IFRC

STEP 2/3

Designing Solutions for Urban Community Resilience

A methodology to co-design viable, inclusive and sustainable community resilience solutions

November 2025

Part 1 Urban Community Resilience
Part 2 City Wide Risk Assessment
Part 3 Coalition Building
Part 4 Co-designing Solutions

Understanding each activity

Every activity page is laid out the same, making them easy for anyone to pick up and use.

Activity number

Activities have unique identifier numbers. These are set out using the relevant Key Action number, followed by the step number, and ending with an activity number. You don't have to use every single activity, but for continuity try to use them in order from the smallest number (e.g. 3.1.1) to the largest number (e.g. 6.5.1).

Quick information

Three key pieces of information have been pulled out to make it quick to compare activities. The top icon represents the level of difficulty: one dark bar means the activity is 'easy'; two dark bars meaning 'moderate'; all three bars filled in means the activity is more difficult (though still designed for use at community level).

Key points

The *'Key points for facilitators'* contains information that will help the running of the activity go smoothly, and is informed by the experiences of those who have run the activity in the past. *'Key learning points'* tells you the reason for running the activity (i.e. what the participants will gain from completing the activity).

Process

Activities are described through a series of clear steps. Where appropriate, sometimes prompts are provided for the facilitator to conduct a conversation with those doing the activity. When this is the case, don't just use the provided questions as a script – you can think on your feet and come up with your own conversation prompts based on what is happening in the room.

Activity 0.0.0

An activity

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *20 minutes*

Materials: *Post-its, sharpies, flip chart paper*

Key points for facilitators

Key learning points

Process

1.
2.
3.
4.
5.
   a)
   b)
6.

Navigation aid

Along the top of most pages in this toolkit there are a series of icons. These refer to the overall structure of the document, and indicate how far through the toolkit you have progressed. The coloured icon is your current position, with all other sections referenced in grey. In this example we are looking at Part 2 (as indicated by the 'shield' icon from the section title page), and specifically we are looking at an activity from Key Action 3 (as indicated by the 3).

Understand our opportunities

What is this?

To be able to come up with solutions to improve the disaster resilience of your city or community, you first need to understand what your biggest challenges are. You will use the outputs from the *Enhanced Vulnerability and Capacity Assessment* or *City-wide Risk Assessment* and turn the challenges identified into opportunity areas for ideation.

Who needs to be involved?

Facilitator   Participants*

particularly those who have been involved in the EVCA / CWA process

How long will it take?

Total preparation time: *15 minutes*
Total running time: *1 hour and 20 minutes*

Action 3.1
Recap your findings from EVCA or CWA

Why do you do this?

Rather than starting from scratch, you will use the outputs from the assessment already conducted in your area. These tools help identify the most important local disaster risks and challenges being faced. To make sure everyone in the room is familiar with the content, recap the risks before reframing them into opportunities.

When do you do this?

This should be the first activity you do after the Enhanced Vulnerability and Capacity Assessment or City-wide Risk Assessment, ideally quite soon after it has been completed. The details will be fresh in participants' minds and you will be able to keep the momentum up.

Useful tools & activities

3.1.1 Challenges you are facing today

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *20 minutes*

Total time recommended to complete Action 3.1 activities

Total preparation time: *5 minutes*
Total running time: *20 minutes*

Challenges you are facing today

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *20 minutes*

Materials: *Post-its, sharpies, outputs from EVCA or CWA workshops*

Key points for facilitators

- Make sure you have the outputs printed from the EVCA / CWA to use as inputs into this session
- The participants may or may not be the same as the participants in the EVCA / CWA so you need to recap to ensure everyone is clear and aligned

Key learning points

- What the key challenges facing the community or city are

Photo: Aly Belkin @ Pivotal Labs

Process

1. Ask who in the room participated during the EVCA / CWA process. Get participants who were involved to share one at a time what they remember of the challenges, shocks and stresses on the city or community systems.

2. As people are sharing, make sure you document the content on the whiteboard or flipchart paper, theming or clustering as you go.

3. Hand out the different outputs from the EVCA / CWA to each table, ensuring they are spread around evenly. In 10 minutes, get each table to go through the outputs and identify any additional challenges that have not already been captured on the board. Get them to write these on post-its.

