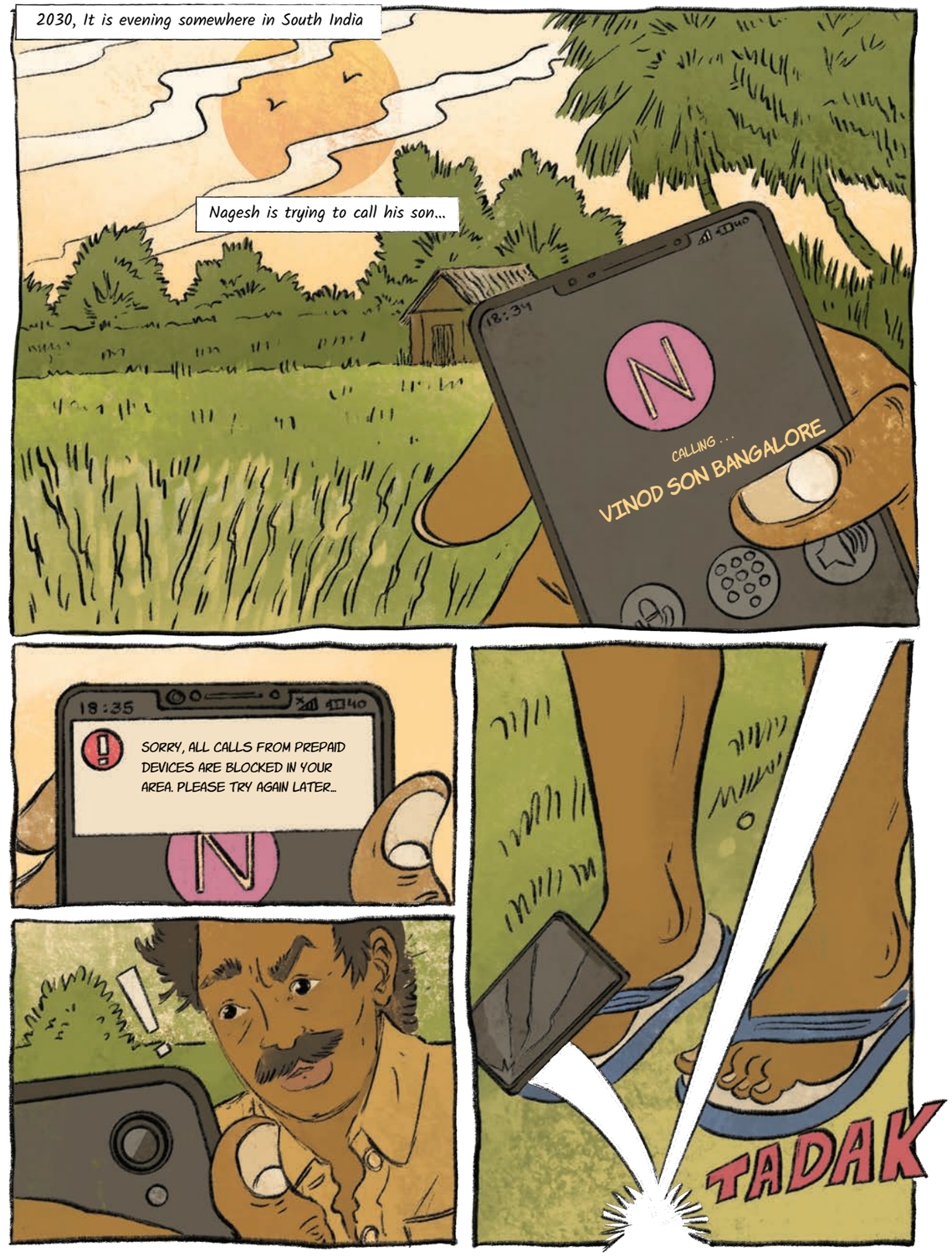
MAKING A MESH

Decentralising Digital, or DeDi, was a two year long collaboration between the University of Dundee and the Indian design research agency Quicksand. Our aim was to co-create new stories that explore how powerful developments in emerging technologies such as the Internet of Things, the voice enabled Internet, machine learning and artificial intelligence might be harnessed to support rural communities in India.

This story is set in 2030 where decentralised mesh networks are beginning to provide a respite from internet and phone network shutdowns. It goes back to experiments in one village in 2025, and gradually builds the story of decentralised mesh networks emerging from villages in South India, becoming a 'Resilience by Design' movement across the country, giving people complete control over their data.



I couldn't get in touch with Vinod. Cell phone services have been barred!

What? It has been a month since the services have been barred! That small altercation between the village communities has been long resolved. Why is the network still barred?

