



## ADAPTATION BANGLADESH: SEA LEVEL RISE

**DURATION:** 12 mins | **DIRECTOR:** Justin DeShields

The “new normal” of global climate change is, generally, a harrowing reality to contemplate. Cultural anthropologist Alizé Carrère helps us see, however, that it does not need to be a reality devoid of hope. In Bangladesh — the most densely populated country in the world and one that will bear a disproportionate share of the impact of global climate change — Carrere shows us the kind of resilience, flexibility and innovation that will be requisite for the survival of our species.



## STANDARDS

*Literacy in History/Social Studies:*

– **CCSS.ELA-LITERACY.RH.6-8.4 (Craft and Structure)**

Determine the meaning of words and phrases as they are used in a text, including vocabulary specific to domains related to history/social studies.

*Literacy in Science:*

– **CCSS.ELA-LITERACY.RST.6-8.2 (Key Ideas and Details)**

Determine the central ideas or conclusions of a text; provide an accurate summary of the text distinct from prior knowledge or opinions.

– **CCSS.ELA-LITERACY.RST.6-8.7 (Integration of Knowledge and Ideas)**

Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

*Writing:*

– **CCSS.ELA-LITERACY.WHST.6-8.1.E (Text Types and Purposes)**

Provide a concluding statement or section that follows from and supports the argument presented.

– **CCSS.ELA-LITERACY.WHST.6-8.10 (Range of Writing)**

Write routinely over extended time frames (time for reflection and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

**TAGS:** Climate change, adaptation

**VOCABULARY:** Innovate, resiliency, adapt, climate change, survival, challenge

## FILMMAKER INTERVIEW: JUSTIN DESHIELDS



**WHERE DID YOU GROW UP?** Suburbs of Los Angeles

**WHAT IS YOUR FAVORITE COLOR?** I'm really into browns these days.

**WHAT IS YOUR FAVORITE FOOD?** Peanut Butter

**WHAT IS YOUR FAVORITE FILM?** Probably 2001: A Space Odyssey.

**IF YOU COULD HAVE ANY SUPERPOWER, WHAT WOULD IT BE?** I have a recurring dream where I'm desperately flapping my arms like wings. It's exhausting. Give me flight!

**WHAT IS ONE THING YOU ARE AFRAID OF?** It's scary to think of no longer being inspired by anything.

**WHY DID YOU BECOME A FILMMAKER AND HOW DID YOU GET STARTED?**

In high school I took a digital video class. I made short piece about computer mice and people really liked it. I started taking out the trash at my high school crush's dad's production company who was making pieces for Nat Geo and it just snowballed from there.



### HOW DID YOU MEET ALIZÉ AND WHY DID THIS STORY APPEAL TO YOU?

Folks at Nat Geo connected us ages ago to help translate Alize's idea for the series into something we could begin to plan out and create. Even though most of my experience making docs for Nat Geo centered around science, I had always gravitated towards human stories. This was my first opportunity to blend both of these together which was exciting.

### WHEN EDITING THE FILM, WAS THERE ANYTHING YOU WISHED YOU COULD HAVE INCLUDED IN THE FINAL CUT?

We actually were able to include everything we wanted. It's rare and we're all very excited to have it on tour.

### WHEN YOU MADE THE FILM, DID YOU HAVE A SPECIFIC AUDIENCE IN MIND?

Most of us naturally think of ourselves when creating anything. Am I interested in watching this and is this valuable?

### IS THERE AN ACTION YOU HOPE PEOPLE ARE INSPIRED TO TAKE AFTER SEEING THIS FILM?

Understanding the world around you, whether taking action or not, is important. We are so overwhelmed by content and information these days I hate seeing people shamed for inaction. We should be inspired by the world around us and motivated to continue to put positivity out there.

