Drops of Hope: Making Water in Puebla: final draft

THE OPENING the listener hears Gisela's voice saying the following at minute #00:18:12-1# of her interview: Teníamos el acuerdo con el gobierno federal, que ellos iban a hacer una represa para contener agua, una presa de tierra apisonada en una barranca para un pueblo donde se hacían filas interminables de mujeres con cubetas para tener unos 20 litros de agua… [keep playing Gisela's voice in the background]

PAULA COMES IN STARTS TO TELL THE FOLLOWING STORY IN ENGLISH [in the meantime, you hear Gisela in the background telling the story: minutes in her interview from #00:18:12-1# through #00:21:47-1#]

PAOLA: this is Gisela Herrerías. In 1988, her and her husband's organization, Agua Para Siempre, had a financial agreement with the federal government to build a dam in the arid community of Santa María la Alta, in the state of Puebla, México.

[pause]

Right before they were about to start construction, the government backed out of the deal.

[pause]

The people of the community of Santa María la Alta turned to Gisela and her husband Raúl and said, "why don't we build this dam together?"

They worked on the dam for an entire year: using Mesoamerican-ancient techniques, Women, children, men, and youth of the community of Santa María worked tirelessly on this project that cost thousands of dollars. Everyone participated.

It didn't rain for a year, then the rains came and it filled the dam. During the night, the water found a weak spot within the walls. The dam collapsed.

[pause]

The failed project came as a huge blow to all involved. The next day, the community stood together at the site of all their work. They had only one question to answer: would they try again?

THE INTRODUCTION [include some kind of transition sound, perhaps an opening of a Mexican song – perhaps the same song throughout]

PAOLA: My name is Paola Segovia and I, together with [each say their own name here: Jenny, Camila, Matthias, and Michael] bring you the story, Drops of Hope: Making Water in Puebla. We are Science and Technology students at the Munich Center for Science in Technology, a school within the Technical University of Munich. Today, you will hear their story, one of innovation, though not one that involves apps, venture capital, or promises to save the world. This story is one of resilience, dedication, of a community coming together to solve a problem with a solution built on local knowledge, listening, and trust.

[sound of music or water]

PAOLA: Gisela has worked in and around Santa María the past 40 years. She and Raul, driven by

a strong sense of social justice, spent eight years researching and building relationships with the communities in Puebla.

[pause for Mexican music]

PAOLA: More than half of the Mexican territory is arid or semi-arid, where water is scarce. This is a significant obstacle for development and this generates many problems for its populations. This reality helped define Agua para Siempre's mission: access to water.
Puebla is the southeastern part of Mexico, around 300 km south of Mexico City, the capital. It is a politically and economically marginalized and vulnerable region.

CARLOS' voice (exact minute unknown): "one of our most well-regarded anthropologists, Guillermo Bonfil Batalla, has always referred to the existence of two Mexicos, one is the "imaginary Mexico" that is this one that assumes that they became a developed or closed to developed European countries with European institutions in the government and in the forms of life and in the ways of understanding how the universe works and the "deep Mexico", "Mexico profundo" which is that part that is trying to be forgotten by the imaginary Mexico."

PAOLA: This is Dr. Carlos Cuevas, a Mexican researcher in Science and Technology Studies. As he mentioned, **The "deep" Mexico refers to the Mesoamerican culture, represented by indigenous communities, with their own cultural expressions and systems of social organization. When the Spaniards arrived in Mexico in the XVI century, a social system based on racial segregation was established. Its influence persists to this day and reinforces the existence of these two Mexicos.** Gisela and Raúl are aware of this divided system. They started their organization Agua Para Siempre with a different dynamic: listen and establish trust with the communities with whom they wanted to work.

PAOLA: Gisela and Raúl are aware of this divided system, embedded in Mexican society. They started their organization Agua Para Siempre with a different dynamic: listen and establish trust with the communities with whom they wanted to work.

GISELA (in the background, let the first five seconds play before you overlay with the translation): #00:45:03-5#: Pero la confianza te la ganas con el tiempo, o sea que la gente vea que tu estas, y que no te vas a ir, que tienes una oficina fija, donde pueden ir a buscarte y pues, poco a poco los resultados de este trabajo pues van haciendo que la gente vaya generando esa confianza, saben que estás y que allí estarás, no?, y que tienes el compromiso con la gente, no?.

CAMILA (translating for Gisela): Trust is something you earn with time, it is important for the people to see that you are there, that you are not leaving, that you have a permanent office where they can find you, and little by little, with results of this kind of work, you start generating trust with the people.