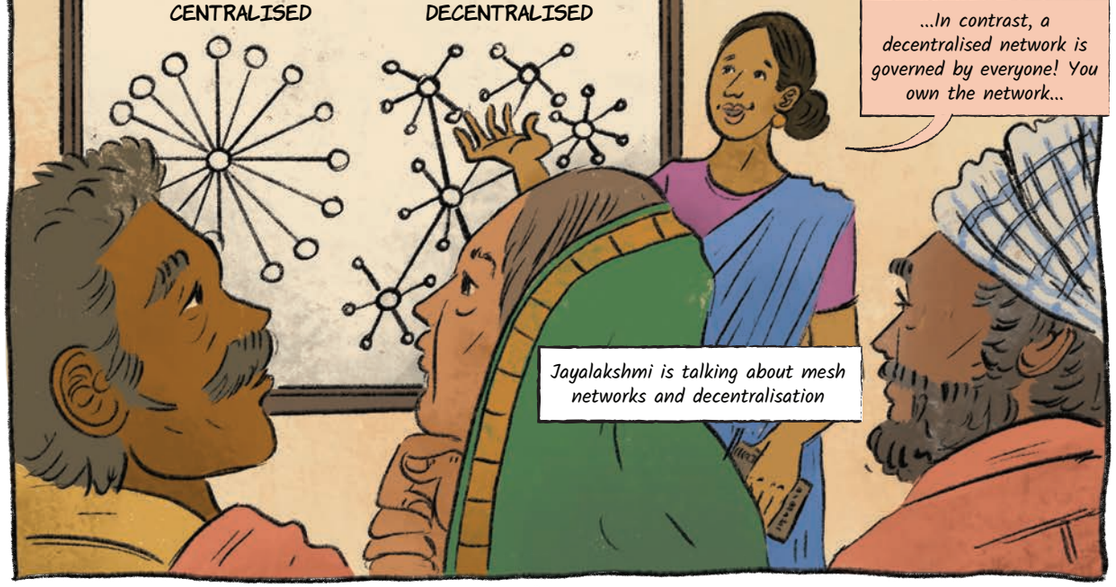
There are rumours going around that the chief minister wants to take revenge on our district because we didn't vote for him in the last elections

You know what, my sister's husband was mentioning something about a local network. Wait a second, let me show you the message that he sent me...

Nagesh sends a text to the number...

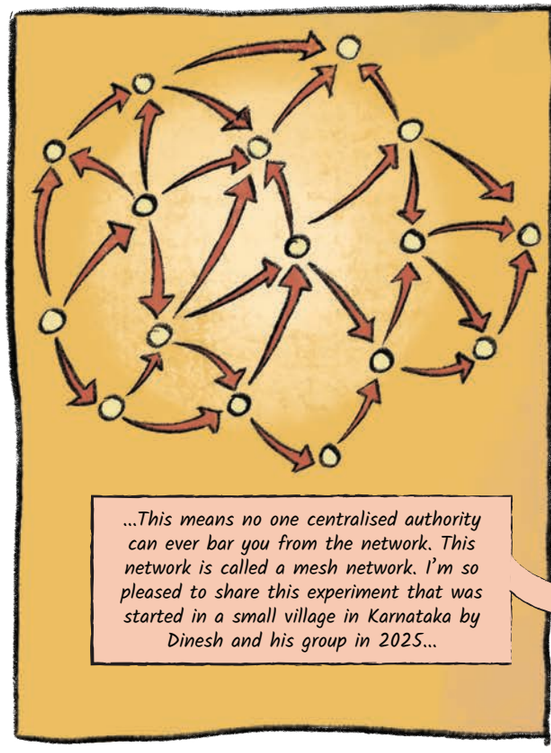
...And a few years later, Nagesh and his wife Rani, are actively participating in Mesh network meetups in the village

A traditional centralised network, the one we have in the village has one authority that is responsible for the network. Which means that that one authority can tamper with your network whenever and however they feel like...



...In contrast, a decentralised network is governed by everyone! You own the network...

Jayalakshmi is talking about mesh networks and decentralisation



...This means no one centralised authority can ever bar you from the network. This network is called a mesh network. I'm so pleased to share this experiment that was started in a small village in Karnataka by Dinesh and his group in 2025...

2025, in a village in Karnataka that Dinesh's group started working with...