### WHAT'S THE NEXT BIG ADVENTURE OR FILM PROJECT ON THE HORIZON FOR YOU?

We've shot episode 2 in the Himalaya's and are shooting episode 3 in a couple months. I'm really excited about #3 - it deals with an issue domestically and how a homegrown, out-of-the-box idea.

### WHY DID YOU DECIDE TO INCLUDE THIS FILM IN MOUNTAINFILM FOR STUDENTS?

The film itself deals with real-life scenarios for kids in Bangladesh - growing up entirely on water. There's nothing more powerful than seeing another kid your age deal with life in an entirely different way.

### WHAT IS ONE PIECE OF ADVICE YOU CAN GIVE STUDENTS THAT YOU WISH SOMEONE HAD SHARED WITH YOU?

Punt your ego straight out the window. It keeps me curious and my biggest fears at bay.

## SUBJECT INTERVIEW: ALIZE CARRERE



**WHERE DID YOU GROW UP?** Ithaca, New York

**WHAT IS YOUR FAVORITE COLOR?** Blue

**WHAT IS YOUR FAVORITE FOOD?** Bagels

**WHAT IS YOUR FAVORITE FILM?** Tie between Shawshank Redemption and Wall-E

**IF YOU COULD HAVE ANY SUPERPOWER, WHAT WOULD IT BE?** To be invisible

**WHAT IS ONE THING YOU ARE AFRAID OF?** Flying in airplanes!



### **WHY DID YOU DECIDE TO SHARE THIS STORY?**

I've been inspired by the topic of climate change adaptation since I was a sophomore in college. In a geography course, a professor shared an amazing story about farmers in Madagascar adapting to deforestation in a totally unexpected way, and it stuck with me. I started wondering about what other ways people around the world were adapting to landscape changes, and when I started looking into it, I realized there was very little documentation out there on the matter. So I started searching for stories and once I had a handful of case studies, my team and I came together and we started to brainstorm on how to best share them. It seemed like an important part of the climate change conversation that wasn't yet being documented.

### **IS THERE AN ACTION YOU HOPE PEOPLE ARE INSPIRED TO TAKE AFTER SEEING THIS FILM?**

What's interesting about this topic is that adaptation isn't something you necessarily learn, or can suddenly decide to be a part of. It's part of who we are as a species, and has been since the day we started roaming this earth. It's a mindset more than anything, one of being curious, open-minded, and accepting of change. Knowing that, one of the most impactful ways people can engage in this content after watching the episodes is to encourage and bring that mindset to our youngest citizens. We have to cultivate a sense of curiosity and inventiveness in the classroom and beyond, allowing them to question long-held truths about traditional approaches to a problem.

### **WHAT ARE SOME OF THE CHALLENGES YOU ENCOUNTERED DURING THE MAKING OF THIS FILM?**

There have been a few bumps in the road, but for me personally, the hardest thing to navigate has been how to best share someone else's story, and to share it honestly in light of such difficult realities. In the case of Bangladesh, most people would agree that a huge number of its people are going to be net losers when it comes to climate change. But that story has been documented a hundred times. No one documents the slices of hope, which is what we've focused on. So while I sometimes wonder if people will criticize these stories as futile or inaccurate portrayals given what's coming down the pike, I have to remind myself that those small narratives (and practices) of resilience are all that we have left. And frankly, most of what we've used so far to push people to action on climate change are doomsday narratives, which clearly haven't been working. So why not try a new, more uplifting narrative and see where it brings us?

### **HAS WORKING ON THIS PROJECT CHANGED YOUR OUTLOOK ON CLIMATE CHANGE OR HUMAN NATURE?**

It has. I've been so inspired by what I've seen out in the field, particularly people who don't even know that we have a whole body of research and work and thought going into "climate change adaptation." They are simply out there day in and day out, working the fields, coming up with new techniques, and doing what they know how to do in the face of change. There is no fanfare, hopelessness, or discussion about 100 years from now. It's all very present, and I'm always struck by the here and now attitude that I find when I travel to communities dealing with it most directly.

