

IMAGERY ABOUT COMMUNITY NETWORKS IN COMICS



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ILLUSTRATION: CARLA JANCZ & HELENA PRADO

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INTRODUCTION

It is not easy to explain the concepts behind community networks, both the technical characteristics of radio frequency networks and the social and human aspects of community technologies.

One of the principles we have developed in teaching technologies with a gendered perspective is language. Teaching a workshop for popular groups using colonizing terms and methodologies can increase the existing barrier between people and a technology that was not created for their interests.

With this in mind, images and analogies are powerful tools to make it easier to explain a technical term or an idea. We reject the premise that to do so would in any way underestimate people's ability to understand technical matters. We believe that explaining concepts in a language that brings them closer to people and their realities is a form of resistance to the hegemonic, americanized, and patriarchal language in which technology is often taught.

This material is a partnership between Brazilian women, technologists and artists, with the collaboration of people working with community networks in various countries. Its purpose is to illustrate some of these images by blending technical terms such as 'line of sight' and 'mesh topology' with reflections on why we make community networks and the often invisible role of women within these initiatives.

WHY DO WE MAKE COMMUNITY NETWORKS?

FERNAND BRAUDEL PROPOSED 3 TYPES OF ECONOMY:

WORLD ECONOMY:

Large companies, financial institutions, and states that serve global markets.



LOCAL MARKET ECONOMY:

Small businesses and enterprises, serves local needs.



SUBSISTENCE ECONOMY:

Some market activities, but mainly informal activities based on the need of that community or territory.



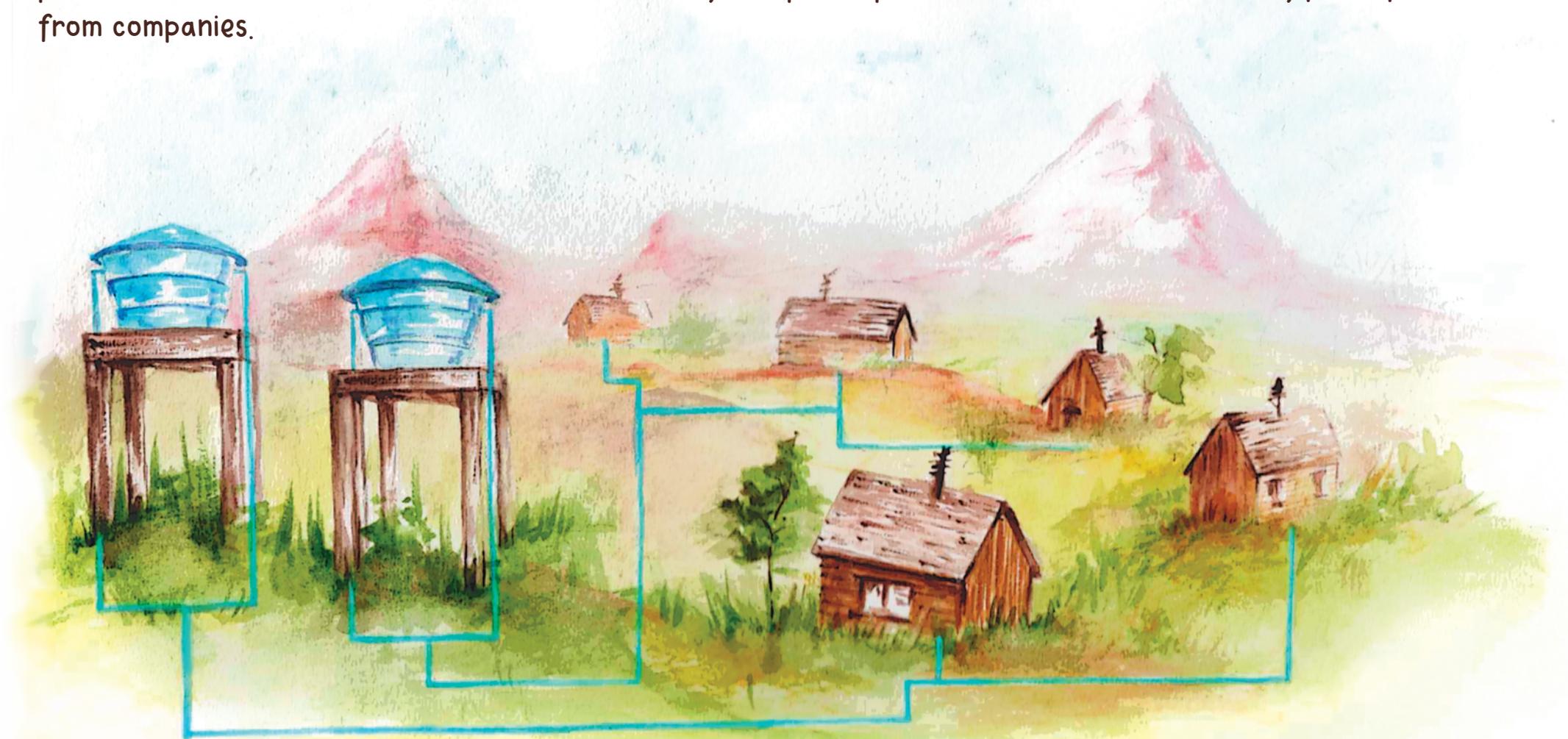
Community networks belong to the third group. These networks are designed, built and implemented by a local group of people who aim to connect, communicate and improve the quality of life of communities by increasing their access to technology and communication structures such as the internet, community radios and other local services.

