for planning**

While we do recognize that the community is in a position of little, or none, direct political influence and has access to a limited amount of capital, both parameters that make a formal development difficult, we have experienced that the community possesses a big "stock" of social capital which should be considered as a valuable asset in the development process. Such capital is the power that comes from the community as a unit, being well organized and established, having a stable population with good social connections and being a safe place to live, and this capital should not be underestimated. As Caroline O. N. Moser states in the article *The asset vulnerability framework: Reassessing Urban Poverty Reduction Strategies (1998)* "There is now a growing evidence that social capital can have a significant impact on development processes and outcome"<sup>1</sup>. In the community we have been working we have experienced that the rather well organized, stable population and little throughput of people is contributing to a high amount of social capital. As we see it this gives the community a collective strength that for sure will enhance the possibility for an overall development to happen as it gives them an opportunity to focus on long-term solutions and discuss possibilities collectively. We don't want to romanticize what we experience as the social strength in the community, since we understand this also as a response to their somewhat challenging situation and not as the ideal "neighbourhood", but we should acknowledge its importance in the local decision-making process as it enables the community to work together towards a common goal. When we are assessing our work with this knowledge in mind, we believe that a study of overall possibilities would be beneficial for the community. We believe, at least to some extent, that we can rely on the community leaders to advocate for the common good and that if we manage to communicate our ideas to them, and keep the NGO involved, that they, together, can make use of the ideas for the overall development. Not as instructions to implement, but as a catalogue for inspiration.

1: Moser. 1998. p14

### **What to plan?**

Even though we strongly believe that we as architects and planners have the responsibility to plan for the future and that the social capital present in the community will enhance the possibility for a development to happen, we have been asking ourselves; what is the role of planning in this context where most things emerges unplanned based on immediate needs.

In the beginning we started to work with a conventional zoning plan, sketching future possibilities for an imaginary goal. This method helped us to be concrete about what we pictured could be useful to implement in the future, but at the same time we felt that a conventional master plan made little sense for the community as they don't access the resources needed to conduct such an overall development in one step. Even though we are in a situation where we can give recommendations as professionals, our proposal could easily become alien and irrelevant for the locals if it is dependent on a linear process and communicates only an utopian situation. In our opinion we had to change our approach and rather try to communicate that our suggestions should be understood as impulses that wanted to "cultivate an environment for change from within"<sup>2</sup> as Nabeel Hamdi describes it, and not as instructions for how to arrive at an ideal solution.

This so-called "ideal situation" has often been realized through master plans for slum clearance where the goal has been to restructure, implement new technology and come up with solutions brought to the poor by "those who knows best". However, such slum clearance could create as many problems as it could solve, since non-formal settlements not only are about architectural problems, but even more consist of human relationships and social connections which are fundamental in thier lives and essential to be sustained. We believe that a development (at least in this specific case) should focus on today's situation and try to improve it within the existing familiar framework rather than focus on a major reorganization. We understand planning not as the solution, but rather as a tool in the process that should be used strategically, and has called our work with the overall development, a development plan and not a master plan. In our opinion it

implies that it is the development that is the important and not a final scenario.

## IMPORTANCE OF THEORY

24.april

Before the field-work in India, we approached the project through literature. It worked as preparation, provided ideas, made us think and started the process mentally. A challenge with reading theory is that it has a great influence in how you think. It is easy to just accept what you read and to take it as a fact without reflecting upon it. This was especially true before working in the field ourselves. Now, after the field-work, it is easier to both understand what we read, but also to discuss it and disagree with it since we have experienced similar situations ourselves. The literature also gave expectations. Many of the cases we studied dealt with situation far worse than the one we ended up studying. This actually made us quite unsure in the beginning. For instance, we had seen many examples of the importance of creating public space which again will enhance the community spirit in dense informal settlements around the world, but this already existed in the community we worked. It was a very different situation, but perhaps that was a good thing. It made us think, and we had to approach it differently. In the end, this is how reality works, every situation should be treated in relation to its unique context.

When thinking about this method now, coming to an end of the process, we believe it definitely had value. It provided us with a theoretical background that made us more prepared for the fieldwork, and we believe it made the discussions we have had and the final project more reflected. We could associate our experiences and actions with theory, which enhanced our understanding of the situation.

