

FIRM FOUNDATION

# SOCIAL DESIGN FIELD GUIDE

A HANDBOOK FROM EXPERIENCES IN  
PARTICIPATORY DESIGN IN INDONESIA





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# SOCIAL DESIGN FIELD GUIDE

WRITTEN AND EDITED BY

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PRINTED IN HONG KONG IN 2013

More about Firm Foundation can be found at

[www.solokotakita.org/firmfoundation](http://www.solokotakita.org/firmfoundation)

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In Q&As and break-outs with students and professionals alike, we often heard: How did you know whom to invite to the meeting? How did you facilitate when you don't speak the language? How did you get people to show up? We realized we had asked these very same questions ourselves at one point or another. Yet we hadn't found much documented information about how to address these nuts and bolts issues in the context of designing a building, public space, or product.

This field guide explains the backstory of how we adapted a range of participatory design tools to improve public space in a riverfront informal settlement in Banjarmasin, Indonesia. It is for urban designers who want to work with non-governmental organizations – and, conversely, non-governmental organizations who want to work with urban designers. We made this guide because we think there is much to be gained from cross-pollinating the development sector's proven tools with the problem-solving and communication strategies of urban design.

The guide takes the format of a three-day “journey” during which residents worked together to develop ideas for the public realm. The guide walks through the tools we used during design workshops, the lessons our team took away from the process, and the design outcome. Because this guide is about sharing many tools urban designers and NGOs can use for their own initiatives, the guide also includes three case studies of other participatory projects our team has led in Indonesia. Lastly, the guide features personal reflections from team members throughout its pages.

These are exciting times as more and more architects and planners are motivated to work on projects that seek to address social and environmental vulnerability throughout the world. The development sector has been especially effective over the last decade at disseminating participatory tools such as “participatory rural assessment” and “community action planning.” Today, designers are taking up these tools as they increasingly work with people on issues and in geographies that have conventionally been the territory of NGOs. We think it is on this two-way street where ideas and practices are being exchanged that new and more effective approaches to reducing vulnerability through design will be formed.

We hope you'll find yourself taking this guide into the field – stuff it in your pack, read it on the long-haul, or toss it in the back of the Land Cruiser. Through stories coming out of real experiences in Indonesian cities, this guide is intended to provide both a common language and a set of tools for urban designers and NGOs as they launch exciting new collaborations in places where participatory design is being put into practice for the first time.



## Firm Foundation: “Competition as Campaign”

Our project started with four students who were working in 2011 with Solo Kota Kita, an Indonesia-based urban planning organization.

The Solo Kota Kita team includes urban planners, designers, and activists who work on community-based mapping, post-disaster planning, climate change vulnerability assessment, and city development strategies in cities throughout Indonesia. The students were contributing to a project that brings residents and government





officials together to better understand and shape urban development. During their summer internships, the four students entered a design competition called UrbanSOS Water.

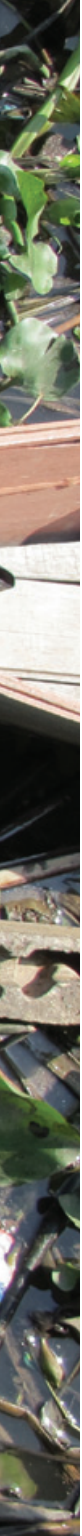
It turned out that their submission – which they called Firm Foundation – won first prize. AECOM, the global engineering firm that sponsored the competition, announced it would support Solo Kota Kita to implement the students' design concept.

Firm Foundation proposes to reduce water-related vulnerability in a city called Banjarmasin on the island of Kalimantan. Nearly 80 percent of residents in Banjarmasin live in housing constructed on the city's hundreds of rivers, tributaries, and canals. As a result, residents face

○○○

PREFACE





many vulnerabilities. Water is polluted, housing is unstable, and many residents lack basic services. Residents in these areas explain that even though they live just above the water, their houses rarely flood. In this respect, they have adapted to living in this environment, and their houses are designed to drain water during heavy rains. Even so, waters in the Java Sea, just 25 kilometers away, are rising as a result of climate change, posing longer term challenges for residents.

The students' concept was to improve infrastructure and public realm in these areas. One central idea from the competition entry was for Solo Kota Kita to involve residents in the design of the waterfront by staging a competition of its own. Around the world, government agencies, institutions, and other groups conventionally use the format of an urban design competition to generate ideas for development. In Indonesia, government-sponsored competitions have been an effective tool at the neighborhood level, especially for matching student architects and planners with local leaders to promote sustainable and healthy urban environments.

Since the competition is a format with social currency in Indonesia, the team wanted to find out whether it could be used pedagogically. Most residents in the project area have limited previous involvement in city development. Could a competition help to educate residents about both environmental issues and the city government's goals?

The degraded waterfront is also a status quo. It is hard for many residents to imagine changing the waterfront when the river's polluted condition seems like the natural state of things rather than something to proactively redesign. Could a competition provide a setting for residents to imagine an alternative?

Another question we had was whether a competition would create incentives for participation. So we decided to organize three groups of residents to generate ideas for improving their area. We invited government officials to serve on a jury to select from the three ideas a project which we would then build. For one week in August 2012, we set up shop in a neighborhood community center to stage this "competition as campaign."



## PREFACE

# Working with Whom and What You Find in the Field

Before we describe the campaign, there is some explaining about Indonesian cities we need to do. Indonesia has a system of administrative boundaries in cities called *Rukun Tetangga*, which means neighborhood. For short, they are known as *RTs* – pronounced “air-tay.” An *RT* is like a census block in the United States with about 50 households. The important thing about *RTs* is that every *RT* has a leader. Every neighborhood in every Indonesian city is organized this way.

Indonesian municipal governments also have two urban planning departments. One makes spatial and infrastructure plans, and the other manages the budget. In addition, there is a national program that focuses specifically on small-scale improvements in poor neighborhoods. These are the three groups that do most of the actual construction of Indonesian cities – roads, drainage systems, and schools.

Urban designers must work with actors across all of these levels, from the budgeting department head to the *RT* leader. We found that in the beginning, a great deal of our field activities involved understanding the nuances of these local structures. This is essential work to do at the beginning of a project; while governance structures may vary across contexts, most will be similarly complicated. Even where structures are similar, political dynamics are bound to differ.

Our project benefited from a receptive political setting. The team took the Firm Foundation concept to the municipal-level budgeting department and asked where the project could support investments already being made. The budgeting department suggested an area called Sungai Jingah. We dispatched a young designer for a month of field work there, and he conducted a survey to collect data about social and economic conditions. During the survey process, he managed to meet every *RT* leader in Sungai Jingah. He also rented a room in a house in the center of the neighborhood, and that’s when he started to meet the people who would help make Firm Foundation a reality.

Just having a look around the neighborhood provided important clues. In one part of the neighborhood, for example, there were containers outside each house for composting, as well as a “recycling bank” next to the local badminton court. Asking around, our designer found the

families who organized these initiatives. Making these connections was important because once other members of the team started to visit Sungai Jingah, one of us was already a familiar and trusted presence.

It wasn't long after our team got to know the neighborhood leaders that a meeting was arranged between us and the *RT* leaders to discuss the idea of Firm Foundation.

## Setting Up the Campaign

The campaign was going to happen right in the middle of Ramadan, the religious month of fasting in Islam. It turns out Ramadan is not an ideal time for a campaign. Most businesses in Banjarmasin close for the month while everyone is fasting. However, the dates were chosen based on when the international team could travel in, so by the time this potential issue was raised, we had already committed to the schedule.

We needed an accessible location that was also spacious, enough to accommodate lots of informal time and breaks in activity, in keeping with Ramadan's slow pace. At the neighborhood center in Sungai Jingah, we found just what we were looking for: a beautiful shaded garden.