THE LARGER THE STONES, THE MORE EMPTY SPACE BETWEEN THEM.
THINK OF THIS SPACE AS THE PEOPLE AND COMMUNITIES EXCLUDED FROM EACH TYPE OF ECONOMY.

Water and community communication as Common Goods

There are riches that belong to us all, and we call them Common goods. Ice caps, oceans, seas and our rivers; they do not belong - or should not belong - to a company or a government, but to the people who inhabit their territories.

Social technologies can help a community build a community water distribution system. This gives people the power to decide what this distribution will look like, who participates in it and how it is divided, free of interest from companies.



Water and community communication as Common Goods

Natural resources are not the only things that are Commons. Languages, cultures, traditions ... much of human knowledge is a common good. The right to communication and access the internet are also everyone's rights and there are more collective ways to enjoy them.

Unfortunately we will always depend on companies to provide us with internet, the 'internet providers', but a community network brings new possibilities. The community can decide how the internet will be shared, who participates in this exchange and how to pay the bill. It can also build local systems like radios and web portals that don't need the internet to communicate internally.



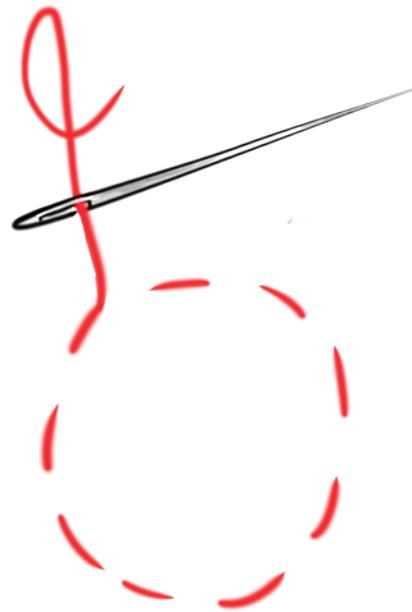
NETWORK TOPOLOGY



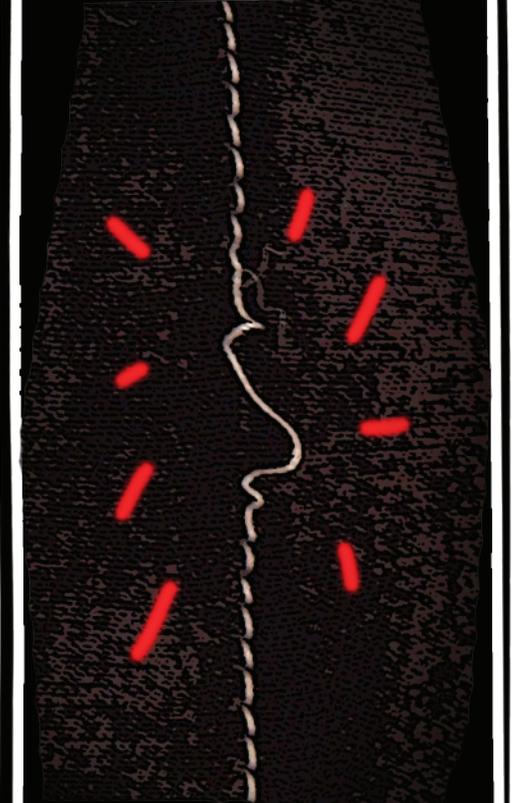
It is important to decide how our network will look. This is called a topology. And that's how we sew each device.



In the past, it was sewn straight.



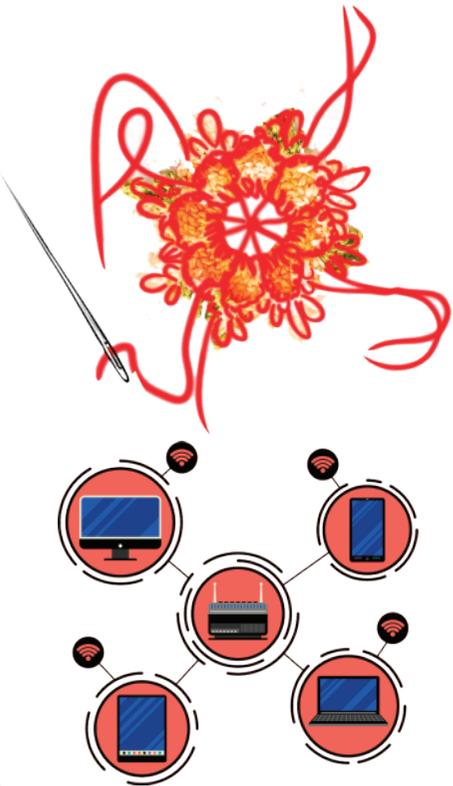
... Then in circles.



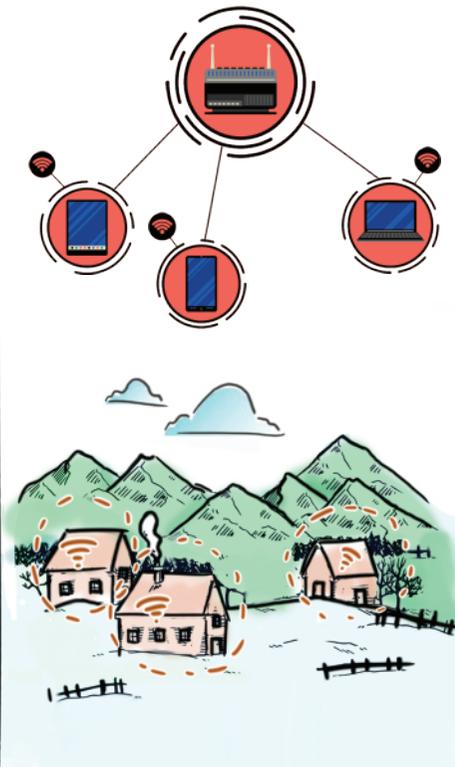
But just a single stitch to break to undo all the sewing!

NETWORK TOPOLOGY

Nowadays we see in star with a device in the center of everything



And if we have several, each one is independent and does not talk to the other.



But this is not very collective...



In many community networks we use mesh technology to interconnect and even recycle devices.