### **WHAT CAN INDIVIDUALS TAKE FROM THIS FILM TO INSPIRE THEIR COMMUNITIES TO FIGHT CLIMATE CHANGE?**

I hope they take a message of positivity to fight climate change. We have to remain hopeful about our future, and doomsday narratives don't have nearly as much contagious energy as positive ones. It's time to try something new to inspire people to action, which has been our approach in creating this series. So I'd like to think that people can walk away from this and go back to their communities saying, "we got this." We're resilient, we're creative, and we're going to be better today than we were yesterday because we can.

### **WHAT'S THE NEXT ADVENTURE ON THE HORIZON FOR YOU?**

Hopefully going out to film more of the case studies! We have four others that we'd like to document, which would complete this as a 6-part series. Without revealing too much detail, some of the other stories are the United States, China, Vanuatu, and northern Norway where the Sami reindeer herders live.

### **WHAT IS ONE PIECE OF ADVICE YOU CAN GIVE STUDENTS THAT YOU WISH SOMEONE HAD SHARED WITH YOU?**

Passion projects are a marathon, not a race. And that piece of insight came from my friend, team member and film director, Justin. I didn't know much about film coming into this, and I had this urgency to get everything done right away – find the funding, shoot everything, finish all episodes and throw it out there into the world. Anyone who has been working in film knows that that's not how it works. A strong and steady commitment to something meaningful over time will almost always beat out the alternative (in film or otherwise). This project has taught me a lot in patience, and about holding out for the right moment to shift to the next level. Not every opportunity that comes your way is the best next move.



## PRE-SCREENING ACTIVITY

Begin with vocabulary activity to familiarize students with the key terms that will be introduced within the movie. Write the vocabulary words on the board (innovate, resiliency, adapt, climate change, survival, challenge). Split class up into groups of six and assign each group a vocabulary word. Pass out a sheet of paper to each group and ask them to fold it into thirds or draw three columns. In the first column students will write the word assigned to the group, in the second column the students will be asked to write down what they already know about their vocabulary word, and in the third column, students will write the dictionary definition (Collinsdictionary.com is a great online resource for English Language Learners). It should look something like this:

VOCABULARY IMAGE	WHAT WE ALREADY KNOW	DICTIONARY DEFINITIONS:

When students are done filling out chart, they will have three to five minutes to come up with a way to act out the word to the class without using words. Each group will then act out their vocabulary word to the entire class and the class will guess which word they are acting out. Once everyone has acted out the vocabulary words, review the definitions as a class, and write a class definition for each word on a chart or board. Hold onto this as you will use it at the end of the lesson as an exit ticket for each student.

## INTRODUCING THE FILM

1. Ask students what they already know about climate change and how it is affecting the world. Either hold as a group discussion, complete KWL chart (what you know, what you want to know, what you have learned) as a class, or pair students off into pairs to discuss what they know about climate change. If you choose to pair off students, give each student 30 seconds to talk uninterrupted about what they know regarding climate change. When the timer goes off the student who listened to the first student has to summarize what the first student said. Repeat with the other partner.
2. Ask students what they already know about documentary films and lead group discussion regarding what the purpose of documentary films are. When done discussing, ask two people from the class to summarize what the group discussed. If students need additional support, provide the sentence stem "The purpose of documentary films are to \_\_\_\_\_."
3. Let students know that the purpose of viewing this film is: to gain a greater understanding of how people are adapting to climate change around the world.
  - Ask students to complete a quick write regarding what they know about how people are adapting to climate change around the world. Have students write at the top of their paper "*How do people adapt to climate change?*"
  - Before beginning quick write, ask students to think about any personal experiences they have with climate change, questions they have about climate change and adaptation, other documentaries or books they have read regarding climate change, or anything they have read or heard about climate change. There are no limitations to a quick write, other than students have to write for three to five minutes continuously. Have students hold onto this quick write as they will be asked to add to it at the end of the movie.