Sungai Jingah is a neighborhood with about 10,000 residents located on the periphery of Banjarmasin's developed city, at the confluence of the Martapura river and Andai canal. North of the neighborhood, the city fabric transitions to coconut, rice, and citrus plantations. Sungai Jingah is named for a tributary that today has almost entirely disappeared through infill and erosion.

The idea for the campaign was to organize three groups of residents to generate ideas for improving the riverfront. We decided to invite people from three of the 27 *RTs* in Sungai Jingah. These three *RTs* were areas where many negative conditions – no sanitation, precarious housing, lack of public realm – combined at the river. We left it to the *RT* leaders to identify participants. Our only requirement for them was that there needed to be an even number of women and men in their selections.

Before the campaign began, we wanted to have an activity in the neighborhood to generate interest and show that things were starting to happen. We also wanted to create a simple visual record of the activity to show that our team was beginning to learn things about the neighborhood, too. We turned to a tool we'd heard about called a "transect walk."

TOOL

# TRANSECT WALK

A TRANSECT WALK IS AN ACTIVITY FOR OBSERVING AND DOCUMENTING A NEIGHBORHOOD IN COLLABORATION WITH RESIDENTS, AND CARRYING OUT INTERVIEWS. TYPICALLY, YOU START BY WORKING WITH RESIDENTS TO MAKE A SIMPLE LINE DRAWING OF THE AREA ON A SHEET OF PAPER. DEVELOP A SET OF EASY-TO-DRAW SYMBOLS FOR FEATURES YOU PLAN TO OBSERVE. AGREE ON A ROUTE TO FOLLOW, AND ANNOTATE THE MAP WITH NOTES AND SYMBOLS AS YOU WALK. TAKE PHOTOS ALONG THE WAY AS WELL, IF YOU'RE IN AN AREA WHERE IT'S APPROPRIATE TO DO SO.



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**Who to invite on a transect walk?** We did our walks with *RT* leaders, but multiple walks could be arranged with various social groups such as women, children, or vendors.

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**What to map?** Residents will show you physical features such as houses, important buildings, public spaces, drainage, waste, and sanitation. They will explain what they like about their neighborhood and what the problems are. Semi-structured interviews will turn up information about social boundaries and connections between economic activities.

---

**Where to walk?** We simply asked the *RT* leader to show us what he thought was important and then stayed open to many sidetracks and diversions along the way. Walking from the riverbank to some point inland or from a low point to a high point are ways to organize the walk.





## WHAT YOU NEED

MARKERS

LARGE PAPER

CAMERA

## WHAT TO CONSIDER

One objective of a transect walk is to make a map collaboratively. So it is important to draw together with residents; for example, when placing a symbol, verbally verify that it is going in the right place on the map.

Ideally, residents will draw the map themselves, but we've found that people are usually reluctant. A way of getting residents engaged is to start with a reference point that everyone knows. For example, in Indonesia, many maps start with the mosque.

Doing a transect walk is about making yourself seen and building awareness of your team's presence in the neighborhood. Stopping to buy a drink from a vendor or visiting a resident in his or her home builds local familiarity with your team in the community.

## OUTCOMES

Hand-drawn map or collage. Photo-documentation can also be combined with the map. Display the map in a prominent place at the next meeting.





## PREFACE



**As the residents got settled at the neighborhood center on the afternoon of the first workshop, our team explained that we were going to take a “journey” together over the next three days.**

But how did everyone find the time to attend a workshop for four to five hours over three days? Having the same groups every day would be important since we had planned a sequence of activities.

It was up to the *RT* leaders to find people who would be available during these times. Moreover, we required that residents attend all three days in order to receive a reimbursement for their “transport costs” – which was a colloquial way of saying all participants received an honorarium for their time. Providing snacks and drinks

during workshops is another way of showing you appreciate participants’ time – though, of course, this is something we didn’t do since it was Ramadan!

As the first day started, it turned out the *RT* leaders had put together quite a diverse group, including mothers who brought their children along, residents who work at night, elder residents, and people with flexible schedules like laborers and vendors.

The team organized the workshops so that each day





addressed a different scale of design. On the first day, residents discussed how city development goals impact their neighborhood, as well as the environmental issues they face related to water.

On the second day, residents located areas in their RT where these issues are especially salient and discussed how new programs could address them.

On the third day, residents proposed a new design for a single site in their RT incorporating the programs. Over

the three days, residents looked at increasingly smaller scales of their neighborhood as the teams progressed through the steps of identifying problems, developing solutions, and designing improvements.

Just as each day of the journey addressed a different scale of design, so too the participatory tools we utilized were adapted to fit these scales.



## CITY



WALK 2

CARD GAME

PRIORITIZATION

# DAY #3

## DESIGNS FOR THE RIVER



6 EXERCISE: MODEL-MAKING 1

○ BREAK

7 EXERCISE: MODEL-MAKING 2

○ JURY REVIEW

LOKASI RT 7  
AREAL DARMAGA  
AREAL LANGGAR  
JALAN JEMBATAN

5

6

4

7



●○○  
PARTICIPATORY  
WORKSHOP

# DAY #1: SUNGAI JINGAH TODAY

**The purpose of the first day was to get residents to start to think about change in their neighborhood. By way of warming up, we wanted each group to identify five problems in their RT.**

In the previous weeks, we had been creating a detailed storyboard and script – taking the workshops scene-by-scene and thinking about what we wanted to communicate and achieve with each activity. After the second or third draft, we realized we were getting off track.

We asked ourselves, how much of the language of urban planning and how many of the concepts of design are we taking for granted?

For example, we wanted to talk about how an improvement in the neighborhood could support the city planning department's vision for Banjarmasin – the municipal government's goals for development. But how do you communicate that when the idea that governments make plans for cities is completely new? How do you explain what a “vision” is to people who are used to their cities growing organically?

We saw we needed a different way of communicating. We thought about how we could reframe planning ideas as stories and communicate design concepts through visual metaphors and simple comparisons. For example, in order to explain the idea of vulnerability across scales, we



began with a sketch of a river with the words “upstream” and “downstream.” The water in Sungai Jingah is polluted with heavy metals because of mining in the mountains upstream. When residents upstream use the river for sanitation, this waste reaches Sungai Jingah too. At the same time, water is polluted in neighborhoods downstream of Sungai Jingah because residents there also use the river for sanitation.

The “upstream, downstream” illustration was incredibly simple, yet it sparked a conversation about how even though these environmental problems have different levels of impact, they are related - with the river connecting them all. The sketch was a tool for

getting everyone to start thinking about scale and systems without all the complicated language.

We wrapped up the day by talking about what we wanted to achieve with the workshops. We proposed a set of principles - some about how the neighborhood should improve, some about restoring water systems. While our team had already brainstormed ideas for what would be simple principles, residents modified or put the principles into their own words during the facilitated discussion.

At the end of workshop, everyone made an agreement that these principles would guide our work over the next two days.

TOOL

# GALLERY WALK

A GALLERY WALK IS A COLLABORATIVE LEARNING TOOL IN WHICH PARTICIPANTS ROTATE FROM STATION TO STATION EITHER TO RESPOND TO A SPECIFIC SET OF QUESTIONS OR TO HEAR A PRESENTATION. BECAUSE PARTICIPANTS ARE OUT OF THEIR SEATS, THEY ARE MORE ACTIVELY ENGAGED WITH THE DISCUSSION OR PRESENTATION. THE WALK PROMOTES A SENSE OF TEAM-BASED LEARNING AND DISCUSSION.

