# Community Resilience in the Face Of Future Floods

For communities to prepare for and manage flooding, a range of institutions and actors must innovate together to adapt and build resilience. In this guide we feature video profiles of engineers, artists, organizers, architects, biologists, and youth educators who address flooding through innovative community initiatives. These short videos are part of **The Shore Line** documentary project and complement the **Natural and Nature-Based Flood Management: A Green Guide** (also known as the *Flood Green Guide*) developed by World Wildlife Fund in partnership with the United State Agency for International Development. These videos are curated to showcase examples of the ways that communities can work together to confront future flood threats. Videos are organized into three categories: Involving Community in Design; Multi-generational Engagement; Fostering Women's Leadership. The videos can also be used as stand-alones: you'll find a theme-grid below for easy reference.

The **Flood Green Guide** is a resource for engineers, community members and those responsible for flood management. The guide emphasizes how natural and nature-based methods can work in combination with non-structural and if needed hard engineering methods to minimize flood risk while maximizing flood benefits and the co-benefits of natural and nature-based features. The guide also presents information to assist with decision making in the development of flood management plans.

The Shore Line is an online documentary that features interactive maps, futurist flood views and 43 short films of individuals in urban cities and remote islands taking actions towards a more safe and secure future.

We believe that if used in tandem, these two resources can facilitate and support community involvement in addressing flooding, rising seas and other disasters.

KEYWORDS:	Community Participation	Hard Structural Methods	Soft Structural Methods	Gender	Youth	Communication
Beyond the Built	X		X			
Ciliwung River		X			X	
Dreaming of Trees	X		X	X	X	
Floating Future	X			X	X	
Forecasting Change				X		X
Future of Coral Reef					X	X
Game Changer	X	X			X	
People Powered Politics	X			X		
Protectors of the Mangrove	X		X		X	
Reclam the Bay	X		X		X	
Salt Resistant Seeds	X			X		
Surrey: Planning for the Future	X					X
To the Mainland	X					
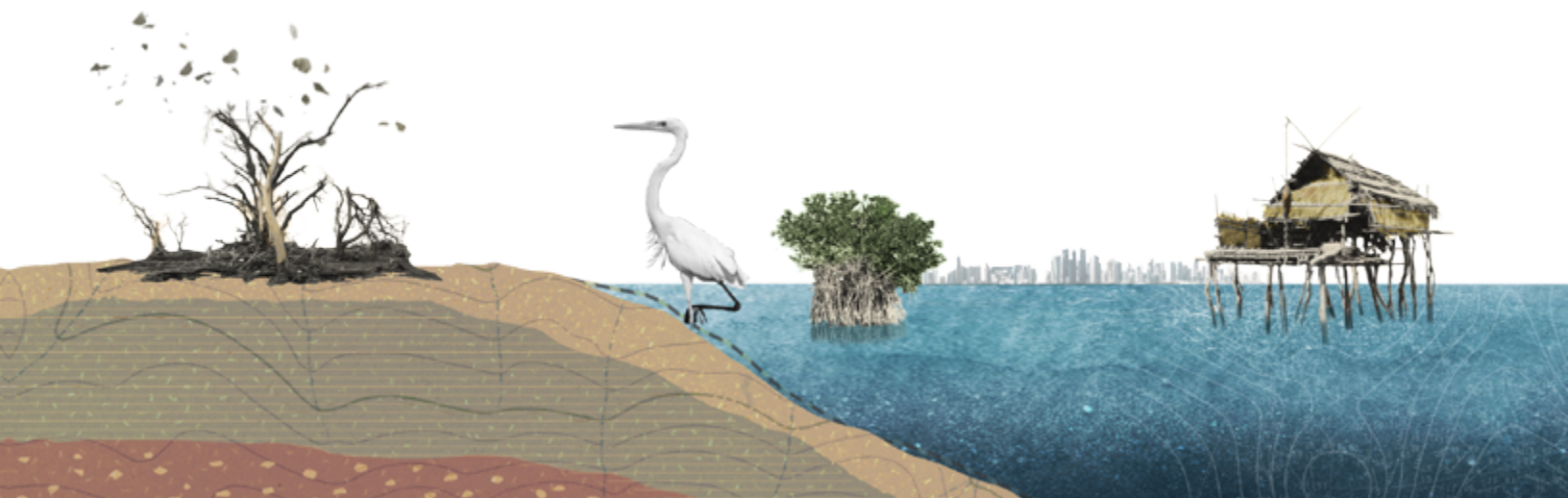
involving community in design