((♥))
libre router
libremesh

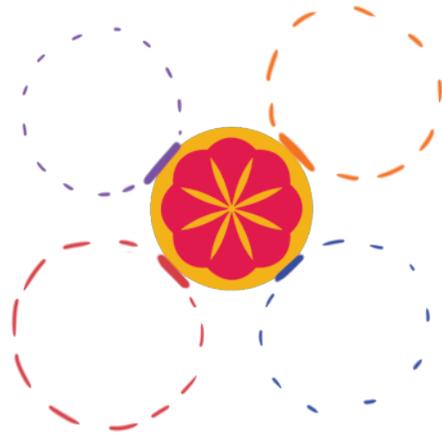


NETWORK TOPOLOGY

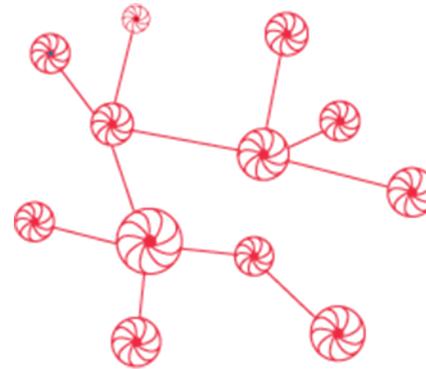
As in a “fuxico mesh”*, there is no center in this network.



To increase the mesh, just add new fuxicos. The more fuxicos, the stronger the mesh.



Similarly, the more devices the stronger the network.



And bigger.

This way more people in our community can be part of our network!



*Fuxico is a traditional brazilian craft

Technology is not an end, but an environment

It seems to me that people are often seduced by technology's 'promise' and forget that technology alone does nothing, provides nothing, it is just a potential driver of what people do through it.



To see the technology without see people and their processes is the same as seeing a forest, taking a single flower out of it, put it in a vase and say, "Now I have the full potential of a forest on my desk!"

DIGITAL CREOLE SEEDS

Before, the internet was very slow and downloading a single file took a long time...

CONECTANDO...?



... but once downloaded, it was yours to use and share anywhere.



Today the internet is faster and we can access everything more easily.



For a price.



DIGITAL CREOLE SEEDS

But the videos we see on Netflix, the songs we listen to on Spotify are no longer ours, we can't multiply them anymore.



This is similar to what happened to the seeds.



Nowadays large companies modify seeds to take their lives, preventing their reproduction.



Which force farmers to always buy new seeds.



DIGITAL CREOLE SEEDS

But there is still life in the Creole seeds, seeds kept by traditional peoples and agroecology.



We also have our 'digital creole seeds' and there are free ways to exchange them with others without the intermediation of companies *



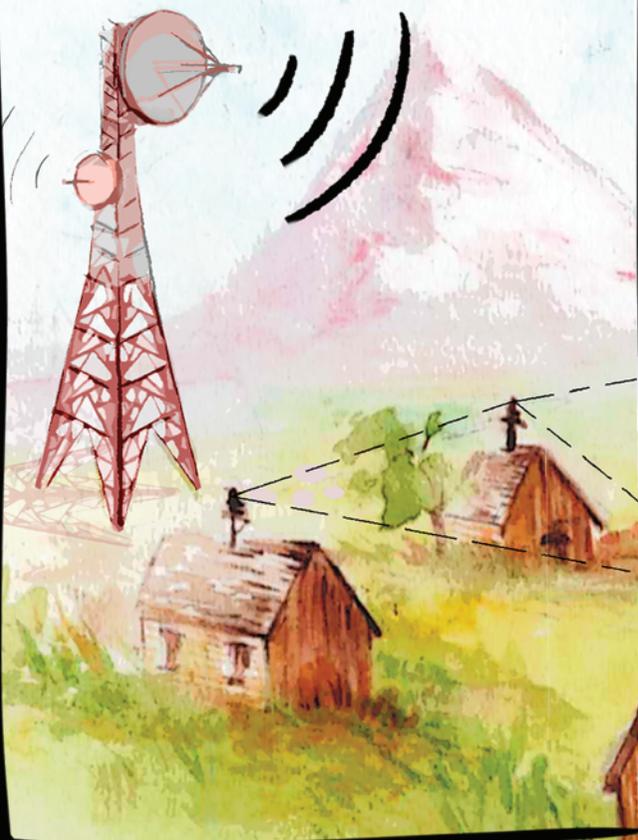
Knowledge is something to sow, both on land and in networks <3