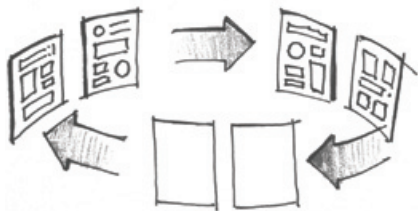
Depending on your project, the number of stations for a gallery walk will vary.

Our gallery walk had three stations: 1) the city's development goals, 2) water pollution and its effects on residents, and 3) the overall schedule for the three workshop days.

We found 15 minutes to be a good amount of time for a group to stop at a station. Five minutes should be reserved for questions and discussion.

We explained planning and design concepts through visual metaphors.

We presented a diagram of a "two-way street" to explain the relationship of residents and government.





## WHAT YOU NEED

FLIP CHART PAPER

EASELS

POSTERS

EXHIBITION STANDS

KEBUN

LAMPU

Apa yang membuat bantaran sungai cantik?

Dimana seharusnya tanaman dan lampu?

## WHAT TO CONSIDER

We aimed to have only one or two key messages per station. It's tempting to try to pack a lot of information into a gallery walk, but the activity is more effective when there are a few discrete questions or messages for participants to work on.

An easy way to keep participants engaged is to include a few questions for them to think about at the bottom of each poster. We gave every participant a notepad and pen at the start of the activity.

## OUTCOMES

The gallery walk can be followed up by a larger discussion between the groups to share ideas or clarify information. Discussion results should be documented on flip chart paper for everyone to see.

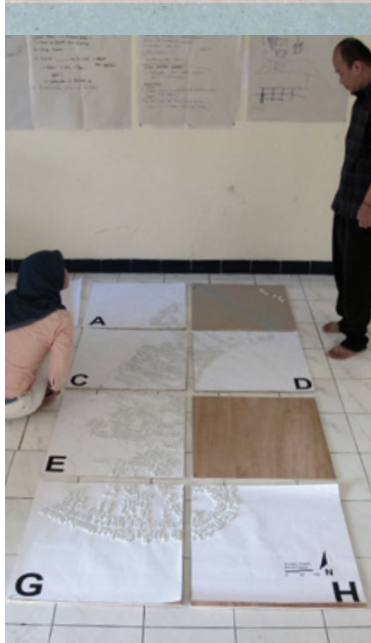
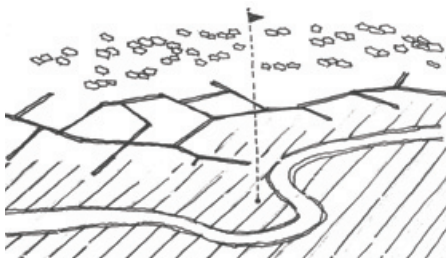
TOOL

# NEIGHBORHOOD MODEL

PHYSICAL MODELS ARE POWERFUL TOOLS FOR GETTING RESIDENTS TO UNDERSTAND RELATIONSHIPS BETWEEN DIFFERENT AREAS OF THEIR NEIGHBORHOOD AND ACROSS SCALES SUCH AS HOUSE, STREET, AND DISTRICT. LARGE MODELS ALSO PROVIDE A GATHERING AREA FOR PARTICIPANTS DURING WORKSHOP BREAKS AND A POINT OF REFERENCE FOR QUESTIONS ABOUT THE NEIGHBORHOOD.

A neighborhood model should minimally represent streets, buildings, and any water bodies. It could also include infrastructure (bridges, electricity pylons, railroads, etc.), open space and environmental features like wetlands or steep slopes, or color coding to indicate community facilities or overlay either social or economic data.

A simple warm-up exercise is to ask residents to find their house on the model and place a pin or sticker on it. Locating houses helps people associate their own life with the model. Do this as a group, since it gets residents thinking about the relative locations of features in their area.







## WHAT YOU NEED

SCALED BASE MAP (FROM GEOGRAPHIC INFORMATION SYSTEMS OR AUTOCAD)

CONSTRUCTION PAPER

CHIPBOARD, CARDBOARD, WOOD, FOAM

GLUE

X-ACTO KNIVES

## WHAT TO CONSIDER

Models do not necessarily have to be expensive to make. Nor do they need to be overly colorful or game-like, which in some settings might be inappropriate. However, models usually take twice as long to create as you initially project - so get many people involved in building it.

When you put a model in front of residents, you'll quickly find out what's missing from it. The data our team utilized to build the model was out of date, so residents showed us where many houses had been built and many others demolished.

## OUTCOMES

Physical model of the neighborhood.

## TOOL

# PROBLEM TREE

A PROBLEM TREE IS A FACILITATION TOOL THAT ENABLES RESIDENTS TO ANALYZE PROBLEMS IN THEIR NEIGHBORHOOD THROUGH VISUALIZATION. DURING THE EXERCISE, PARTICIPANTS AGREE ON THE PROBLEMS FACING THEIR COMMUNITY AND THEN IDENTIFY CAUSES AND EFFECTS. AN AIM IS TO UNDERSTAND UNDERLYING FACTORS THAT ARE CREATING A PROBLEM WITH A FOCUS ON ITS “ROOT CAUSES.” PROBLEM TREES ALSO ILLUSTRATE RELATIONSHIPS BETWEEN CAUSES AND EFFECTS WHEN THEY MAY NOT BE EVIDENT AND ARE REFERENCES FOR WHETHER A SPECIFIC ACTION CAN ADDRESS MULTIPLE NEGATIVE CONDITIONS IN A NEIGHBORHOOD.

**Work in groups of six to 12 residents and begin by asking the group to make a list of problems facing its neighborhood.** Write these on a sheet of paper.

**Choose one problem and write it within a bubble in the middle of a new sheet of paper.** Write “causes” and “effects” on the upper left and right sides.

**Start with causes.** Ask residents to describe all of the causes of the problem. Write these in the left column in bubbles and connect these to the problem bubble with a line. (An alternative is to write the causes on the bottom of the paper and the effects at the top so that the finished product visually resembles a tree and its roots.)

**Discuss the effects.** Ask residents to describe the effects of the problem, and write these in the right column.

**Now analyze the causes and effects.** Explain the concept of a “root cause”: some causes may have other causes behind them. Review the causes and ask residents if there are any other root causes. Write these down.

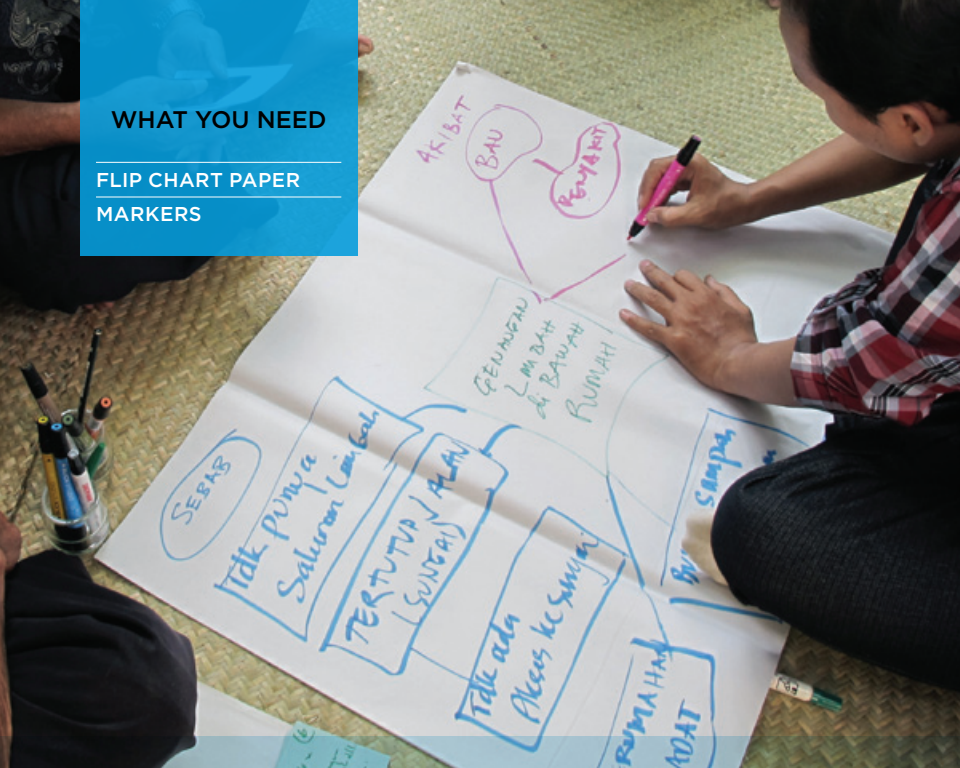
**Review the effects as well.** Ask residents whether the effects of the problem are the causes of other problems they have listed.