4. Get each table to share back with the group the additional challenges they have found one-by-one, adding the post-its to the relevant part of the board.

5. Once everything is up on the board , prompt the room with questions:

   a) *Do we think this covers all of the challenges we are facing?*

   b) *What's missing?*

6. Once they have added anything additional, ask them the following question: *based on the prioritisations from the EVCA / CWA assessment and what we know as a group in the room today, which do you think are most important challenges for us to overcome and develop resilience towards?*

7. You can refer back to the prioritisation from the assessment, where particular shocks and stresses were identified as important based on their degree of potential impact and their frequency of occurrence.

8. Once there is agreement in the room on which challenges to prioritise, you can move on. Ideally there will be the same number of challenges as tables in the room, but if not, that's not a problem.
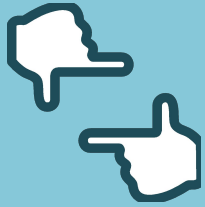
Action 3.2
Reframe challenges into opportunities

Why do you do this?

In order to come up with up ideas to address your disaster risks and challenges, you need to reframe your problems - often phrased negatively - into opportunities that are framed positively. This reframing sets you up to brainstorm ideas for solutions that will help create a more resilient city or community.

When do you do this?

This should be done in the same session as the recap to ensure people are clear on the challenges.

Useful tools & activities

3.2.1 Developing 'How Might We' statements

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *30 minutes*

3.2.2 A vision of the future

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *30 minutes*

Total time recommended to complete Action 3.2 activities

Total preparation time: *10 minutes*
Total running time: *1 hour*

Developing 'How Might We' statements (HMWs)

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *30 minutes*

Materials: *Post-its, sharpies, flipchart paper, markers*

Key points for facilitators

- The HMW statements might need some extra editing after the participants have developed them, to ensure they are pitched at the right level for successful brainstorming

Key learning points

- HMW statements are designed to be the starting point for brainstorming ideas that can help to address the challenges

Process

1. Explain that we are going to turn our prioritised challenges (from Activity 3.1.1) into 'How Might We' (HMW) statements, which will help us to brainstorm solutions.

2. To create HMWs, you reframe the challenges that you have identified in mapping out the stresses and shocks during the CWA / EVCA. Take each challenge statement (there should ideally be one per table group) and ask participants to rephrase the challenge into an opportunity, which begins with the phrase 'how might we'. They may come up with more than one for each challenge. Use post-its to draft different HMWs. Give them 10 minutes for this.

3. Share that the HMW statements need to be broad enough that there are a wide range of solutions but narrow enough that the team has some helpful boundaries within which to come up with new solutions.

For example:

Too narrow – 'HMW create a cone to eat ice cream without dripping?'
Too broad – 'HMW redesign dessert?'
Just right – 'HMW redesign ice cream to be more portable?'

4. Once each group has developed at least one HMW statement for their challenge, get each group to share back with the rest of the room. Prompt with questions:

   a) *Can we see that this is now an opportunity area and not just a problem statement or challenge?*

   b) *Is it pitched at the right level i.e is not too narrow or too broad?*

   c) *Will it allow for a variety of solutions?*

6. As a full group, decide on the final version of each HMW statement and write each one up in large lettering on a piece of flipchart paper. They will be used in the following session for brainstorming.

A vision of the future

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *30 minutes*

Materials: *A4 paper, coloured pens*

Key points for facilitators

- This activity is all about linking the challenges people have identified that they're experiencing today with a positive vision of the future in 10 years time

Key learning points

- Creativity and envisioning the future will help when it comes to generating ideas to achieve our desired future state that is resilient and prepared for disasters

Process

1. Give participants an A4 sheet of paper each, and ensure each table has coloured pens or other similar coloured materials to draw a picture with.

2. Ask them to draw a picture showing their vision for their city / community / ward ten years from now. They should try to visualise what it would look like if all of the opportunities they have discussed were realised. Have them think specifically about the challenges they identified in Activity 3.1.1, and the opportunities they turned the challenges into in Activity 3.2.1. These should be reflected in their drawing, showing the positive future state.

3. Give them 15 minutes to draw. Be sure to share that it does not matter if you are not a good artist! The idea is to have fun and be imaginative.

4. Invite people to stand up and speak about what they have chosen to draw.

5. Paste the pictures up on the wall at the end of the session in a place where they can be easily seen for the remainder of the workshop.