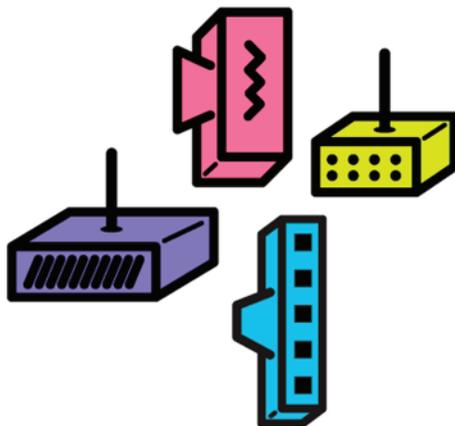
* <https://fuxico.org> , <https://nextcloud.org>, <https://mocambos.net>

ANTENNAS AND 'LINE OF SIGHT'

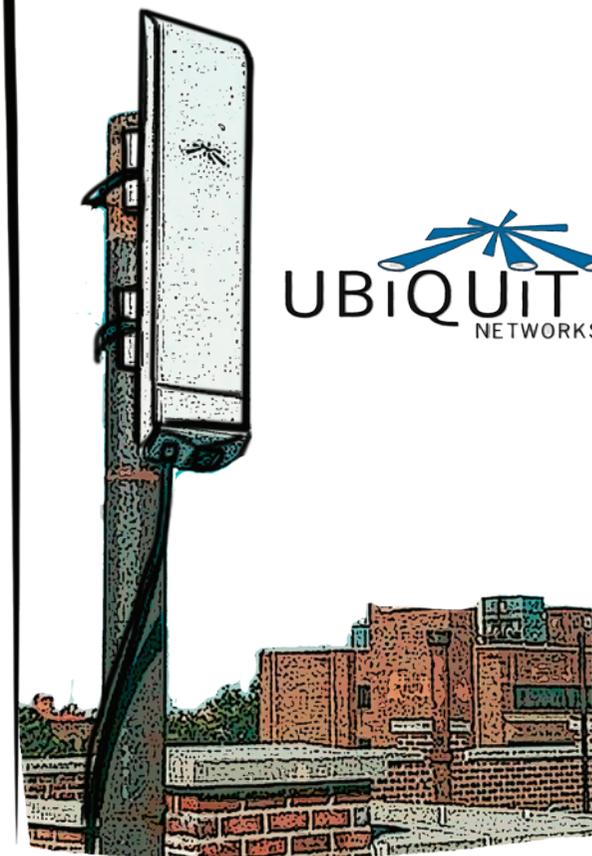
To build community networks we need antennas.



There are many types of antennas and each has different characteristics and functions.



Antennas can be commercial.



ANTENNAS AND 'LINE OF SIGHT'

Activists.

((♥))
libre router
libremesh



Recycled or modified.

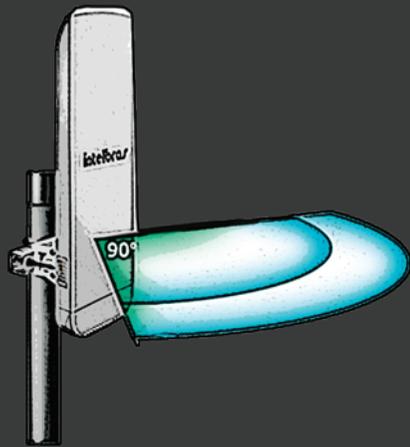


They can be Omni directional and accept connections from all sides.