People separating components to set-up WiFi hotspots and a local network

SERVER ROOM

HOT-SPOT

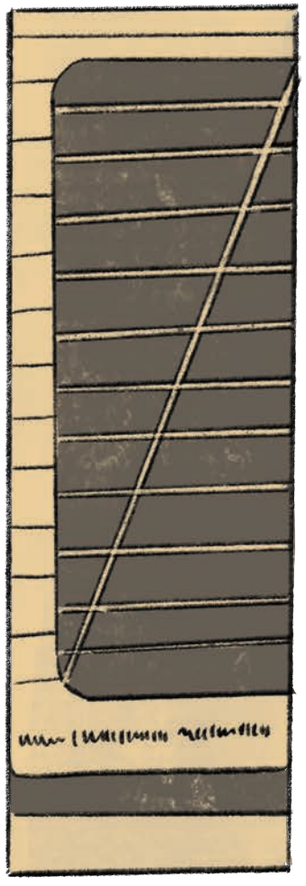
I think we have everything to set up the server room and the local radio station...but I think we still have to spread this local network...other villages close by are also requesting access

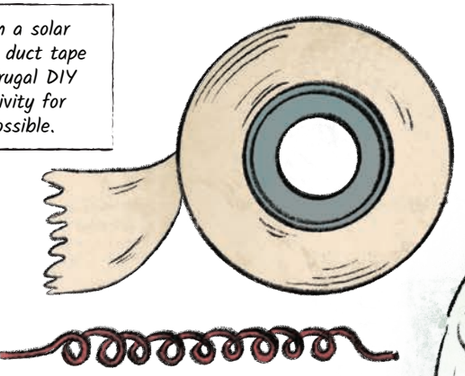
Dinesh

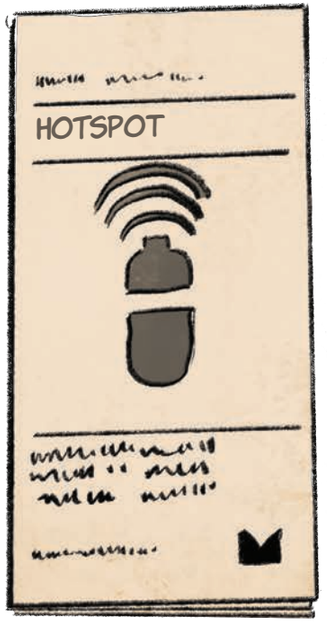
You're right! But whilst the network can include everyone, each village should create their own rules and take ownership of their data. Maybe you could explain our thinking to each village and help them understand how to make their own mesh...

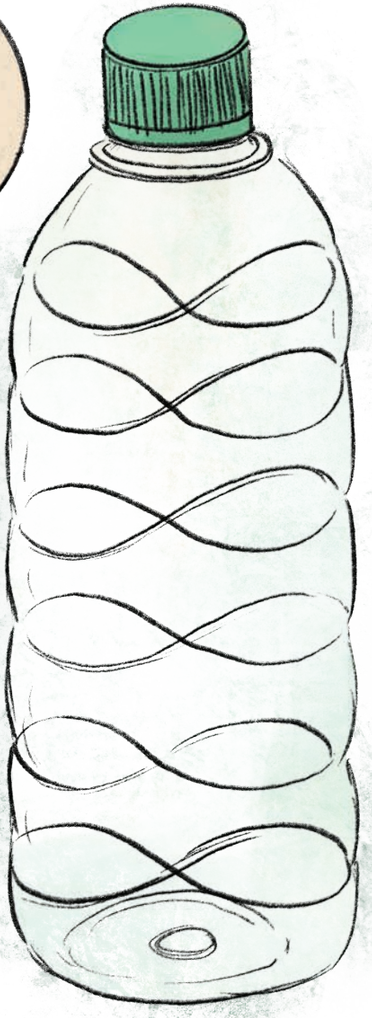
...you are the mesh-maker!

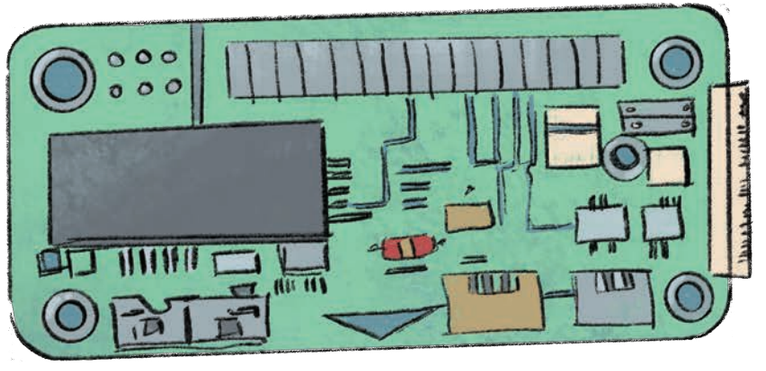
Jugaad WiFi hotspot created with a solar panel sleeve, microcontroller board, duct tape and a plastic water bottle. This frugal DIY hotspot made access to connectivity for everyone in the rural regions possible.











The network's self-sufficiency and decentralised connectivity enabled it to expand rapidly...