Involving community actors in the design of a flood management plan is a critical first step in building community resilience; and a well designed and executed plan offers training or technical skills, local employment and leadership opportunities. Involving diverse individuals at an early stage of flood management planning, can ensure ongoing involvement and help address potential resistance to new approaches to flood risk reduction.

VIDEOS:

Ciliwung River (Indonesia)
Local organizer, Bang Kodir engages youth and proposes to turn Jakarta's most important river into an eco-park.
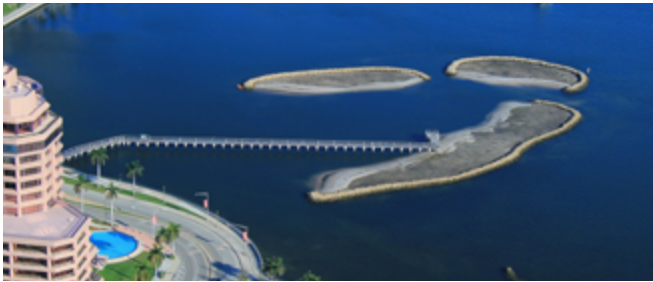

A Floating Future (Bangladesh) Mohammed Rezwan is a sustainability architect whose floating schools and gardens offer a practical solution to flooding.

To the Main Land (Panama)
Indigenous organizer Blas Lopez works with local architects to redesign his island community on higher grounds.

Beyond the Built (USA)
Artist Michael Singer with Planner Jason Bregman are re-designing waterfront infrastructure to co-exist with coastal ecosystems and are forced to confront reluctant neighbors.

Surrey: Planning for the Future (Canada)
Engineer Carrie Baron and City Planner Carla Stewart find visual methods to indicate future flood risks and work with communities to plan ahead.

ACTIVITY:

Give everyone old newspapers and the simple instruction "make the highest tower possible." The objective of the exercise is to think "outside the box" and for the group to solve a problem in a short period of time (hint: the group can use both the newspapers and each other to build height). Give the group 15-minutes to build the tower. Afterwards, facilitate a discussion about what the group learned from this exercise that might be relevant to collaborative design. How did they communicate as a group? How did they resolve differences in approach? What new reflections do they have about group dynamics and diverse methods of accomplishing a task? What did each participant notice about their own approach to a collaborative endeavor? (Did they take initiative? Wait for instruction? etc)

QUESTIONS:

• What do you observe about community engagement in each of these videos? What challenges did you notice? Imagine and recount the "back story" of how engagement was fostered in one of the videos.
• What does flooding allow or restrict in your personal day to day life? How does flooding affect people differently? What are some visual ways to communicate the dangers of living in a flood zone? Why are hard structural methods often prioritized over soft structural methods? How can artists and engineers work together to shift people's perception of solutions to flooding?
• How might you involve community members in a collaborative design project? What kind of expertise would you seek out? What kind of challenges might you imagine? How might you work to address any resistance or challenges?

FACILITATION TIP: In every group there are those who are more or less confident about speaking in public. Break out groups ensure that more people participate. Drawing exercises are one form of drawing out diverse experience. Provide the group with colored pencils or markers and ask participants to "map out" community players in his/her community.

multi-generational engagement

Multi-generational opportunities foster interest and engagement from a diverse range of individuals. Involving youth is of vital importance as it helps to establish long term resilience in a community.

VIDEOS:

Reclam the Bay (USA)
Rick Bushnell raises awareness about the role of clams in protecting the shoreline.

The Future of Coral Reef (India)
Coral reef ecologist Naveen Namboothri explains the threats of pollution and warming waters on coral reefs in the Andamen Islands and the need for required educational resources.

Protectors of the Mangroves (Panama)
Reyna, a high school student educates both peers and adults about the need to protect the mangroves and the role they play in storm and flood protection.