# DISCUSSION QUESTIONS/CATEGORIES

## GENERAL/OPEN PROMPTS

1. What are some ways you could reduce your carbon footprint? Does reducing your personal carbon footprint help to mitigate climate change?
2. Can climate change be reversed, or will the human species have to learn to adapt?
3. How can your school reduce its carbon footprint?
4. What do you think Alize's purpose for making this film was?

## EXPLORING SELF

1. How do you think Americans are adapting to climate change? What are some examples?
2. Are Americans forced to adapt to climate change like Bangladeshis?
3. Would you be able to adapt to going to school on a boat? What advantages and disadvantages would there be to going to school on a boat?

## EXPLORING THE WORLD

1. Is promoting a globalist society helpful or harmful to mitigating climate change? Why or why not?

## EXPLORING FILMMAKING

1. Do you think that Alize's documentary was effective in promoting adaptation as a solution to climate change?
2. What would you have done differently to make Alize's message stronger in the documentary?

## EXPLORING SOCIAL ISSUES

1. The Global Carbon Atlas is an online tool that shows data from each country to reveal the carbon consumption of each country. Ask students to visit this website (<http://www.globalcarbonatlas.org/en/CO2-emissions>) and compare the carbon footprint of the United States to Bangladesh. Is it fair that the average American's carbon footprint is greater than the average Bangladeshi's? Why do you think the average American's carbon footprint is so much greater, despite the lower population of the United States?
  - Another tool to reference for this question is The Guardian's website (<https://www.theguardian.com/environment/datablog/2009/sep/02/carbon-emissions-per-person-capita>)
  - Although The Guardian's chart is easier to read it is from 2008, whereas the Global Carbon Atlas utilizes data from 2015.

## SENSE OF WONDER

1. If humans are asked to adapt to climate change, what would the world look like in 2050? By 2050, 18 million Bangladeshis will be displaced and 20% of the country will be submerged in water.



## ACTIVITIES

**After students have watched the documentary, ask them to add to their quick write stating what they have learned about the prompt “How do people adapt to climate change?” Give students four to five minutes to add to their prompt anything that they have learned after watching the documentary.**



Example from *DIY Self-Watering Seed Starter Pot Planter*

Depending on your class, you may want to engage your students in several different ways surrounding Alize Carrere’s documentary. Some recommended activities are:

1. Construct plastic bottle planters. You can have the students construct these in pairs to save you time, or cut the 2-liter soda bottles, caps, and yarn ahead of time so that all students need to do is construct them and plant (materials needed for one plastic bottle planter: 2 liter soda bottle, exacto knife, screwdriver, hammer, marker, yarn, soil, seed, water) *Link to video explaining instructions: (<https://www.youtube.com/watch?v=I6uUe3Uulrc>)*

## OUTLINE OF STEPS:

1. Draw line on 2-liter bottle underneath soda bottle label and take off wrapper
2. Cut along the line using exacto knife
3. Cut hole in the cap of the soda bottle using screwdriver and hammer.
4. Cut 10 inch piece of yarn. Fold yarn in half and tie one-inch loop at top. String the yarn through the cap so that the loop is on the inside of the cap and screw back onto the bottle. The two ends of the yarn should be hanging through the top of the cap (this will be used as a “wick” to help bring moisture up to the soil).
5. Take the top half of the bottle and turn it upside down inside of the bottom half of the bottle. The bottom half of the bottle will be filled with water (the yarn from the cap should be hanging down into the water), and the top half of the bottle will be filled with the soil and seed.
6. Once students have constructed planter, they should debrief with each other or as a whole class some ways to help reuse recycled materials to help build a garden at school or at home.