From ideas to solutions for change

What is this?

This is the most creative and divergent stage of the design process, where you will look at global and local inspiration, brainstorms ideas and develop the ideas in more detail. You then discuss their feasibility, before selecting the most valuable ideas and turning them into prototype solutions.

Who needs to be involved?

Facilitator

Participants

Red Cross Red Crescent experts

How long will it take?

Total preparation time: *2 hours and 10 minutes*
Total running time: *5 hours and 25 minutes*

Action 4.1
Brainstorm ideas for change

Why do you do this?

Brainstorming is a technique for groups to generate creative ideas to solve specific problems. It's important people are able to think freely and are not hindered by feasibility or viability at this stage. The more creative and divergent the ideas, the more likely you will find the ingredients to create strong solutions to your challenges.

When do you do this?

This brainstorm can take place at any stage once the challenges have been reframed into HMW opportunity statements. Most important is for the facilitator to have had time to search for the innovation inspiration for the brainstorm session.

Useful tools & activities

4.1.1 A bad umbrella

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *15 minutes*

4.1.2 How to make a cup of tea

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *30 minutes*

4.1.3 Rules of brainstorming

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *10 minutes*

4.1.4 Innovation inspiration

Difficulty: *Moderate*

Preparation time: *90 minutes*
Running time: *20 minutes*

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6 Rules of
Brainstorming

1. Go for volume
2. Encourage wild ideas
3. Defer judgement
4. One conversation at a
   time
5. Build on each other's
   idea — say "and"
6. Visualise your ideas
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4.1.5 Generating ideas

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *40 minutes*

Total time recommended to complete Action 4.1 activities

Total preparation time: *1 hour and 50 minutes*
Total running time: *1 hour and 55 minutes*

A bad umbrella

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *15 minutes*

Materials: *Post-its, sharpies*

Key points for facilitators

- This is a quick and easy way to warm-up to get people thinking and writing
- Purpose is to go for quantity and not perfection of ideas

Key learning points

- Your best idea is never the first idea
- You can come up with good or better ideas by building on other ideas or re-engineering 'bad' ideas

Process

1. Share with participants that they are about to brainstorm features of the <u>worst</u> umbrella ever designed. The exercise is about coming up with as many ideas as they can in a short amount of time.

2. Ask participants to use post-it notes to brainstorm all the potential features the worst umbrella design would have in 5 minutes. Write one idea per post it note.

3. Set a target of 100 ideas in 5 minutes for each table group. The target is meant to be challenging. If they are a big group, make the target higher (i.e more than 15 ideas per person).

4. Once the 5 minutes is up, prompt with questions:

   a) *How did that feel? Did it get easier once you started?*

   b) *Which idea was your best? Who noticed that the 5th or 6th idea they came up with was better than their 1st?*

   c) *Why do you think that is so?*

5. Now, ask participants to see if they can combine at least one of their 'bad' ideas or features with someone else's idea to create a new 'good' idea. e.g. an umbrella made from paper could be combined with a plastic umbrella with no handle to make a fully-functioning umbrella.

6. Remind participants that no idea is a bad idea and that this is an important mindset as you head into ideation.

How to make a cup of tea

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *30 minutes*

Materials: *A4 paper, post-its, sharpies*

Key points for facilitators

- You can substitute tea with another locally relevant and common food or drink item, as long as it is simple to make

Key learning points

- Quality collaboration tends to result in richer and more detailed content
- Different types of collaboration tend to result in different outputs

Process

1. Split the room into 4 groups and explain that the exercise is to draw the steps for how to make the perfect cup of tea. They have 10 minutes to complete the task, but each group has different instructions on how to do it.

    a) One group will each individually draw their own process on a sheet of A4 paper.
    b) One group will each individually draw on post-its, one step per post-it. They can use multiple post-its, there is no limit.
    c) One group will start drawing individually on post it notes. After 5 minutes, give them instructions to come together as a group and compile their post-its into one process. They are <u>not allowed to talk</u> while they do this.
    d) One group will start drawing individually on post it notes. After 5 minutes, give them instructions to come together as a group and compile their post its into one process. They <u>are allowed to talk</u> while they do this.