**Repeat the process for several problems from the initial list.**



## WHAT YOU NEED

FLIP CHART PAPER  
MARKERS



## WHAT TO CONSIDER

The problem tree can be a powerful tool for understanding the relationships between different issues in a neighborhood as well as how causes and effects interact. Importantly, problem trees visualize how one issue can lead to multiple negative conditions.

However, the exercise can easily become abstract with the discussion leading back to large-scale issues such as poverty or corruption. At least in the beginning, the problem tree works well if the facilitator focuses on visual things in the neighborhood in order to make the exercise concrete for residents.

Make sure everyone gets their say. One responsibility for the facilitator is to draw everyone into the conversation.

## OUTCOMES

Hand-drawn problem trees and list of priority problems. After the exercise, groups can report back to all of the participants on the problems discussed.



## REFLECTIONS

### Life in Sungai Jingah

by Bima Pratama

.....

Most people living in Sungai Jingah are Banjarese and speak Banjar, which is a foreign language to me since I'm from Java where we speak Javanese. I had seen Banjar people from Kalimantan island on television, but they were very different than I had imagined when I lived in the middle their community and interacted with them every day.

.....

I lived in Sungai Jingah for a month at the beginning of our project to do a survey and meet the neighborhood leaders. One day, I suddenly came there and I stayed. Initially it was strange because everyone was curious about me. Banjars have their own way to become familiar with newcomers - like inviting me to a wedding ceremony. But it didn't take long to feel a part of the community.

.....

Around in Sungai Jingah is very interesting. The river has always been the source of water, but it continues to be degraded by people's habit of throwing rubbish and waste water there. When I chatted with residents about the state of the environment,

everyone realizes the pollution is getting worse, but they also feel like their families have lived on the river already for generations. Economically, people are not doing well, so residents do not feel like they have much choice about their living conditions.

.....

Everyone told me how urban development has affected life in Sungai Jingah, especially the construction of roads and bridges. Even in the 1980s and 1990s, there were always hundreds of boats on the river. People's livelihoods depended on the water, but this is no longer possible because motorcycles and trucks are faster and cheaper.

.....

In some areas of Sungai Jingah, the community is sticking to the old ways. They use the river for gardening and buy food from vendors who arrive on boats. Here, it's like the old days are reflected in the river, which is always there as a reminder of the long history of Sungai Jingah even as the people now have to adapt to the pressures of development.



## Understanding Different Ways of Doing Things

by Michael Haggerty

.....

The players for Firm Foundation are spread across the world. Our NGO is based out of a house in a city called Solo in Indonesia. The project funder – AECOM – has hundreds of offices around the world. We worked with architects from AECOM’s offices in London, Singapore, and Jakarta. Students joined us from MIT and Harvard. Our local partners are from the Banjarmasin government. And the residents living in the project area surely don’t receive visits from designers all that often.

.....

With a team as diverse as this, there are many different conventions for doing things. When you’re in the role of bringing the players together, you find yourself negotiating varying perceptions of time, urgency, and ways of collaborating.

.....

Our organizational smallness means we make fast decisions and mobilize our resources quickly, which contrasts with our partners, who are accustomed to longer project schedules. Finding opportunities to put our resources together well depended on articulating how we work –

making geographically distant partners understand conditions and personalities in the field.

.....

Fieldwork has its own unique demands. In the build up to public workshops, there are always unexpected things happening. One Saturday in the middle of the night, for example, we raced by motorcycle to visit the neighborhood leader, who was sick in bed from some bad noodles. And we would have long discussions about the intricacies of food and marriage with staff at City Hall. In retrospect, all of this helped to establish our team’s presence in the city.

.....

In Indonesia, being a part of a group is hugely important socially. I’ve learned that a lot of the time when it seems like nothing is happening, people are actually taking a moment to get comfortable with each other.

.....

As people who want to intervene in places like Banjarmasin, we can learn a lot by adjusting to incorporate many social and professional conventions for doing things into our design toolkit.

## CASE STUDY

# OUR CITY SOLO

(SOLO KOTA KITA)

Funders

**USAID | UN-HABITAT**

.....  
We started our first initiative in Indonesia in 2009. Solo Kota Kita makes social and economic data about neighborhood development in Solo accessible to residents in order to improve a local participatory budgeting process.  
.....

The team made data available through posters and a website: [www.solokotakita.org](http://www.solokotakita.org). Solo Kota Kita organizes trainings for facilitators of budgeting to understand how to lead a discussion about urban data.





Tool

## Mini-Atlas

The “mini-atlas” is a visual profile of a neighborhood’s population with data in six sectors: education, water, sanitation, housing, poverty, and health. The mini-atlas synthesizes data by visualizing basic proportions and puts data in context by comparing the neighborhood to the district (these are two administrative scales in Solo). A unique atlas was made for each of Solo’s 51 neighborhoods and then distributed to every community center in the city.

## Practicalities

The “mini-atlas” is a tool for residents to better understand issues in their neighborhood that can be targeted in the participatory budgeting process (known locally as *musrenbang*). However, there are many forums for neighborhood planning in Solo, and the “mini-atlas” has been adapted by residents for these other processes.



## PARTICIPATORY WORKSHOP

# DAY #2: BUILDING THE CITY



**The purpose of the second day was to identify programs that residents desired in their neighborhood and to select an actual site for improvement. The activities were intended to translate the list of issues from the problem tree of the first day into spatial ideas. Since the scale of thinking was changing, we introduced a new tool: physical models of the RTs.**

Once again, we thought about how to explain the aims of the activities with a visual metaphor.

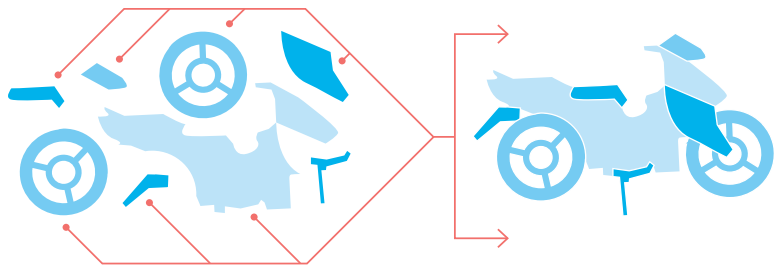
Motorcycles are the main form of transportation in Banjarmasin, and residents there even ride them on the city's wooden boardwalks over the water. Housing on the

rivers often extends two to five buildings into the rivers, which are accessed through the network of boardwalks.

We explained that motorcycles are made up of “spare parts” (there’s a great-sounding Indonesian word for this, *suku cadang*). Spare parts are combined in a specific way to make a motorcycle run.

The same is true of the city. Various programs and activities can be combined to make the neighborhood work the way we’d like it to. This was a way for the team to communicate the idea of how different combinations of infrastructure can work together, and the premise for day’s activity – the “Spare Parts Card Game.”