Dreaming of Trees (India)
A youth organizer initiates a tree planting campaign to protect her community from flooding and storms. The organizers in Dreaming of Trees mentor youth in environmental issues and leadership skills.

Game Changer (Vancouver)
Together with urban planners and youth, Dave Flanders created a video game that simulates future flood scenarios for one of the lowest lying regions in British Columbia.

ACTIVITY:
You want to launch an intergenerational project on flood management. Quickly map out the people you know who could help you. Draft an invite and share it with the others for feedback. Consider these questions: To recruit youth what kind of outreach would you do? What communication medium might you use to attract attention? (radio, word of mouth, television?) How many young people would you like to engage? What age group? How might you ensure they receive mentorship and support?

QUESTIONS:
• Why do you think the young people in these videos got involved? What forms of mentoring do you observe in each video? What are the benefits of inter-generational engagement? What might be some challenges? What strategies help to foster inter-generational participation in a flood prevention initiative? What are the benefits of peer education? What other forms of pedagogy might build awareness?

• What made you care about environmental change or flooding? Can you pinpoint a moment, an incident or a person who helped you to become involved? What are different ways to communicate with populations who don't have scientific knowledge or who are unable to imagine the impact of environmental change? Who are you more likely to listen to on an environmental topic - an expert, a neighbor, a young person in your life?

FACILITATION TIP:
Break into small groups for a deeper discussion around any one of the questions. Have groups write up reflections and synthesize them on two sticky notes to report back to the larger group.

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fostering women's leadership

It has been well established that global warming and flooding affect women differently and often more dramatically than men; this is largely because men and women are confronted with distinct social and economic roles and responsibilities. Women are often underrepresented in community planning. Various marginalized groups including the poor, indigenous peoples, ethnic or religious communities, migrants and people with special needs are also often left out of key decisions. Building women's leadership is a powerful way to confront structural inequalities and an opportunity to incorporate valuable perspectives on complex environmental issues.

VIDEOS:

Salt Resistant Seeds (India)
The Sagar Island Women's Collective is cultivating salt resistant seeds and organic farming methods to cope with rising waters.

People Powered Policies (Canada)
Andrea Reimer is a Vancouver city councilor who advocates for inclusive policy making that includes the voices of low-income seniors, aboriginal voices, renters and more.

Forecasting Change (India)
In the aftermath of two devastating storms, Maheshvari learns to forecast weather to help her fishing community in Southern India and in doing so becomes a community leader.

QUESTIONS:
What are some of the obstacles that women face when they are assuming new roles in their community or trying out new methods? (Time, finances, training etc.). What kind of support do they need to get more involved? (Childcare, training, peer support, financial support etc.). Are gender concerns different in rural areas and urban areas? (For example how does transportation, age, education, culture or class come into play?).

ACTIVITY:
On index cards or a small piece of paper, write out the following words: Access, knowledge, participation, space, time, legal rights, power, race, age, and decision making. Give a card to each participant and ask him/her to watch the films with this keyword in mind. After the films are finished, go around in a circle and ask participants to use his/her keyword to prompt a discussion about what encourages and what inhibits women in their communities from getting more involved in flood management.

FACILITATION TIP:
Ask participants to write down at least one quote from a video - something that stands out to them - to share with the group.

See facilitation tips to learn of more ways to engage groups

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Facilitation Tips

Participation in group exchanges, just like community engagement, benefits from a variety of approaches, differently suited to participants' learning styles, perspectives and abilities. Using audiovisual material to foster discussion can make information more accessible to different publics. Below, you'll find further facilitation tips for effective large and small group discussion.

A QUOTE: Write down a quote from a video - something that stands out - share it with the group.

KEY SOCIAL PLAYERS: Give each participant one minute to draw out the important players they notice in each video.

THROUGH A LENS: Fill a glass with keywords such as gender, class, age, ability and have participants pick a keyword. Ask them to consider this keyword while they are watching the video. Then facilitate a discussion about how this shifted his/her perspective while watching.

WRITE IT BEFORE YOU TALK[1]: Give participants time to write down a few answers before forming small groups in which they will discuss the themes. This helps ensure that everyone starts out with something to share.