5. After the 10 minutes, come back to a group discussion.

6. Prompt with questions:

    a) *Who had more than 10 steps in the process?*
    b) *Who had less than 5 steps in the process?*
    c) *What does that tell us about teamwork vs individual work?*
    d) *What does that tell us about different perspectives?*
    e) *What does that tell us about all the different ways to solve a problem?*

Rules of brainstorming

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *10 minutes*

Materials: *Whiteboard or flipchart paper, markers*

Key points for facilitators

- Brainstorming is a fun and quick way to come up with lots of ideas in a short space of time
- The rules are important to help get the most of out of the participants

Key learning points

- For brainstorming to work well, people need to understand the rules
- Going for volume is one of the most important points

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6 Rules of Brainstorming

1. Go for <u>quantity</u>

2. Encourage <u>wild</u> ideas

3. <u>Defer</u> judgement

4. <u>One</u> conversation at a time

5. <u>Build</u> on each other's ideas – say "and"

6. <u>Visualise</u> your ideas

Process

1. Begin by explaining what brainstorming is – it's a way of coming up with lots of ideas in a short space of time. It can be used in lots of different ways, and today you are going to do it using one particular proven method.

2. Ask participants to volunteer what they think might be a rule of brainstorming. Acknowledge when they get them correct (or almost correct).

3. Ensure they have thought of all the rules. Share any remaining rules they have not come up with.

4. Write them up on a whiteboard or flipchart paper in large font so everyone can see them. These are also in the Resource Library.

5. Prompt with questions:

   a) *Why is each rule important?*

   b) *How will it help us achieve our goals?*

Innovation inspiration

Difficulty: *Moderate*

Preparation time: *90 minutes*
Running time: *20 minutes*

Materials: *Internet access, presentation slides, (optional: printed slides)*

Key points for facilitators

- This requires significant preparation <u>before</u> the session
- Inspiration is crucial for helping people think outside of the box

Key learning points

- Aspects of the inspiring solutions can be incorporated into our ideas to solve the current challenges

Zero waste Japanese town
Kamikatsu, Japan

- The residents of Kamikatsu, a toen of 1,700 sort their trash into 34 different categories.
- There are no garbage trucks, so each resident has to wash, sort and bring their trash to the recycling center- which resident adnmit took sometime getting used to.
- A worker oversees the sorting process at the center making sure trash goes onto the right bins. Some parts are taken to businesses to be resold or repurposed into clothing, toys and accessories.
- Kamikatsu already recycles about 80% of its trash, with the last 20% going into landfill.

Bigbelly smart solar-powered bins
Singapore

- Intelligent sensors that detec how full they are and can send an email or text message alerts to the cellphones of cleaners.
- Have an internal compactor that can crush rubbish so that the cpacity can be eight times more than that of a normal bin.
- Solar powered and self sufficient when it comes to energy and they can store power.

Examples for waste management

Process

1. Before you begin the ideation session *(Activity 4.1.5)*, spend some time researching online different innovations for the opportunity areas relevant to your session e.g. waste management, disaster preparedness etc. Aim for 5-6 strong innovations, more if possible.

2. Good keywords to include in the google search: *design, innovation, technology.* Often you will find news articles, or university reports. Any source is fine to use.

3. It's important that you <u>do not</u> filter the innovation inspiration for viability and possibility. You are trying to inspire participants with examples of great innovation. It does not matter if that particular innovation does not directly apply to the current challenges, or that it may not be possible to implement in the environment you are in.

4. Try to get at least a couple of examples from countries with similar contexts as yours. You can include inspiration from both developed and developing contexts. Remember the idea is to <u>inspire.</u> You can use the examples from Part 1 Page 12 to help get you started.

5. Capture the content on slides for either displaying or printing. Make sure they are visual – include pictures, diagrams, examples of how the innovation works and has made a positive impact. Try to simplify the innovation into 5-6 sentences that describe what is is, why it works and the impact that it had. *(see above for examples).*

6. Before the ideation session *(Activity 4.1.5)*, share the slides or print-outs and talk through them with participants.