...And soon enough, it reached other nearby villages

A few years in the future

MESH MEETUP 2037

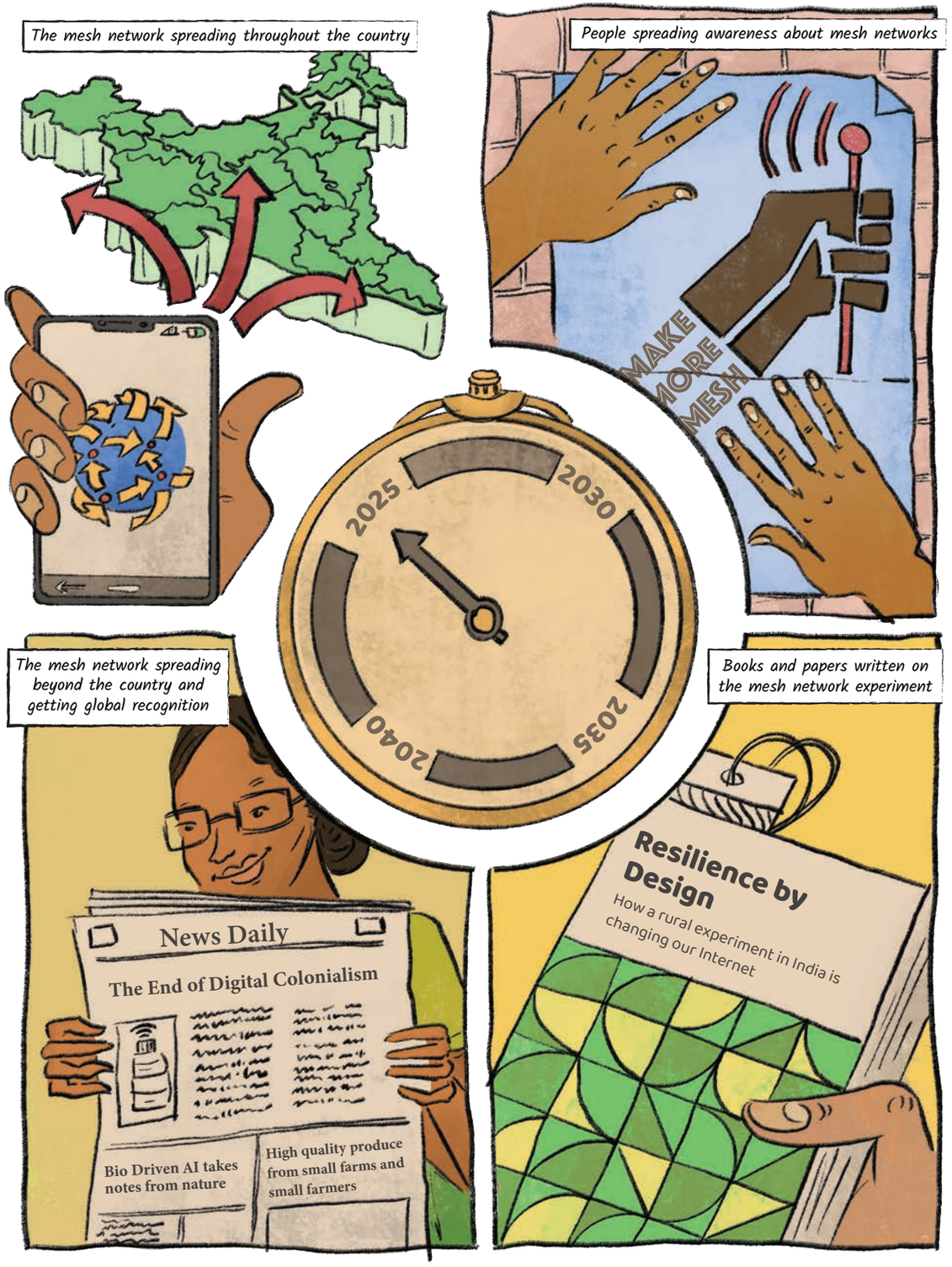
So this group has elected Manjunath as the technical support lead. He will work with young locals to build a team to maintain the network. You have also chosen Asha as the data steward...

...Her job is to consult with all of you and decide what data is collected here and who it is shared with. She will also negotiate with outside groups, who may want your data, on your behalf.

The mesh network is replacing the existing Internet in many villages across the country and even in some cities now where people are tired of their data being mined all the time. I am really proud of this, something that started in our villages is now showing the way to people in the cities.

Yes, it is now much harder for authorities to randomly shut down our local network, since we don't depend on them so much with the mesh network. We are calling it - Resilience by Design

The Mesh Network Data Controller helps to create the decentralised network. Individually crafted data tokens represent different data types such as camera data, location, microphone, texts and Aadhaar data. Simply moving the tokens into the data bowl ensures that data is kept private.



Making a Mesh

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