PAOLA: When it comes to innovations, one of many things we have learned from Agua para Siempre is the impactful results that can come from working closely with the community that is on the receiving end of the innovation. Dr. Sebastian Pfotenhauer, Assistant Professor of Innovation Research at Technical University Munich, explains...

SEBASTIAN (minute: [00:14:52.990]): we need some ways of channeling lay knowledge or maybe even better societal knowledge or understanding of how we want to live in the future, how we want to live in the present into the tech design process. And this is, usually, frequently

this has translated into processes of public participation

PAOLA: What we see with Agua Para Siempre is a ground-level angle of how to conduct innovation that contributes to the improvement of people's lives, while strengthening the development and empowerment of marginalized communities. There are 15 full-time employees from the communities of Puebla working alongside Gisela and Raúl in various local projects. One of them is the Technology Center. Gisela explains us its importance for Agua Para Siempre

GISELA (minute #00:31:19-8#): Sí, yo creo que, yo creo que es muy importante, este, poder, para nosotros ha sido muy importante este Centro de Tecnología que se oye muy elegante pero es un buen taller (ríe) instalado, pero con muchachos que todo el tiempo están pensando en cosas nuevas que hay que diseñarse, y creemos que esto ha sido clave porque tu diseñas de acuerdo a tus necesidades, no?, de acuerdo al tamaño de lo que tú necesitas. Cuando algo se necesita, si tu buscas en el mercado, será muy probable que encuentres soluciones que no son para tu tamaño de institución o para tu tamaño de empresa, no?.

CAMILA (translating for Gisela): For us the Technology Center has been very important, and it sounds elegant, but we installed it as a good workshop for the guys who are constantly thinking about new things to be designed and we think this is key, because you design according to needs, right?, depending on the size of that need. When something is needed you can look for it in the market, but it is unlikely you will find the solution that fits exactly to your needs.

PAOLA: For Gisela and Raúl, the innovation process started with the problem, not the technology.

SEBASTIAN (minute [00:13:28.290]): And so one thing that people have been arguing for roughly since the 90s is that we need to open up processes of the research and processes of tech development to people for whom these new scientific insights or these new technologies actually matter and for whom they are supposedly designed, sort of, flipping this … the thinking about what, what kind of innovation we want on its head and say, well, listen, before we start designing stuff, maybe let's ask people what an ideal design would be.

[pause – sound of water]

PAOLA: Thinking jointly and constructively involves listening and active collaboration with those who will be permanently living with the technology, as locals are often most familiar with their surroundings.

SEBASTIAN (minute [00:30:01.760]): local knowledge that matters, whether it's the grazing patterns, grazing patterns of sheep in a local community or whether it's knowledge about rainfall or whether it's, it's about community structures and what is deemed socially or culturally or religiously acceptable. If you don't take this into account, your innovation will fail and it will probably be a worse innovation if you compare it to a situation where you had taken this into account.

[pause – sounds of water]

PAOLA: Establishing trust within the community, engaging with the end-users of the technology,

understanding the ecosystem, engaging in research within the community prior to building anything, and actually getting community participation: these necessary components form part of the sustainable model that has been used by Agua Para Siempre, and by projects across South America, Africa, and Asia.

[pause]

SEBASTIAN (minute: [00:18:09.390]): And now, the West is trying to, or the OECD countries are somehow claiming they are reinventing innovation by suddenly focusing on communal needs and bottom up grass roots. But really what they're doing is taking some of these ideas, claiming them as their own and that almost neocolonial perspective and saying, listen, we are still the experts on what innovation looks like and how it should look like in developing countries.

PAOLA: Mexico, like other nations with larger indigenous populations, often adopt different ways of interacting with their natural surroundings. This is Dr. Yolanda López, whose main area of research is the interactions of society with nature.

YOLANDA (minute [00:00:59.360]): Being myself an indigenous member and also a scholar makes me aware of the importance of giving some value to the voices of the local people. Especially in Mexico, in which we have – I don't know how many – diverse groups from north to south, you can find Mayans, you can find people and other groups, and they possess particular knowledge.

PAOLA: Diversity in Mexico exists between different parts of the country, but there is also diversity within communities. A common cultural clash within every Mexican community is that between women and men. So, when it came to researching the needs of a community, Gisela and Raúl did it separately at the beginning, Gisela with the women, and Raúl with the men. Gisela spent a lot of time speaking with women in the communities of Puebla.