At the end of day two, each group had found sites where they thought new programs would benefit the most residents in their area. These programs included repaired boardwalks, play spaces for children, rubbish collection, water distribution, and boat docks, among others.

The following day was Friday – the day of prayer – so everyone agreed to reconvene at the neighborhood center on Saturday.

## TOOL

# CARD GAME

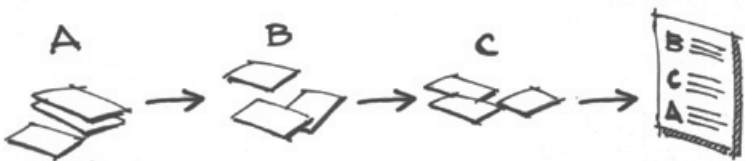
CARD GAMES FACILITATE QUICK BRAINSTORMING. THIS EXERCISE USES CARDS TO IDENTIFY LOCATIONS FOR PROGRAMS, ESTABLISH ALTERNATIVES, AND PRIORITIZE IMPROVEMENTS. IN THIS ACTIVITY, RESIDENTS EVALUATE THE FEASIBILITY OF POTENTIAL PROGRAMS FOR VARIOUS SITES. A DECK OF CARDS REPRESENTS PROGRAMS (PUBLIC SPACE, WASTE COLLECTION, LANDSCAPE, ETC.), AND PARTICIPANTS PLACE THE CARDS ON A PHYSICAL MODEL. THE AIM OF THIS EXERCISE IS TO TEST OUT ALTERNATIVE LOCATIONS FOR PROGRAMS AND UNDERSTAND HOW COMBINATIONS OF PROGRAMS WILL WORK IN DIFFERENT SITES. THIS MAKES IT EASY TO GRASP THE IDEAS OF COMBINATION AND ITERATION. THE EXERCISE RESULTS IN THE PRIORITIZATION OF A SITE AND PROGRAM UTILIZING CRITERIA DEVELOPED BY THE TEAM OR WITH PARTICIPANTS.

The game is played in rounds as participants think about one program at a time and where it could go. Facilitators ask prompting questions as participants place the cards on the model. It is always important to ask why a program should go in a specific location, and if programs conflict or complement each other. Play the game for 45 minutes and then take a break.

Participants identify three or four sites and then evaluate the program combinations proposed for those sites during the next 45 minutes. The evaluation may utilize pre-established criteria or criteria developed and agreed upon by the participants.

In our workshops, we asked participants to review two questions: 1) Who would benefit from the programs?, and 2) What resources exist within the community to construct and maintain the programs? These questions test the programs' impact and their feasibility. The questions are oriented towards positive outcomes, but the decision could also lead to identifying potential negative impacts of a new program, which was especially the case with waste and sanitation infrastructure.

Use the last 10 minutes for participants to prioritize the sites based on their criteria.



## WHAT YOU NEED

CHIPBOARD

COLOR PRINTER

GLUE



## WHAT TO CONSIDER

It is important to ask prompting questions that encourage participants to explain their thoughts about programs. First, it keeps the discussion active. But, more importantly, it establishes a process for the group to formulate strategic ideas. In our workshops, we asked participants to refer back to the problems they had identified in their area as well as the set of design principles to which everyone had agreed on the first day.

It is also common for self-interest to express itself during the game. This happens, for example, when one individual proposes new programs only near their home. The card game makes this self-interest transparent in subsequent conversations so long as the facilitator creates a forum for the group to discuss all the options and consider each as equally valid.

## OUTCOMES

Prioritized list of sites with related programs.





## REFLECTIONS

### Leading a Journey

by Ahmad Rifai

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My main role in the workshop was to lead the discussion. On the first day, we explained to everyone that we were taking a “journey” together – however, at the start of the three workshops, no one could know for sure to what destination the journey would lead a few days from then. Even so, my job was to make sure everyone would end up together at that destination by managing the flow of each session and connecting one to another.  
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You have to draw on all of your skills to maintain the energy and interest of a group over three days. I was amazed by the number of people who participated in the workshop. All of the *RT* leaders, residents, neighborhood leaders, and government officials who we invited came that day.  
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The team had worked really hard to make this happen. And everyone had contributed to preparing the materials, so I was not worried about that. However, my challenge was to deliver the information and story in a way that people would understand. So anecdotes and jokes were important tools for maintaining

a lively situation – especially in the beginning, I added many “intermezzos” just to break the ice.  
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One thing about the workshops that maintained the momentum was the variety of activities. For example, residents enjoyed the card game exercise, and because one activity differed from the next, this created the idea of being involved in a journey with many experiences. At the end of each activity, I would ask the group what they had learned and what knowledge they had gained – about, for example, the water system – that could lead to the next step. The mix also recharged the group from time to time.  
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Overall, it seemed like the residents enjoyed every session we delivered. They had little previous experience in public space design, but each group arrived at the end of the journey with a strong idea about how to transform the neighborhood. After the workshop, our local government partners implied they had had quite a bit of fun too by being involved in this participatory workshop.



## How Water Might Possibly Change the World

by Addina Amalia

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One of the things I worked on was to make the gallery walk presentations. At first, I was so nervous. We rehearsed the workshop activities so many times at our office in Solo before we went to Banjarmasin. The others were looking pretty good with their material, but not me. I was making a lot of mistakes because I was nervous and I did not feel confident with the material. But we practiced many times and the team supported each other with comments and feedback.

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The rehearsal was over – we were in Banjarmasin and the gallery walks were about to begin. “Well, this time I should have confidence and concentrate” – that’s what I thought. Then the presentations started and somehow it was different. I was excited!

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I was persuading rather than presenting. My goal was to make residents understand everything about water: how water systems are connected globally; the water cycle from the rain to the ground; water upstream and water downstream; and how pollutants travel through water.

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I needed to explain how water from Banjarmasin’s rivers might possibly change the water of the world.

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The residents were enthusiastic as well. They asked many questions and brought forward information about how their water and environment were getting polluted and how they desired to change their way of life. Residents talked about creating a clean environment so the water they use for drinking and bathing would be healthy.

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After the gallery walks, the residents understood in a new way how water is part of life. And I also learned valuable lessons. One is that to help people understand, I have to understand first. Another is that by discussing issues together, we can know more about our living conditions as well as our neighbors. Lastly, without rehearsing, I wouldn’t be able to do more than present information – I wouldn’t be able to facilitate the discussion.

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So, did we understand water together? It worked!

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# PADANG HOUSE BY HOUSE

Client

## MERCY CORPS

In 2010, Solo Kota Kita worked with Mercy Corps to create a vulnerability assessment in Padang following the October 2009 West Sumatra earthquake. The team gathered data on housing, recovery status, and social and economic indicators in three neighborhoods in Padang. We then presented the survey results to local government.

The survey and workshop started a discussion about how residents were impacted by the earthquake and who faced barriers to recovery from the disaster. The government workshop was followed by “community action planning” in each of the three neighborhoods to identify rebuilding projects for Mercy Corps to support.





Tool

## Survey

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The team designed a door-to-door survey, and the results were input into a Geographic Information System (GIS) in order to map and visualize patterns of vulnerability and recovery. The maps illustrated many different categories of vulnerability: specific groups such as poor households with many children; economic sectors such as a fishing community whose livelihood was disrupted; damaged urban systems such as a clogged drainage canal that created health hazards; and areas that would be difficult to evacuate due to inadequately designed circulation.

## Practicalities

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Vulnerability mapping shows the aftermath of a disaster as well as how existing vulnerabilities such as poverty are compounded by a disaster. In this case, local government was not giving adequate attention to the needs of vulnerable groups in the rebuilding process. The vulnerability mapping was intended to make these needs visible. The “community action planning” exercise demonstrated the capacity of residents to identify solutions for rebuilding that they could implement with the support of NGOs and local government.