## LAST PHASE

30.april

*"...ideas cross corridors and streets more easily than continents and seas."*<sup>1</sup>  
-Glaeser, Edward. "Triumph of the city"

After coming back to Norway we have processed the information and impressions we got from the fieldwork and developed an architectural answer. Even though there are still many unanswered questions, we believe our understanding of the situation gradually has increased. Standing in the middle of it, things are a bit chaotic. So much happens all the time and the questions keeps stacking up. If you get an answer to one question, two new appears, so at some point, we had to accept that we would never understand everything,

Even though it can be quite frustrating to let go, we believe it is important for our work to be honest about the difference between understanding something, and knowing everything. As an outsider we would never fully understand the community and to some extent we believe that too much information would complicate things and put restraints on the process. It is of course impossible to say exactly what too much is, but after we have had the time to reflect upon what we have learnt and experienced we have realized that we possess a lot of information about the specific situation. Enough for us to present what we believe is a meaningful contribution, and at the same time have a professional distance to the community. We can thus use our skills as best as we can, but do also dear to admit that the locals know best about their specific situation. This tension we believe is valuable when developing a project that could make an impact. We are not obliged to solely present ideas coming directly from within the community, but can try to interoperate their ideas, wishes and needs into a proposal that is recognizable for them. As we see it, this means that, ideas "rooted" in the community not has to be directly mentioned by them, but could, and might should be, our understanding of their underlying problems.

As mentioned, our goal has always been to deliver our work back to the NGO and the community as a contribution to the development process. In the last part of the fieldwork we felt that we managed to be involved in the beginning of a bigger development of the area, and we were really eager to continue to contribute and learn from this process. The NGO and the community were also very positive about staying in touch and receiving the work we did from

Norway. When developing proposals we have regularly updated the NGO on our work, and they have responded. However, it has not been as efficient as we had hoped. Corresponding through mail takes time, misunderstandings easily occur and it is challenging to communicate ideas precisely. The contact also goes through the NGO and not directly to the community. We have contact with the people in the community as well, mainly through Facebook, but due to their English skills (or more precisely; our knowledge of Hindi) the communication is limited and it is hard to understand what exactly they think about our proposals. When the information both ways is filtered through the NGO, a lot of important information easily could be left out of the conversation.

When doing the fieldwork we received information quickly, and if we had questions we could go directly to the source. Normally there was no need for a middleman in the conversation, which we believe, no matter how good intentions he has, was a good thing as an extra person could easily complicate things. The communication with both the people in the community and with the NGO was much easier during our fieldwork. When we talked to them in person we could add body language and improvise when we felt that something was unclear or misunderstandings occurred. Being present in the process we had the possibility to influence the development. Talking to the different stakeholders gave us respect and leverage. They listened to our thoughts and ideas and we believe that we managed to influence how they think about the development in the community. Still, we feel that they listen to our proposals and are interested in what we are doing, but we have to acknowledge that our possibility to influence the decisions is reduced.

Having experienced both the on-site fieldwork and working from Norway, we have realized the importance of being present. In our case we have never had the intention of actually building something, but it has been about starting a process, providing ideas and showing opportunities. Even though the communication from Norway has been difficult, we still believe that we have managed to get some of our points and ideas through. After our return from India our role has clearly changed from being a process trigger and facilitator to become a process consultant. Both, we think has value.

1: Glaser. 2012. p36



We are satisfied with the fact that we managed to influence the process when we were in India and hope that our contribution from this phase can have a positive effect as well. We are convinced that our work is not finished and are eager to find out; what is happening next?



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## CALCULATIONS

### GENERAL CALCULATIONS

TOTAL SIZE AREA:	20 000M2
NUMBER OF HOUSES:	127
INHABITANTS:	550

TOTAL AREA OF PLOTS	5181,60 M2
AVERAGE PLOT SIZE:	40.80 M2
PER PERSON:	9,4 M2

TOTAL DEVELOPED SPACE WITHIN PLOTS:	4165,60 M2
AVERAGE DEVELOPED SPACE:	32.80 M2
PER PERSON:	7,6 M2

TOTAL INDOOR SPACE:	2255,0 M2
AVERAGE INDOOR SPACE:	17.70 M2
PER PERSON:	4.1 M2

#### EXPLOITATION

WHOLE AREA:	83%
DENSEST AREA:	89%
NEW STRUCTURE	100%

### CALCULATIONS BENEFITS OF UPGRADING TOGETHER

STAIR:	
ORIGINAL SIZE (0.8Mx2.4M):	1.92 M2
SPACE SAVED WHEN SHARING (% of total living space):	0.96M2 2.9%
COST SAVED WHEN SHARING: ( (1.20M/2)x5000 ) (based on 5000 rupees per meter, a number provided by a local contractor)	3000 RP