Example of what the bottle should look like once flipped inside of itself

2. Students split up into groups to create a floating structure out of materials inspired by the floating gardens seen in the movie. Some suggested materials students can use are plastic bags, straws, plastic bottles, paperboard, duct tape. It is recommended that the class be split up into equal groups and the students be asked to work together as a team to construct a floating structure. Each group should be equal amounts of the materials and asked to draw a sketch together before beginning to build. Once built, each structure should be able to float within a tub or sink and continue to float once a cup holding thirty pennies (or any amount is fine!) is placed on top. After the activity, students should be asked to debrief some ways they could use recycled materials to help construct a garden in their own home or at school.

### 3. Analyze Alize's documentary statement to hold a class discussion or debate:

For this activity, students will all stand in the middle of the classroom at first. One side of the classroom will be designated as an "agree" side and the other, a "disagree" side. Students will begin in the middle of the class room. If they agree with the following statement, they stand on the "agree" side of the room. If they disagree they move to the "disagree" side of the room. It is okay for students to remain in the middle if they are unsure, but ask them to take a side after hearing their peers speak. After the class has taken a stance on the statement, ask two or three students to explain whether or not they agree or disagree with the statement. To keep track of who is speaking, or to encourage everyone to speak, give each student three tokens. Every time a student speaks, they have to hand the teacher a token. Once a student is out of tokens, they can no longer speak. For students

hesitant to share, feel free to partner them with a peer, or give them a sticky note with some sentence stems ("I disagree with this because..." "I agree with this statement because..."). To encourage students to listen to their peers before chiming in with their opinion, have each student restate what the student before them has said (i.e. "Dylan, I liked how you brought about the point \_\_\_\_\_. I would like to strengthen your argument by sharing my idea that \_\_\_\_\_."

#### Read the following statement to the class:

"Recognizing what's happening at a local level is a powerful place to start for addressing the challenges of the future. We can draw inspiration from simple ideas and grow them into life changing ideas. Whether it is a Bangladeshi farmer using the materials in his back yard or a high tech platform to provide food for the future, we unite over the common ability to innovate in the face of change. That's what's striking about the topic of adaptation: it's broad, it's exciting, and ultimately it's about what we as a species do well. We innovate, we create, we adapt." (11:00-11:40)

Do they agree or disagree with the following statements:

- Does humanity have the ability to unite over a common ability to innovate in the face of change?*
- Do humans adapt well to change?*
- Is adaptation the solution to climate change?*

## EXIT TICKET

List the vocabulary words on the board (innovate, resiliency, adapt, climate change, survival, challenge). Ask students to create a summary of Alize's movie in pairs using all of the vocabulary words. They will record their work on a sticky note and share with the class or with teacher before leaving for the day.

### RECOMMENDED EXTENSIONS:

Do students know their individual carbon footprint and how it affects climate change? The Global Footprint Network has a great online tool that helps an individual calculate their carbon footprint and understand their impact. <http://www.footprintnetwork.org/resources/footprint-calculator/>

### REFERENCES:

- Carbon emissions per person, by country. (2009, September 02). The Guardian. Retrieved August 02, 2017, from <https://www.theguardian.com/environment/datablog/2009/sep/02/carbon-emissions-per-person-capita>
- CO2 Emissions. (2015). Retrieved August 02, 2017, from <http://www.globalcarbonatlas.org/en/CO2-emission>
- DIY Self-Watering Seed Starter Pot Planter. (2015, December 19). Retrieved August 02, 2017, from <http://www.diyhowto.org/diy-self-watering-seed-starter-pot-planter/>
- Footprint Calculator. (n.d.). Retrieved August 02, 2017, from <http://www.footprintnetwork.org/resources/footprint-calculator/>
- LeMaster, J. (2011). Critical reading: deep reading strategies for expository texts. San Diego, CA: AVID.
- Read the Standards. (n.d.). Retrieved August 03, 2017, from <http://www.corestandards.org/read-the-standards/>
- Stuff, D. J. (2016, July 19). DIY Project: Self-watering Planter with a Plastic Bottle. Retrieved August 02, 2017, from <https://www.youtube.com/watch?v=l6uUe3Uulrc>