## PARTICIPATORY WORKSHOP

# DAY #3: NEW DESIGNS FOR THE RIVER



**The purpose of the third day was for residents to develop a design for their site incorporating the programs they identified on day two. We did not want to rush the process, so we scheduled almost four hours for this activity.**

We were working again with the *RT* models. Because now residents were focusing on a site, we provided model-making

materials so that residents could express specific ideas about the public space they wanted to create. We started the day by reviewing the principles from day one about river restoration and neighborhood improvement.

We also asked if everyone would agree to three criteria for the jury to use to select a winning design at the end of the day.





The criteria were:

- 1) How many people will benefit from the improvement?**
- 2) How feasible or realistic is the proposal?**
- 3) How well does it address a problem identified by the community?**

Each of these questions tested whether and how the design would support the principles the group had identified on the first day.

The group agreed to the jury criteria and everyone got to work.

## TOOL

# MODEL-MAKING

PHYSICAL MODELS ARE HIGHLY ENGAGING TOOLS FOR DISCUSSING POTENTIAL IMPROVEMENTS TO PHYSICAL SPACE BECAUSE PARTICIPANTS CAN QUICKLY MOVE MODEL PIECES AROUND TO TEST OUT IDEAS. MODELS MUST BE LARGE ENOUGH THAT A GROUP CAN GATHER AROUND. EVERYONE SHOULD HAVE SPACE TO ENGAGE WITH THE EXERCISE, AND INDIVIDUALS SHOULD FEEL THEY CAN CONTRIBUTE IDEAS. MATERIALS SUCH AS PAPER, BEADS, AND STRING ARE EASILY ASSOCIATED WITH REAL WORLD OBJECTS – GREEN CONSTRUCTION PAPER, FOR EXAMPLE, SYMBOLIZES OPEN SPACE.

This exercise is broken into two 90-minute activities with a break.

Start with the site and program prioritized in the card game and then create multiple alternatives for physically configuring the site. Many materials are available to participants to represent different programs. The role of the facilitator is to guide the design process and to ask questions about how the design would work.

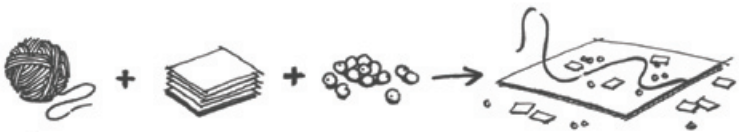
We broke the process into three steps: 1) ask participants to show on the model where pedestrian circulation would be located; 2) ask participants to place the new programs on the model with respect to pedestrian circulation and existing buildings and programs in the area; and 3) ask where plants and landscape should go in the new space.

Repeat this process to create several design options.

The second 90 minutes is focused on prioritizing and developing one of the options considered in the previous segment. Ask residents which option they liked best and recreate it on the model. Once residents are satisfied with the basic locations of programs on the site, spend about 45 minutes refining the model. Go through each program or physical element and discuss how it would be used and by whom.

The final step is for participants to present their proposal.

Residents should describe how the design addresses problems from the problem tree exercise, who the proposal will benefit, and its feasibility with respect to construction and maintenance.



## WHAT YOU NEED

CONSTRUCTION  
PAPER

COLORED STRING

WOODEN OR  
PLASTIC BEADS

PINS

SCISSORS

GLUE



## WHAT TO CONSIDER

Give a lot of time for this exercise as it takes a while for participants to warm-up, and the purpose is to explore many possible ideas. Do the first iterations quickly, and then start over to show that the group doesn't need to commit to the first idea.

Often, members of the group may have been thinking about how to improve a space in the neighborhood long before the workshop. This is an asset to the facilitator because she can use their idea as an example of how to think about the details of an improvement. However, it is important to also balance these ideas with new ideas from the group – a pre-established concept may be a reflection of a particular interest in the community that does not represent everyone's needs or desires.

## OUTCOMES

Model of design  
proposal and  
presentation.



○○●  
PARTICIPATORY  
WORKSHOP

JURY  
DECISION



**With the afternoon drawing to a close, there were three new visions for Sungai Jindah.**

The team from RT 14 proposed a new port for their area where one had existed previously. The residents from RT 7 created an enclosed area of water adjacent to their mosque. And the RT 17 group designed linear improvements along the boardwalk and a new waste collection system.

As residents anticipated sundown and the fasting break, the jury discussed the models for about an

hour. Then they returned with their announcement: the winner was the group from RT 14!

The jury explained they thought that RT 14 had been the most specific of the three groups about who would benefit from the improvement. In addition, the jury recognized that this area had not received many government services and programs. Moreover, the site design was iconic, creating a gateway to Sungai Jindah and therefore benefiting the neighborhood as a whole.

# SHIFTING PERSPECTIVE



**But the jury had another interesting thing to say. Over the course of the workshops, attention had increasingly focused on the confluence of the Andai canal and Martapura river, where RT 14 is located.**

This is literally the edge of the city, where urbanization transitions into coconut, citrus, and rice plantations. The area had been perceived as marginal, cut off from the rest of the city by a bridge. Yet the process of designing a solution for this area had made people see the potential

for RT 14 as a city gateway. As the residents' ideas developed, the visibility of the area became important to the government.

This sort of shift in perspective is possibly one of the most important things that participatory design has to offer. In RT 14, it had two important long-term implications: the new public space will change the relationship of the settlement to the river, which subsequently will increase the visibility of RT 14 within the city.



## REFLECTIONS

### **Quick and Dirty Shows the Way** by Stephen Kennedy

As a designer, I often get caught up in the details of form. Facilitating a discussion with a group of residents – who are spatially aware, but less versed in the technicalities of design – was a timely reminder of the value of letting things get messy.

The models we built for the workshops had a magical ability to draw everyone's attention. Gathering around them, residents pointed out their homes, outlined the quickest paths to the waterfront, and earnestly debated the best places for relaxing with their families. But we wanted to encourage residents not to treat the models as precious objects that shouldn't be touched or altered.

Our challenge was to encourage residents to think of the models as a platform for imagining potential opportunities in their communities. For example, while we didn't specifically assign symbolic meaning to any of the beads, string, and construction paper we provided, the facilitators guided residents with questions that helped them

imagine materials as proxies for real-world ideas. We would ask, "What if these strips of paper were a boardwalk or these beads were planters? Where would you want to add that in your neighborhood?"

Residents were hesitant at first to do anything to the models, so facilitators had to take the first steps and begin placing materials. This encouraged residents to jump in themselves. They quickly realized how adding the new materials enabled them to better articulate what they thought should happen in their community.

Working on the models with the residents in this playful manner made me remember the value of quickly iterating in the design process. We would spend 10 minutes adding paper, pins, and string, then discuss what worked and what didn't, clear it away, and start the process again. Even though each iteration was quick and dirty, having a tangible representation provided the teams with a basis for discussing their ideas and developing consensus around a final design.



## Well Prepared to Roll with the Punches

by Alice Shay

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During the workshops, my role was to coordinate the progression of each day's activities.

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This in simplest terms meant: making sure all materials were where they needed to be – before any facilitators thought to use them; making sure each team member was prepped with the timing for the day's transitions; making sure the team prep area was set up and organized throughout the three days; making sure the facilitators were prepared with their scripts and gallery walk talks; making sure the models were out and connected properly; etc.

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Ok, so maybe the process was not as simple as it first seemed. In a good workshop, the front of the house (facilitators and presentation materials) are given just as much consideration as the back of the house (the process coordination and the team's organizational and prep materials).

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Nevertheless, in the best workshops, the team is well prepared, but also able to roll

with the punches no matter what unforeseeable circumstances arise. For our workshops, we had prepared a tight schedule of activities, organized down to the minute.