ANTENNAS AND 'LINE OF SIGHT'

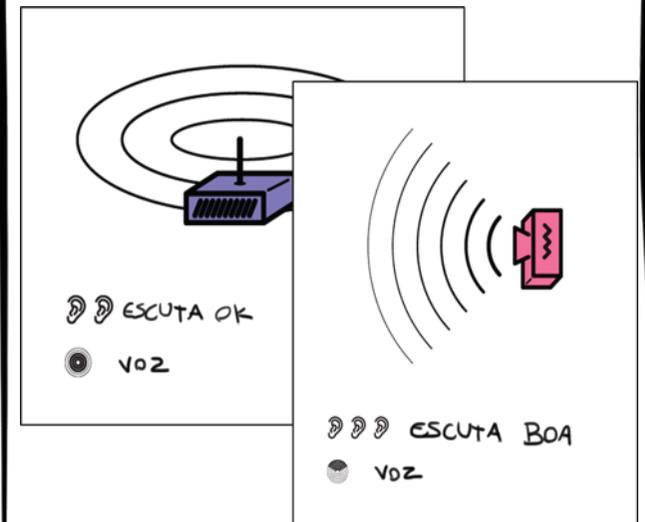
Sectoral, which should be pointed to where we want to connect.



Directional, which should be very well positioned. They see further, but with little amplitude.

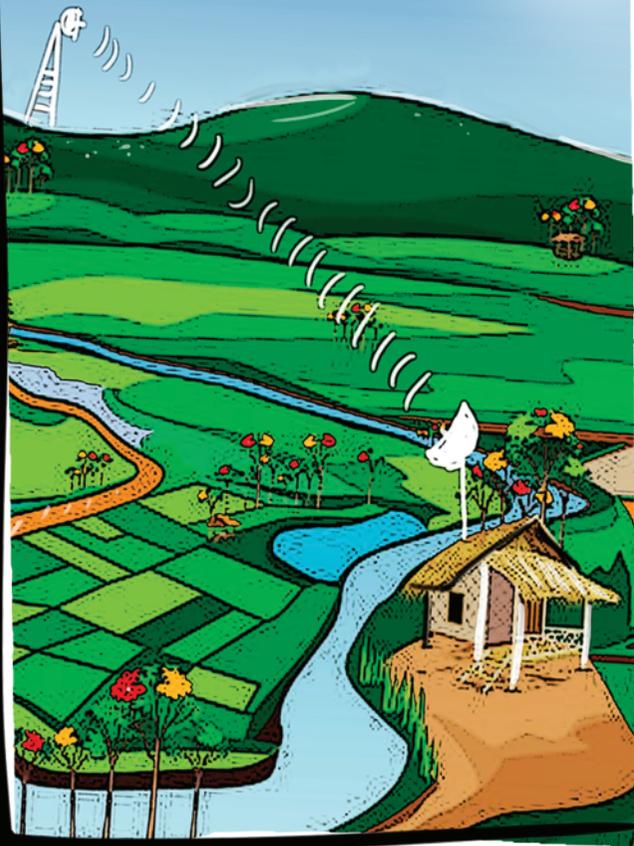


Some antennas listen better or speak louder. We call it 'gain'.



ANTENNAS AND 'LINE OF SIGHT'

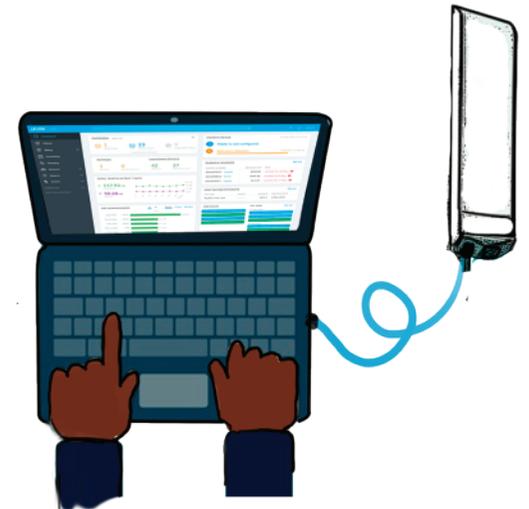
Which is great for when we need to connect distant points.



As with all communication, one speaks and the other listens.

With directional antennas we also have to define who will speak and who will listen.