GISELA (minute #00:05:17-0#): Yo trabajé también con las mujeres en el tema de todas sus actividades para analizar cómo eran sus actividades y cuáles eran las más pesadas, o las que las quitaban más tiempo, para ver que podíamos hacer, y pues, salió también este tema del agua porque la gente tenía que recorrer distancias para ir a recolectar un poco de agua y vivir con muy poquita agua

CAMILA (translating for Gisela): I also worked with a lot of women, asking them about their daily activities to analyze their activities, which were the heaviest and/or the most time consuming, all in order to see what we could do. And, well, as it turned out the subject of water emerged, as people needed to travel long distances to collect a little water and live off that little amount.

PAOLA: With time, comes change.

GISELA (minute#00:54:15-8#): yo en cuarenta años he visto, mucho cambio, de cómo al mero principio, cuando hacíamos una reunión de hombres y mujeres, las mujeres estaban sentadas en un petate, y los hombres sentados en sillas, y a ti te sentaban en una silla, y tu decías -bueno, nos sentamos todos en el petate- cosas que del principio no puedes cambiar, pero que, con el tiempo, poco a poco, van cambiando.

CAMILA (translating for Gisela): In 40 years, I have seen a lot of change. At the beginning, when we met with the women and the men, the women would sit on a rug on the floor and the men

would sit in chairs. I would be invited to sit in a chair and I would say, why don't we all sit on the floor? These kinds of things could not be changed at the beginning, but with time, little by little, actually did change.

PAOLA: When it came to women's participation in the communities of Puebla, change came as the men left in pursuit of opportunities in cities and other countries. With men gone, many women of the communities stepped into community leadership roles – not that this changed the amount of work they still had to do at home.

In some indigenous communities, women share/ possess a very special bond with water. Dr Yolanda Lopez explains.

YOLANDA (minute [00:09:22.540]): I think that the role that women have for the indigenous communities in Mexico is crucial because water has been related to indigenous groups in my country. Like. It has a bond with women because water is what gives you life, but also women give lives. So there is this, you know, *two-way interaction with nature and women.* And I think most of the cultures in my country, they possess that kind of perspective and also water should be protected because they give you life and women also give life to humans.

 [música andando…(cae el dam music))

PAOLA: After the dam collapsed, the community of Santa María la Alta had one clear message: we will re-build.

[sounds of happy Mexican music]

PAOLA: Raúl called a communal assembly together, ensuring the project would move forward with the community's participation. They also completed an analysis to find what went wrong. And then, together, the community of Santa María la Alta went back to work again, breaking stone and hauling rock to re-build their dam.

PAOLA: The next year, when the dam was complete, the rain came and filled it. This time, it held.

[minute 20:57 of the documentary]

[you hear the voice of the speaker of 27:47: Lo que antes era un sueño, se convirtió en realidad. Y de paso hasta la luna nos vino a felicitar. Año 91, nunca te olvidaré, por tu eclipse del sol, y agua que vi correr]

CAMILA (translating this section): What was once a dream has turned into reality. Even the moon came to congratulate us. Year 91, I will never forget you, for your solar eclipse, and for the water I saw flow.

PAOLA: The story of resilience, hard-work, empowerment, participation, and access to water spread to other communities in the state of Puebla. Many communities approached Gisela and Raúl, and this dam became the first of 11 thousand projects that followed over the next 30 years.

GISELA (minute #00:22:54-3#): Pero entonces, siempre nosotros les decimos, si la gente de Santa María se hubiera rendido, hubiera dicho, no de veras, no se puede, pues el programa Agua Para Siempre no existiría.

CAMILA (translating for Gisela): We have always said, if the community of Santa María had given up, I would have said, well we can't, it can't be done. The program Agua Para Siempre simple wouldn't exist.

PAOLA: We asked Gisela, what is at the heart of all of this?

GISELA (minute #00:38:30-8#): Pero si siempre buscamos que estos valores estén presentes en todo lo que hacemos, el respeto a la dignidad de la persona, la honestidad, sobre todo la dignidad de la persona, creo que es central.

CAMILA (translating for Gisela): We always ensure that our values are present in everything we do: respect for the dignity of a person, honesty,…above all, the dignity of a person, that is the most central.

[Mexican music coming to a close but not quite done]

PAOLA: We would like to thank Gisela Herrerías for sharing this amazing story with us. We would also like to thank Dr. Yolanda López, Dr. Carlos Cuevas, and Dr. Sebastian Pfotenhauer for taking the time to share their expertise.

We hope you've enjoyed listening. Until next time.

[fade out music]