7. Prompt with questions:

   a) *What stood out as being the most exciting innovation to you?*

   b) *Why was that?*

   c) *How do you think some of these could apply to our context?*

Generating ideas

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *40 minutes*

Materials: *Post-its, sharpies, flip charts, wall space*

Key points for facilitators

- Remind participants about the rules of brainstorming to ensure they keep on track and go for volume

Key learning points

- Brainstorming is a good way of coming up with ideas to address opportunities
- The more ideas generated the better

Photo: Aly Belkin @ Pivotal Labs

Process

1. Distribute the HMW statements from *Activity 3.2.1* around the tables. If there are not enough statements, tables can work on the same opportunity area. People can also move tables to work on the statement they are most passionate about or have ideas for.

2. Working individually and with no talking, get participants to come up with as many different ideas as possible in 10 minutes that will help realise the opportunities and achieve the positive vision for the future (see Activities 3.2.1 and 3.2.2).

3. They must use one post-it per idea, and be sure to pull off the post-its and stick them on the table as they go. Don't leave them on the post-it pad.

4. Participants to spend 5 minutes sharing their ideas with a partner at their table. Between them, choose the top 6 ideas and share the ideas with their table group.

5. As a table group, spend 5 minutes prioritising all of their ideas into the top 3 ideas overall for the table.

6. As a whole room, go around table by table and get participants to come up and stick their table's top 3 ideas on the wall (or flip chart). They should read the ideas out one by one as they stick them up.

7. As each new table comes up, the facilitator can cluster similar ideas that could build on one another. This will form an 'ideas wall'. Ideas from different HMW statements might cross over which is okay. Be sure to cluster them together.

8. If you have more time, you can rotate the groups around the different HMW statements and repeat the brainstorm exercise (from Step 2 onwards). Their ideas should build on what has already been generated.

Action 4.2
Develop and prioritise ideas

Why do you do this?

After coming up with simple ideas in the brainstorm, they need to be developed in more detail. By clustering similar ideas, people can combine different elements from basic ideas to create a more considered idea. These then need to be assessed at a high level to establish if they are worth pursuing from a high level viability and possibility perspective.

When do you do this?

This should be done immediately after the brainstorm while the ideas are fresh in people's minds and they are feeling energised.

Useful tools & activities

4.2.1 Developing the top ideas

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *30 minutes*

4.2.2 Assessing ideas using 'DVP'

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *1 hour*

Total time recommended to complete Action 4.2 activities

Total preparation time: *10 minutes*
Total running time: *1 hour and 30 minutes*

Developing the top ideas

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *30 minutes*

Materials: *A5 idea templates (provided in Resource Library), sharpies*

Key points for facilitators

- Really encourage people to combine multiple ideas to make one stronger concept

Key learning points

- In order to develop an idea, you need to flesh out the details and explain different aspects of it to help you improve the idea

Name your idea	
Draw it	**Who is it for?**
Describe it	**What outcome will it achieve?**

Process

1. In pairs, get people to choose a post-it idea (or cluster of ideas that link together) from the ideas wall in Activity 4.1.5. They should choose the idea that resonates with them or excites them the most.

2. In the pair, they need to build out the post-it idea (or ideas) onto one A5 idea template (found in the Resource Library). Ensure they fill out all parts of the template.

3. Once they have finished the first template, go back to the ideas wall and select a second post-it idea (or cluster of ideas that link together) and repeat the process on a new idea card for the new selection.

4. Each pair should aim to complete a minimum of 2 idea templates in 15 minutes. If there are ideas that are not selected from the idea wall at the end, give people 5 minutes to select any remaining ideas they are passionate about and to quickly compete the idea template. It's okay if not all of the ideas are turned into idea cards.

5. In the remaining 10 minutes, get each pair to share their ideas with others at their table. If there are ideas that can fit together or complement each other to make one stronger idea, get the team to write a new idea template that combines the two.

6. Prompt a short discussion with questions:

   a) Why is it a good idea to combine ideas which are similar?

   b) Can you see ideas which excite you? Why?

Assessing ideas using 'Desirable, Viable, Possible' (DVP)

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *1 hour*

Materials: *A5 DVP templates (provided in Resource Library), sharpies*

Key points for facilitators

- Refresh your memory about the 'Desirable, Viable, Possible' framework in the Facilitator's Guide before starting this session (see toolkit Part 1, page 11). Refer to the materials from Activity 4.2.1

Key learning points

- While you always start with what is desirable for users, it's important to consider what is viable and possible when assessing your ideas

Process

1. Spend the first 10 minutes of the session explaining the 'Desirable, Viable, Possible' framework (DVP) and why it's useful. Highlight that you always begin with what is desirable for people first, and that is what you have done up to this point. Our solutions have not considered what is actually viable or possible yet.