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Throughout the sessions, as always happens, we were flexible depending on the enthusiasm around each activity. Some groups ran quickly through the problem trees, others focused in on the model making. To keep the teams running about even, we created signs in Bahasa that said "Five minutes left" and "Time's up!" Towards the end of each activity, I would walk throughout the groups to show the signs and confirm the timing with each facilitator. The signs, written in Bahasa, brought laughs to the participants. But as the rhythm flowed for each exercise, participants would look up to see if I was signaling time to wrap up, either to ask for more time or to get up to compare models with the other teams.

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A simple – and at times funny – action can create a pattern that participants react to, setting up a smooth flow for workshops.

CASE STUDY

# CITIES DEVELOPMENT STRATEGIES

Client

## UN-HABITAT

From 2011 to 2012, Solo Kota Kita worked with UN-HABITAT to create “cities development strategies” in Banjarmasin, Pekalongan, and Solo. The program collaborated with local governments to articulate and visualize their development needs to the national government in order to request funding for infrastructure investments.





# PEKERJAAN + PENGHASILAN



Tool

## Priority Dots

Our team organized workshops to demonstrate how a range of stakeholders were consulted about investments in a new pedestrian streetscape and the redevelopment of the city's main public market. Residents generated a list of issues and potential benefits related to the investment projects. These were written out on index cards and posted on the wall. Each resident received five colored stickers to use in voting for their top issues.

## Practicalities

The exercise visualized priorities of the workshop participants. It is designed to facilitate group decision-making about development priorities. Just as importantly, the exercise helps participants to understand the varying needs and priorities of participants and how social groups will be differently impacted by different investments.

## LESSONS FROM BANJARMASIN

**NOW THAT THE WORKSHOPS WERE FINISHED, OUR TEAM PULLED UP PLASTIC STOOLS TO A FOOD STALL COUNTER IN BANJARMASIN AND OVER *NASI GORENG* AND *ES TEH* (FRIED RICE AND ICED TEA) DISCUSSED WHAT WE THOUGHT WE THOUGHT WE HAD LEARNED.**

## ● **Being Honest about Our Values**

One of us thought it was important that we had been honest about the values of the team. After all, we had our own agenda: we had a design concept in mind and also wanted to do something about water – which were not necessarily priorities in Sungai Jingah beforehand. Rather than assume the role of objective, expert outsiders, we took the position that we were stakeholders in the process as well.

## ● **Making Decisions Transparent**

Another team member reflected on the two groups whose proposals were not selected by the jury and wondered whether they were disappointed. But it seemed to the team that even though those two groups did not win, they had agreed that it made sense for RT 14 to be improved. A transparent process had allowed residents to understand why decisions were being made, even if they did not immediately benefit.

## ● Involving Government at Every Level

Many residents commented during the workshop that they had never seen so many government officials in Sungai Jingah. Our project leveraged the willingness of local government to engage in a participatory process of this kind. We understand that is not the case in many parts of the world where local governments turn their backs on informal settlements. Even in Indonesia, from city to city, the interest of local governments to engage with social design differs. Whatever the case, we think it is critical to attempt to involve government on all levels – from the *RT* leader to the head of the planning department – to make a project successful.

In Banjarmasin, local government articulated an interest in observing and learning from the participatory process we were developing. We also came to the local government with a clearly defined role in mind and asked for something specific: to be on the jury. Bringing financial resources to the table for implementation surely helped as well in sparking the interest of local government.

## ● Taking the Time to Make Connections

We all thought it worked well to spread the activities over three days. We needed this time so that participants could make the connections themselves – between neighborhood and city development, general principles and site-specific strategies, and problems and solutions.

## ● Catalyzing Investment through the Public Realm

As another round of iced tea came around, the team lastly noticed how discussions were already happening among government officials about upgrading other basic services in Sungai Jingah. While the intervention we were planning was modest in comparison the need for new infrastructure in the area, in any case the improvement of a single public space in the neighborhood was becoming a catalyst for the city to make other investments.



## REFLECTIONS

### Forming Partnerships

by John Taylor

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Good partnerships between community organizations and local government are an essential part of implementing development projects.

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Partnerships establish mutual interests and pave the way toward productive working relationships because the different actors understand each other and feel comfortable collaborating together.

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These kinds of relationships are built over time – the more that people know each other and understand what they can contribute to one another the better. Over time, partners create communication channels and trust, which, in turn, facilitate problem solving, mobilize resources and information, and help mediate problems when they arise.

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The Firm Foundation project was made possible because the team had established a strong working relationship with city government about a year and a half before the first workshop in Sungai Jingah.

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The Solo Kota Kita team had been working with the local government on the UN-HABITAT program Cities Development Strategies (CDS) and helping to design an urban development strategy for the city. Over the course of the CDS project, the team established relationships with key individuals in the city government, in particular Pak Fajar and Ibu Betty from BAPPEDA and DTRK (Banjarmasin's budgeting and spatial planning departments).

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It wasn't uncommon that we would go out to breakfast or dinner together, sitting on the floor of a local restaurant, sharing experiences and exchanging jokes. Once when the team brought some visitors to the city, we all traveled together to visit Banjarmasin's floating market at dawn.

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Through these kinds of experiences, we built up familiarity with each other and bonded. This paved the way for friendly and equal understanding, leading to a better project overall.



## Thinking as Designers for a Day

by Alykhan Mohammed

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Our challenge in Sungai Jingah was about translation. As a summer intern at Solo Kota Kita, I was part of the preparation and planning of the workshops. Six weeks before we flew to Banjarmasin, we started work on creating a process to guide residents to formulate an idea for their neighborhood – what would be a form and language that would educate and engage residents through a step-by-step process?

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The team started with a rough outline of the three-day workshop. Everyone took responsibility for creating a script for one or two sessions. We wrote down our ideas with colored markers on big sheets of chart paper and pinned them to every wall in the office. We then discussed every aspect of the workshop, from the timing of each session to the language and metaphors we used to describe ourselves and the project.

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For us as facilitators, these workshops were an opportunity to reflect on the process we use, ourselves, daily. We analyze sites and context, brainstorm

possibilities, and make things. But this is not a familiar language for everyone. Even so, we can think about how to use this process as a structure to discuss the future of a neighborhood.

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I think one implication is that there is value for both residents and government officials to see their neighborhood and city spatially and to think as designers for a day. For example, people could understand their home's relationship to the river in a new way. For the government officials, the workshop offered alternative ways to understand the city. By translating and making accessible the tools of design thinking, our team offered an experience which set the stage for an ongoing dialogue between residents and government.


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A workshop may last for a few hours or days, and a site may only be few square meters, but thorough and thoughtful preparation can make the participatory design process resonate at a much larger scale.

An aerial photograph showing a slum area with numerous small, closely packed buildings. A river flows through the scene, and a long bridge structure is under construction, crossing the river. The bridge has a lattice-like metal framework. The surrounding area includes some open fields and trees. A blue rectangular box is overlaid in the top left corner, containing the text 'ANNEX 1'.

## ANNEX 1

**Firm Foundation  
was constructed  
in April 2013 in  
partnership with  
PNPM Mandiri,  
Indonesia's  
national program  
for slum upgrading  
and community  
empowerment.**

An aerial photograph showing a river flowing through an urban area. The river is on the left side of the image, and the surrounding land is densely packed with buildings and infrastructure. The water is a light blue-grey color, and the land is a mix of grey and brown tones.

We began work just two days after the workshop concluded, which helped maintain the momentum. We wanted to be sure residents saw that things were starting to happen. The designers from AECOM made a site visit to Sungai Jingah, and we did a site survey. We held several meetings during the next week with residents to discuss the design as it was developing.