This is done by the computer, defining one as an 'access point' (the speaker) and the other as a 'station' (the listener).



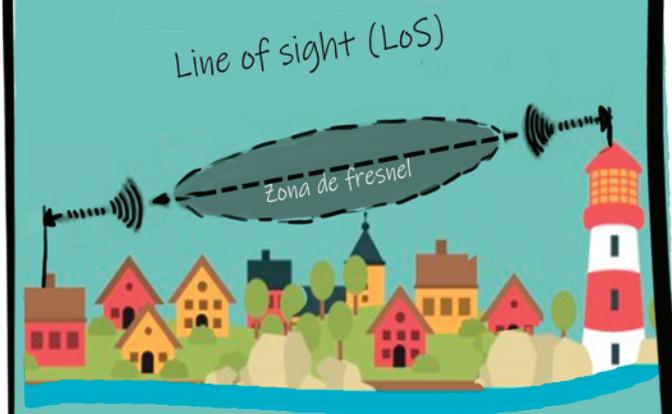
ANTENNAS AND 'LINE OF SIGHT'

But we must not forget something very important!

Just as people communicate better when they look each other in the eye, antennas need to see each other to ensure good communication.



We call this the 'line of sight'



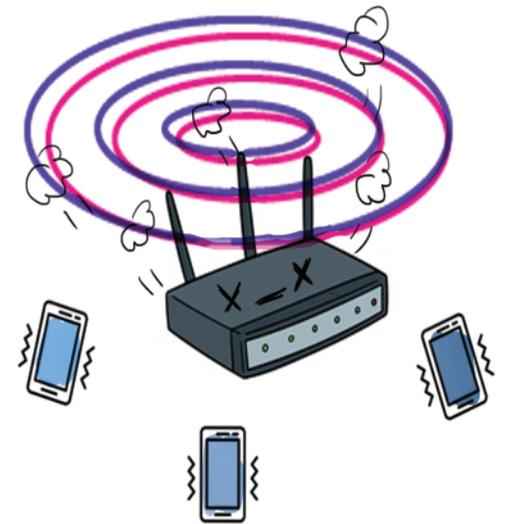
ANTENNAS AND 'LINE OF SIGHT'

It is very important that the antennas can see each other, even if we have to place them in a high place, on top of a tower or a bamboo.



Some omnidirectional antennas are very sociable, perfect for multi-person places because they can communicate with many devices at once.

Others are not so potent, and are overwhelmed when many people talk at the same time.



ANTENNAS AND 'LINE OF SIGHT'



These antennas also have space in our network, just choose a quieter place for them.

Just as our network is made up of many types of people, it can also be made up of various antenna types. Everyone has different qualities, the important thing is to understand which role each can best help strengthen our network.



For the amazing women in technology



WOMAN IN TECH

CREDITS

Text: Carla Jancz

Illustrations: Carla Jancz and Helena Prado

Layout: Thais Jussim

Comic 1 - Collaboration with Lilian Chamorro and Xiomara Corredor (Colombia), inspired by Carlos Rey Moreno from APC

Comic 2 - Collaboration with Thiago Paixão

Comic 4 and 6 - Collaborations with Sol Luca de Tena de Zenzeleni (South Africa)

Comic 7 - Collaboration with all women of the Locnet project, especially with Sol Luca de Tena and Marcela Guerra from Portal without gates (Brazil)

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THANK YOU

Many thanks to my partner Thais Jussim and my dear friend Helena Prado for helping with this project, two wonderful Brazilian artists.

Thanks to all women who work with community networks and are a constant source of inspiration, especially Sol Luca for the initiative to share her images with the group and Cynthia el Khoury for providing a welcoming space for these exchanges.

GRAPHIC RESOURCES:

<https://commotionwireless.net/>

<https://fuxico.org>

<https://thenounproject.com>

<https://www.freepik.com>

<http://www.sof.org.br>



IMAGERY ABOUT COMMUNITY NETWORKS IN COMICS - 2019