2. Once the participants understand the framework, hand out the DVP templates (in the Resource Library) and get each pair to complete one for each of their idea templates. This should take around 15 minutes.

3. Once all the idea templates have a DVP template completed for them, get each pair to reflect on the value of each idea now that they have considered how viable or possible it seems. Get each pair to choose their 'best' idea, based on the quality of the idea and its possibility and viability assessment.

4. One by one, get each pair to share their 'best' idea with the room and stick them up on the wall. Cluster similar or complementary ideas together.

6. Once all of the 'best' ideas are up (and clustered where relevant), get each table group to come up and select one idea, or cluster of ideas, that they want to develop into a more complete solution.

Remember the role of the Four Voices!
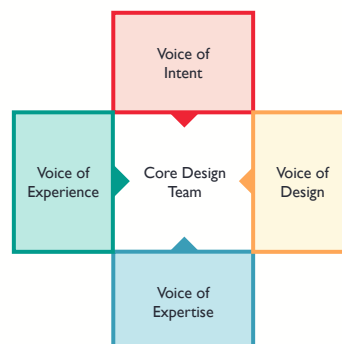
As the 'Voice of Expertise' when it comes to disaster preparedness, Red Cross personnel should assess these ideas through this lens. It is important that ideas which have been determined to be desirable are verified as possible and viable by those with the appropriate expertise within Red Cross to give the solutions the best chance of success.

Action 4.3

Select ideas and turn into prototype solutions

Why do you do this?

Prototyping is an important part of the design process as it makes ideas 'real' and forces people to think about their solutions in more detail. By working through a basic 'features' worksheet and then developing storyboards and prototypes, you will have tangible artefacts to test with users.

Once the prototypes have been developed, there needs to be an evaluation process to ensure we have developed the best solutions possible.

When do you do this?

The National Society plays an important role in the last part of this step. Before moving into the testing stage of the design process, you need to evaluate the solutions for viability and possibly again, using the National Society resilience expertise. This may take some time, so depending on the workshop plan and schedule, Key Action 5 activities can be scheduled for a later date. This also gives time to schedule future user testing sessions (see Activity 5.4.4).

Useful tools & activities

4.3.1 Spaghetti marshmallow towers

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *30 minutes*

4.3.2 Solutions prototyping

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *1.5 hours*

Total time recommended to complete Action 4.3 activities

Total preparation time: *10 minutes*
Total running time: *2 hours*

Spaghetti marshmallow towers

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *30 minutes*

Materials: *1 packet dried spaghetti, 1 packet marshmallows, string, masking tape*

Key points for facilitators

- You can substitute spaghetti and marshmallows with other local items like straws and different types of sweets

Key learning points

- The teams that begin 'building' quickly usually end up the most successful through trial and error
- Prototyping early (and therefore failing early!) often leads to success

Process

1. Split the room into 4 groups. Set up each table up with 20 dry spaghetti sticks, 1 marshmallow, 1metre of string and 1metre of masking tape

2. Split the room into 4 groups and explain their challenge is to build the tallest tower possible that will support the marshmallow. They can use the materials however they like.

3. Set a timer for 15 minutes and go!

4. Around the 10 minute mark, walk around the groups and ensure that each group has started to build something. Encourage them and make sure they know how much time they have left.

5. When the 15 minutes are up, make everybody stand back from their towers. Judge which team is the winner - the team that has their marshmallow the highest distance off the table.

6. Prompt with questions:

   a) *Why do you think that team had the highest structure? Probe for reasons beyond the physical structure itself.*

   b) *What would you do differently if you did this exercise again? Why?*

   c) *What can we learn from this when we begin to prototype our ideas?*

Solution prototyping

Difficulty: *Moderate*

Preparation time: *5 minutes*
Running time: *1 hour and 30 minutes*

Materials: *Paper, coloured pens or pencils, clay, cardboard, tape, blu-tack, solution overview worksheet (in Resource Library), storyboard examples*
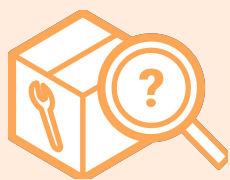
Key points for facilitators

- Encourage participants to get creative in how they explain their idea through prototyping, but make sure they are clear on the features of their idea first (the features can evolve as they build their idea)

Key learning point

- Prototyping helps make ideas tangible and makes them easier to explain to users during testing

Process

1. The first part of the session requires the participants to complete the 'solution overview' worksheet, describing the challenge or problem state, the desired future outcomes, what the features of the idea are, how it works and who the stakeholders are. The template can be found in the Resource Library. This should take around 15 minutes.