As we worked to translate the ideas from the workshop into a design, we found it was important to develop an understanding of three characteristics related to the site: its significance to residents, their social requirements, and the potential construction methods. So we spent more time in *RT 14*, observing everyday life and talking to local residents to understand how they build and maintain their community.

**SIGNIFICANCE OF THE SITE:** We started with an understanding of the significance of the project site. For residents, choosing this site had to do with re-establishing a lost port. Since the boat dock had fallen into disrepair and eventually collapsed, there had been no point of access to *RT 14* from the water. Yet during the workshops, it became increasingly evident that the meaning of the port was more than a piece of physical infrastructure. The port would be a visible connection between *RT 14* and the rest of the city. This was important to residents as well as to government officials who saw the potential to create a gateway here at the edge of the city and the confluence of the Martapura river and Andai canal.

**SOCIAL REQUIREMENTS:** During and after the workshops, we also came to understand the social requirements of the site. The vendors who bring vegetables to *RT 14* by boat every morning have no place to dock. Women typically peel vegetables communally each day, but there is no open space in *RT 14* where they can gather. Children also lack play space. Understanding the patterns of activities over the course of the day informed how we designed the public space.

**CONSTRUCTION METHODS:** Learning about local construction methods and materials was essential for making a design that would be feasible. The housing and paths in *RT 14* are constructed by residents themselves, and, in fact, the program we partnered with to implement Firm Foundation hired local residents to build the public space. So we needed to design something residents would know how to build with materials at hand. We took as a basic module for the design a grid frame of piers driven into the riverbed. We then worked with an architect from Banjarmasin on the details.

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*Firm Foundation provides a new public space for the 273 residents of RT 14. The project created 9 temporary construction jobs.*









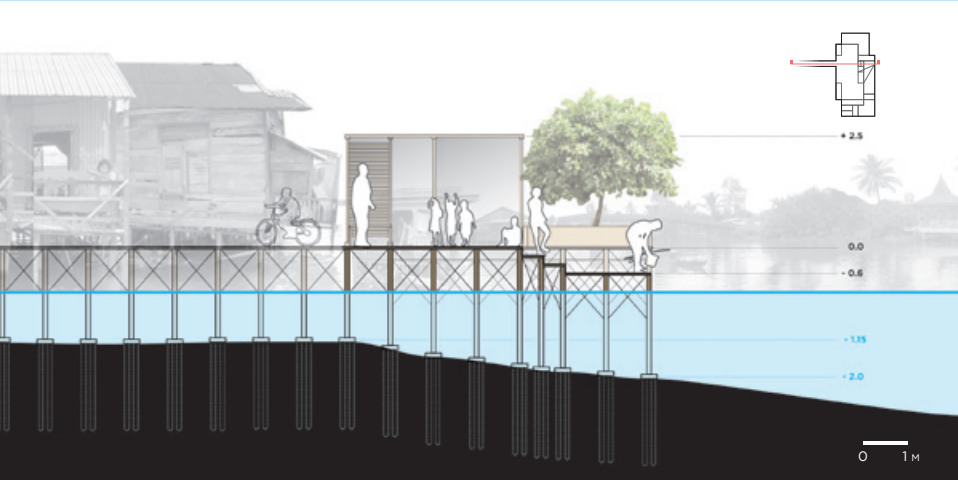


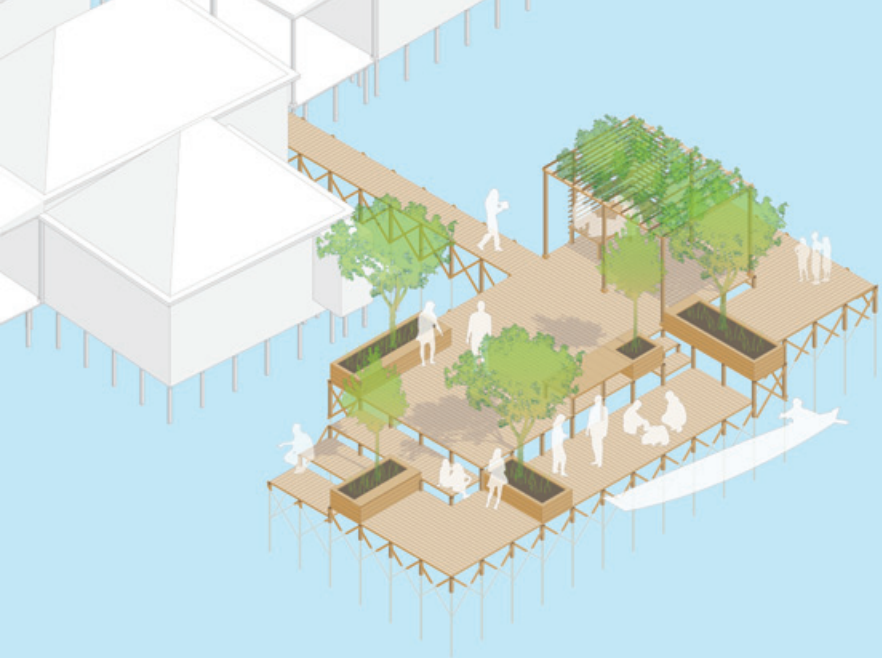
*The public space articulates a positive relationship between the settlement and the river and improves access to the water for residents.*

*The public space is a gateway to the area and makes RT 14 a visually prominent part of Banjarmasin's riverfront.*









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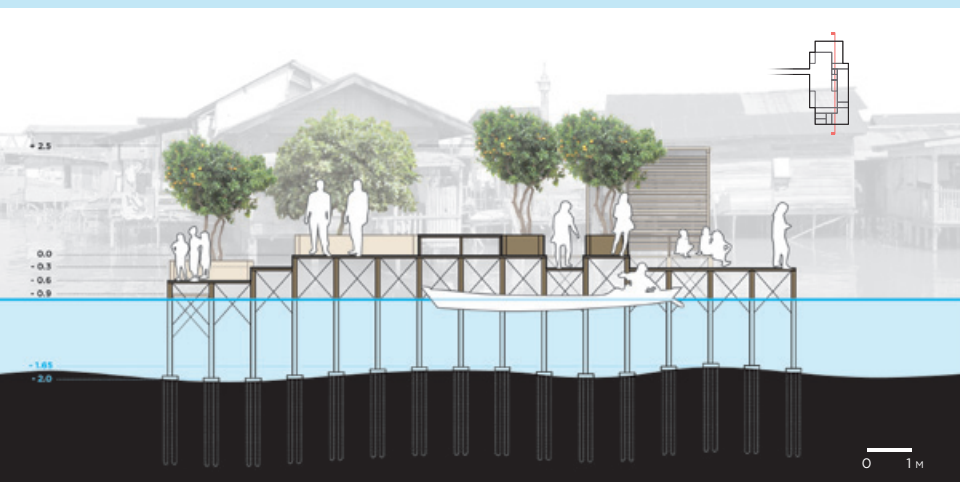
*Opposite, above:* Plan view showing a potential network of public spaces in RT 14; placemaking diagram of relationship between public realm and community spaces. *Opposite, below:* east-west section.

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*Above:* Axonometric view of the public space.

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*Below:* North-south section.







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*The design restores a former port, provides flexible recreation areas, supports local economic activity with a seating area for a nearby food stall, and creates opportunities for residents to engage with the water.*



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## ANNEX 3

### Project Team

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**Acknowledgements**

**KICKSTARTER CAMPAIGN CONTRIBUTORS WHOSE SUPPORT MADE THIS PUBLICATION POSSIBLE**

Albert Ching	Christophe Chung	Imminent Ltd.
Alejandra Rojas	Claire Lorman	James Eastman
Alex Marks	Colleen McHugh	Janet & Bill Goudie
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