



SMART VILLAGES

New thinking for off-grid communities worldwide

Innovative Access To Healthcare In Remote Communities

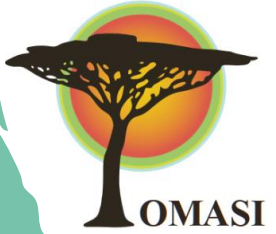
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The Rural Healthcare Challenge



Patients often resort to traditional medicines and **wait** until their health has severely deteriorated before journeying to their nearest health centre.

By this time it can be **too late**.

Our Solution

How we're **revolutionising** rural healthcare

- 1 Patient visits local telehealth centre with basic equipment, and has vitals taken
- 2 Consultation with doctor in main village is done remotely via video conference
- 3 Doctor advises patient and sends medication as required
- 4 Medicine is delivered from main village in batches, reducing transport costs
- 5 Long journey to doctor only required in emergencies and for specialized tests

The Benefits

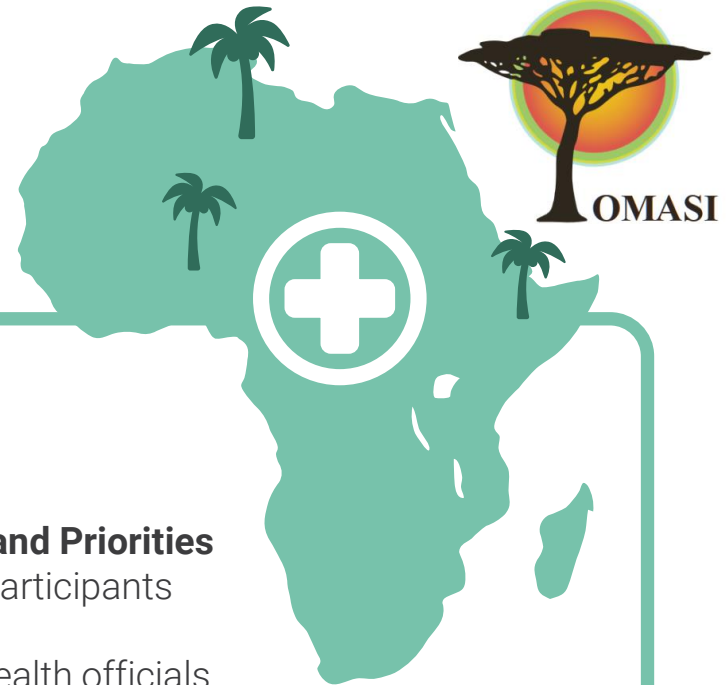
- Reduced patient cost, time and effort** to access to doctor, leading to **improved uptake**
- Fraction of cost to health authorities** when compared with building a new local clinic
- Improved health** in remote communities, reducing burden on existing hospitals and cost to healthcare system
- Increased time efficiency** of doctors consulting virtually
- Improved awareness** of health in remote communities for health authorities
- Improved ability** to contact patients in remote communities for doctors



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Achievements

- + Extensive **Community Engagement** to verify **Healthcare Needs and Priorities****

 - 11 research activity types in 4 rural communities with 200+ participants
 - Support from rural and city Tanzanian public doctors, International Health NGO CACHA, and Tanzanian district health officials

- + Preliminary **Remote Consultations**:**

 - Validated feasibility of treating patients over video conference by local doctor in 2 rural dispensaries
 - Positive feedback from trial patients and local doctor

- + **Four Remote Health Clinics** in two off-grid villages:**

 - >50 patients, aged 1 to 78, treated via videoconference to nearest health centre
 - Patient vitals taken by trained operators prior to consultation
 - 65% of patients received medication, delivered in batches via motorbike, reducing costs
 - 23% of patients required a follow-up in-person appointment, knowing the journey was necessary
 - 100% of patients saved time and money on transport, and said they would be happy to pay for a remote consultation service in future.

**Patient and doctor feedback was overwhelmingly positive.
All requested the service be made more widely available and permanent.**

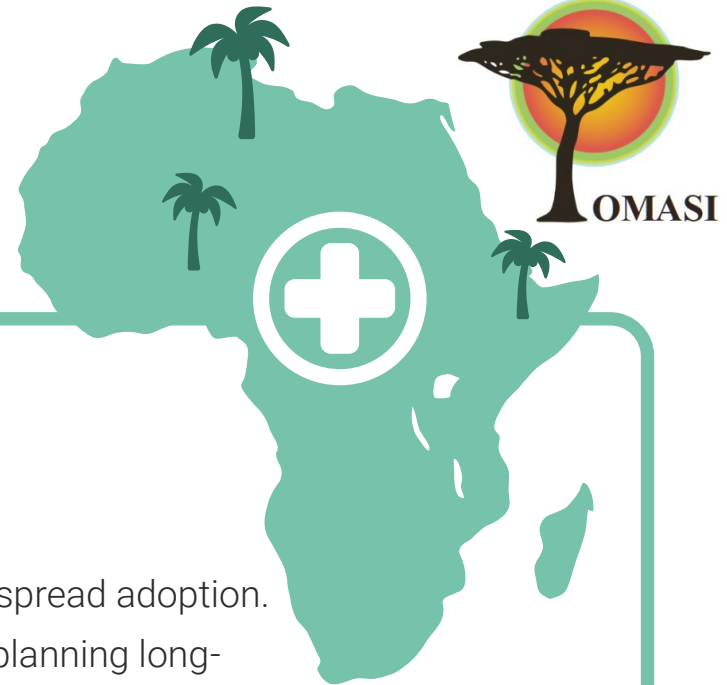




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Where next?

On the path to **large scale adoption**

There is an urgent need for a remote healthcare system with widespread adoption.

To build a strong evidence base supporting our approach, we are planning long-term trials in multiple off-grid communities:

- Understand effect on demand for existing healthcare system
- Validate improved health quality in target communities
- Develop qualification for remote clinic operators and train local operators
- Develop financial model to present to health authorities for large-scale roll-out
- Refine software used, for video conferencing, patient data transfer, and medicine supply tracking
- Trial alternate technologies for 'offline' communities without internet or signal
- Partner with additional private/public local doctors/nurses, health NGOs, and health authorities

We are working with local partners OMASI in Northern Tanzania, to validate this approach through longer term trials, and to develop a business model to make large scale adoption more sustainable in remote communities across Sub-Saharan Africa.





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Introducing Kiruru Village

Population: 1000-1500 (240 households)

Distance to nearest health facility:

15 km, 1.5 hours via motorbike

Communal facilities: Church, Shop,
Central 'meeting tree', Pre-primary school

Challenges: No phone signal,
No primary or secondary school,
Almost inaccessible by road in rainy season



A village in need of remote healthcare

Kiruru is a small, marginalised community made up of multiple Maasai bomas spread over 15 square kilometres. In May 2021, Smart Villages installed a solar array in the village centre, **providing electricity** to the church, pre-primary school and encouraging the growth of central businesses. Despite this development, the **nearest health facility is still over an hour away.**

In June 2021, working with local NGO OMASI, Smart Villages installed an internet connection and ran two telehealth trials in Kiruru village. Patient turnout was overwhelming, showing the high demand for the service and several had to be turned away due to time-constraints. Through long-term telehealth trials, we hope to make access to healthcare more permanent.