2. Once each group has completed their solution overview worksheet, explain to participants why prototyping is important:

   - It helps us to make our ideas tangible

   - It gives us something physical to share with users during testing and makes it easier to explain

   - It takes the emphasis off the person who is sharing the idea and puts it onto the idea itself

3. Share examples of prototypes and storyboards for inspiration (in Resource Library).

4. Groups can then begin to storyboard and prototype their solutions.

5. As they work through their storyboards and prototypes, circulate around the room and prompt with questions:

   a) *How is your prototype helping to explain the key features of your idea?*

   b) *How can you make all the elements of your solution tangible?*

Evaluating and extending the solutions

Please note that this page is for facilitators only. It is not a group activity.

Evaluating the ideas

Once you have completed the activities in Key Action 4, the ideas that have been prototyped into solutions need assessing by the facilitators to ensure they are valuable to continue working on. You can use the following guidelines to assess each solution:

Sense-check against the viable and possible frames again.
- Does the solution require a large financial investment?
- Does it require a significant innovation in technology?
- Does it require something very new or different to the existing capabilities the city or community has?

If the answer to one of these questions is yes, you might want to consider the likelihood of success of the solution.

Sense-check against the scope of the key stakeholders involved.
- Does the solution fit within the scope of the INGO partners, government partners, private sector?

Sense-check the uniqueness of each solution.
- Are there elements of each solution that could be consolidated to result in fewer but stronger solutions to take forward?

Extending the ideas

It is recommended to engage key disaster risk and resilience experts at this stage to see if any solutions can be built upon to make them more impactful. This could be through an online platform where larger Red Cross Red Crescent staff (across the community, city, country and global levels) can engage with the solutions and give feedback and suggestions for how to improve the idea. This could also be a way for different regions to share new innovations and solutions in the field of disaster risk reduction and resilience.

Having this 'Voice of Expertise' perspective *(see Page 9, Section A)* is crucial for ensuring viability and feasibility of possible solutions, while ensuring the larger Red Cross Red Crescent staff and in-country technical expertise in this field is being leveraged.

5

Test and learn

What is this?

This stage is all about testing our prototypes, both internally and with external users. This helps us to learn quickly what key users and stakeholders think about our solutions, then you can iterate and improve what you have designed.

Who needs to be involved?

Facilitator

Participants

Community members and stakeholders

How long will it take?

Total preparation time: *2 hours and 20 minutes*
Total running time: *9 hours and 15 minutes*

Action 5.1
Test initial prototype solution internally

Why do you do this?

You start with testing any solution amongst your peers before you go out to do 'real world' testing. This allows you to get feedback quickly and easily, and identifies any gaps you have in your solutions. You can iterate prototypes at a very low cost and begin to improve the fidelity of your solutions.

When do you do this?

Internal user testing can be done at any stage after the solution prototypes have been developed.

Useful tools & activities

5.1.1 Internal user testing

Difficulty: *Easy*

Preparation time: *5 minutes*
Running time: *1 hour*

Total time recommended to complete Action 5.1 activities

Total preparation time: *5 minutes*
Total running time: *1 hour*

Internal user testing

Difficulty: *Easy*

Preparation time: *5 minutes*

Running time: *1 hour (depending on number of groups)*

Materials: *Storyboards and prototypes, post-its, sharpies, flipchart paper*

Key points for facilitators

- Internal testing is useful as participants can quickly learn from their peers and rapidly improve their solutions
- Try to keep to time in the round robin