WALL:	
ORIGINAL SIZE (6.69Mx0.2)	1.34 M2
SPACE SAVED WHEN SHARING (one wall instead of two and running only half the length)	0.99 M2 3.0 %
COST SAVED WHEN SHARING: ( (13.38x5000)-(3.34x5000) / 2 ) (based on 5000 rupees per meter, a number provided by a local contractor)	25000 RP

CONSTRUCTION:	
ORIGINAL SIZE (0.25x0.25x3)	0.189 M2
SPACE SAVED WHEN SHARING (sharing one row of columns)	0.094 M2 0.3%
COST SAVED WHEN SHARING: (based on a rough estimate of the price concrete)	1875 RP

CALCULATIONS - PLOT & BUILT SPACE

AVERAGE PLOT SIZES

STREET	TODAY	NEW PROPOSAL	DIFFERENCE
A	35.65 m2	31.49 m2	- 4.16m2 11.7%
B	35.44 m2	32.90 m2	- 2.54m2 7.1%
C	31.25 m2	27.44 m2	- 3.81m2 12.2%
D	30.16 m2	27.50 m2	- 2.66m2 8.8%
E	30.72 m2	28.00 m2	- 2.72m2 8.9%
F	30.08 m2	26.70 m2	- 3.38m2 11.2%
G	43.51 m2	40.30 m2	- 3.21m2 7.3%
H	46.07 m2	45.76 m2	- 0.31m2 0.7%
I	45.69 m2	45.69 m2	-
J	53.79 m2	53.79 m2	-

AVERAGE BUILT SPACE

STREET	TODAY	NEW PROPOSAL ONE FLOOR	DIFFERENCE	NEW PROPOSAL TWO FLOORS	DIFFERENCE COMPARED WITH TODAY
A	32.5 m2	31.49 m2	- 1.01m2 3.0%	57.62 m2	+25.10 m2 77.3%
B	30.7 m2	32.90 m2	+ 2.20m2 7.2%	60.20 m2	+29.50 m2 96.0%
C	26.6 m2	27.44 m2	+ 0.84m2 3.2%	50.40 m2	+23.80 m2 89.5%
D	25.1 m2	27.50 m2	+ 2.40m2 9.6%	50.60 m2	+25.50 m2 101.6%
E	27.3 m2	28.00 m2	+ 0.70m2 2.6%	51.50 m2	+24.20 m2 88.6%
F	21.6 m2	26.70 m2	+ 5.10m2 23.6%	48.70 m2	+27.10 m2 125.5%
G	36.7 m2	40.30 m2	+ 3.60m2 9.8%	73.15 m2	+36.45 m2 99.3%
H	40.9 m2	45.76 m2	+ 4.80m2 11.7%	84.48 m2	+43.58 m2 106.5%
I	41.0 m2	45.69 m2	+ 4.70m2 11.5%	84.19 m2	+43.19 m2 105.3%
J	37.7 m2	53.79 m2	+ 16.10m2 42.7%	97.82 m2	+60.10 m2 159.5%

AVERAGE OVERALL SIZES WITHOUT THE J STREET

	TODAY	NEW PROPOSAL	DIFFERENCE	NEW PROPOSAL TWO FLOORS	DIFFERENCE COMPARED WITH TODAY
PLOT	36.10 m2	33.50 m2	-2.6 m2 7.2%	-	-
BUILT SPACE	31.00 m2	33.50 m2	+2.5 m2 8.1%	61.20 m2	+30.2m2 97.4%

AVERAGE OVERALL SIZES WITH THE J STREET

	TODAY	NEW PROPOSAL	DIFFERENCE		
PLOT	40.80 m2	38.90 m2	-1.9 m2 4.7%	-	-
BUILT SPACE	32.80 m2	38.90 m2	+6.1 m2 18.6%	71.0 m2	+38.2m2 116.5%

COMMENT

The community is organized in streets A-J with unique house numbers. Streets A-I are clustered together in the densest part of the community, while J has a very different character. We believe the calculations of street A-I are most representative for the situation in the community. Therefore those are the numbers we have presented in the project.

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