THEME AGGREGATION: Give participants three sticky notes or cards and ask them to identify key themes they have noticed in each of the videos. Ask a volunteer to share a theme and post it on a paper or the wall. Ask if anyone else identified this theme and if so to post it near the other sticky notes. Continue until all themes are identified and aggregated. Facilitate a discussion about what common themes emerged.

WALKING: Pair up participants and have them 'take a walk' together with a leading question. One person can share their thoughts on the way over, and the other on the way back. Ask each participant to retell to someone else what their partner shared.

MIXER: Use random metrics to change the group's compositions (everyone who drinks coffee, everyone who likes to swim, etc.).

SILENT RESPONSE: Write up questions on poster size papers and post them around a room. In silence, have participants walk around and write answers to any question they feel connected to. Give everyone a chance to observe what others have written.

FISHBOWL: Form a small circle of women or younger participants in the center of the room and call this the "inner circle." Offer them a question they can discuss while the "outer circle" listens. Switch up. Discuss what is feels like to be in the inner and outer circle of a discussion.

LIGHTNING ROD: Each group only has 30 seconds to discuss each question. A note taker writes the most important points. At the end of the question period, the group revisits the notes and develops one question of their choosing to discuss further.

MUSICAL CHAIRS: Form small groups to discuss a question. After ten minutes rotate two to three members of each group to a new group.

SNOWBALL: Have groups discuss in pairs of two. Ask them to join another group (four participants), and then again until everyone is back together in one large group.

REFLECTION: At the end of the discussion, ask everyone to write three things they might apply from the video discussion to their own community

[1] "WIBYT" Michael Brandwein
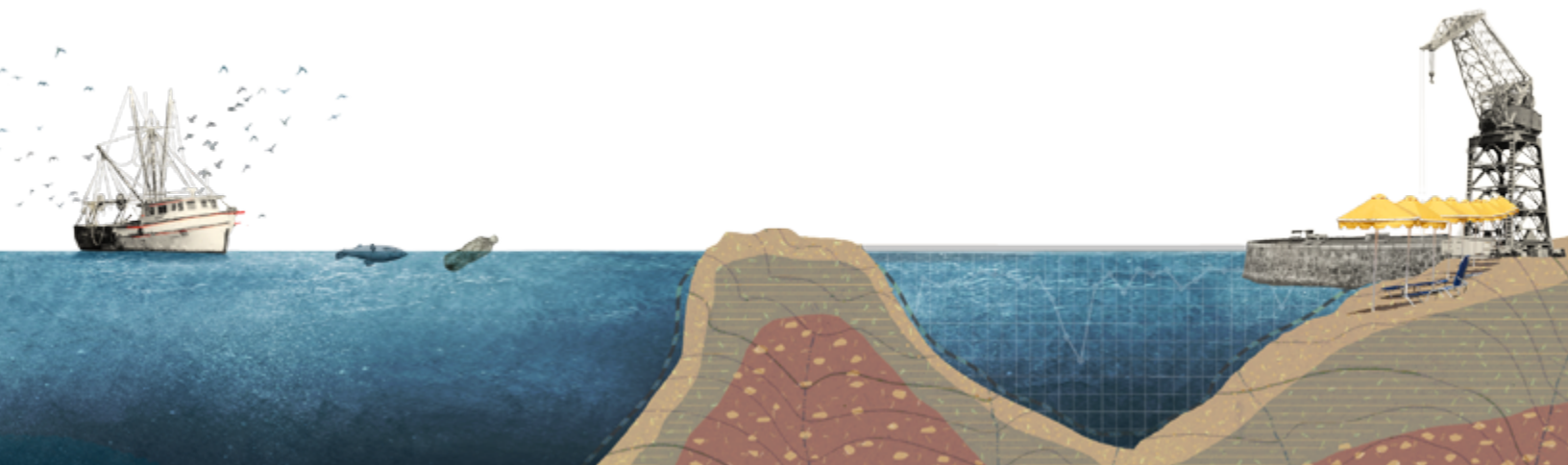
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Evaluation Form

- Did the videos add value to your training?

- How many videos did you integrate into your training?

- What videos did you find most helpful? Why?

- What videos generated the most discussion?

- Did you explore a new facilitation method? If so, what method did you use?