Key learning points

- Testing early with users (even peers) enables you to gather feedback quickly in a 'safe' space and improve your solution
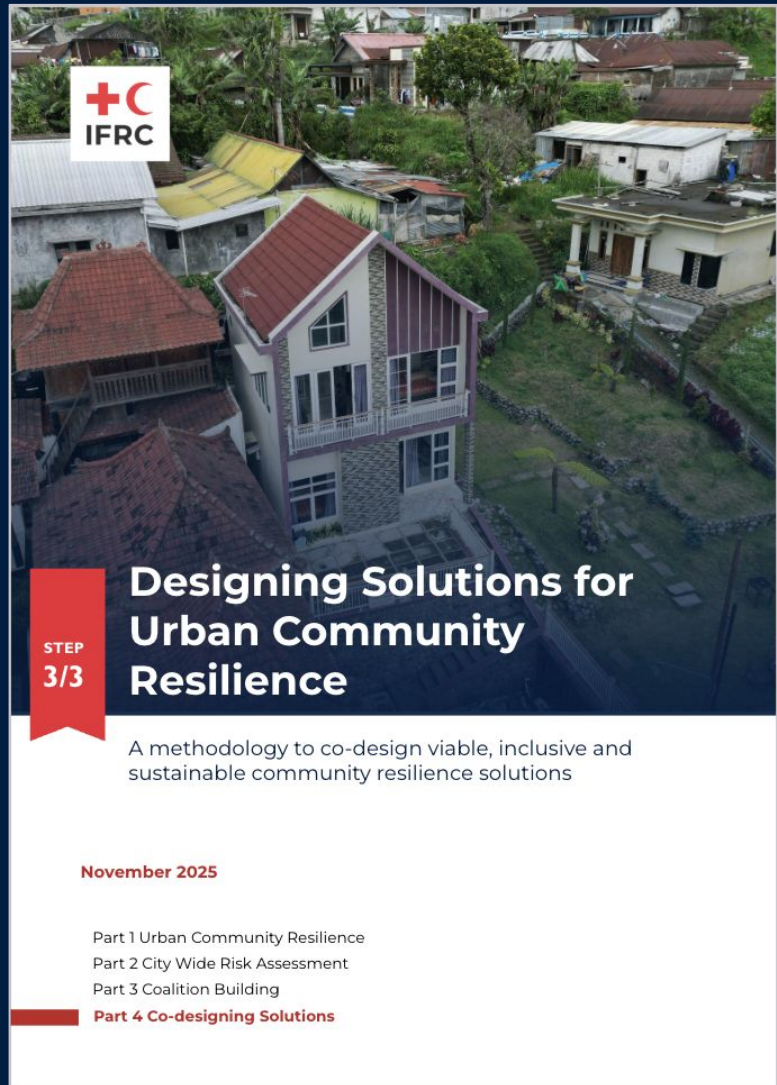
Process

1. This is a round robin exercise where each group will share their solution with other 'users' (the other groups) to get feedback.

2. Spend the first 10 minutes of the session getting the groups to think about how they are going to communicate their solution quickly. They should do a practice run within their group.

3. Nominate one person from each group to be the 'presenter'. They will stay behind at their table and explain their solution while the remaining members go to another group (moving in a clockwise direction).

4. Now begin the exercise. The presenter has 5 minutes to explain their solution using the prototype to another group. After the 5 minutes, the 'users' need to give two pieces of feedback on post-its:

    - What they liked about the solution

    - What could improve or build on the solution

5. Collate the feedback on flipchart paper at each group's table.

6. After the first round, get the presenter to stay at their table, but get the other groups to move clockwise to the next group. Repeat the process of sharing and getting feedback this until all groups have been around and heard each group's solution.

7. At the conclusion, prompt with questions:

    a) *Ask the presenter what it was like receiving feedback from people*

    b) *Ask people who moved around what it was like giving feedback*

8. Get each group to read through their feedback and use the KCCC tool to iterate their solution (see Activity 5.2.1).

End of Step 2

Now move on to Step 3 to begin working with communities.

STEP 2/3

IFRC

STEP 3/3

Designing Solutions for Urban Community Resilience

A methodology to co-design viable, inclusive and sustainable community resilience solutions

November 2025

Part 1 Urban Community Resilience
Part 2 City Wide Risk Assessment
Part 3 Coalition Building
Part 4 Co-designing Solutions

Designing solutions for urban community resilience

A methodology to co-design viable, inclusive and sustainable community resilience solutions