

Bridging the **Divide**

How Indonesia is connecting its numerous islands with the world. And opening doors to economic and social progress across remote villages with VNL's rural mobile network solution.



Deterred by topography, Indonesia has struggled to connect its rural inhabitants, as 8000 remote villages across the country still remain unconnected.

By enabling voice and broadband services with the help of satellite providers and network operators, VNL is helping remote and isolated regions across Indonesia, discover the benefits of connectivity.

Summary

Indonesia is the most populous country in South East Asia with 260 million inhabitants. However, mobile coverage in the remote islands of the country significantly lags behind levels prevalent in urban areas of Java and Sumatra. That's because these regions are geographically isolated from developed economic, political and social centres due to inadequate transportation and communication infrastructure.

Regions like Sulawesi and Papua have low population densities, low per capita income levels and weak or non-existent critical infrastructure such as electricity. This structural roadblock has an adverse impact on all aspects of the business case for mobile network expansion in these regions, and calls for different approaches and business models to make remote mobile coverage feasible.

Matra Mandiri Prima (MMP), a mid-sized system integrator, provides a full range of managed satellite communication services in Indonesia. In order to extend connectivity to remote villages like Tampak-Kura, Hinua and Lakahang across rural Indonesia, the system integrator partnered with a leading telecom operator, for extending existing operator coverage. MMP has been able to successfully set up VNL's rural network solution across remote regions in Indonesia.

Our system, by design, consumes very low power and boasts of a near-zero maintenance cost. It operates completely on solar power, with low OPEX and CAPEX. So far, MMP has deployed 33 VNL sites in Indonesia providing cellular and data connectivity, thereby empowering e-agriculture, e-banking, e-education and e-health services in those areas.

Today, thanks to VNL, many remote islands across Indonesia are connected to each other, with Java and Sumatra, and more importantly, to the rest of the world.

The Problem

46.7% of Indonesians live in rural areas (BPS-Statistics Indonesia, 2014a). Of the 82,190 villages in the country, 18,603 receive a weak signal and 7,717 receive no signal at all. Of the villages with no signal, 4,876 are located in regions with low internet penetration, mostly in Papua, Sulawesi and Maluku islands (BPS 2014b: 105).

Extending network infrastructure to these regions is considerably difficult. On the supply side, there is a lack of road and electricity access, exacerbated by a





Impact

33

CONNECTED VILLAGES

15,000

CONNECTED CITIZENS

100%

SOLAR POWERED SITES

400

SUBSCRIBERS PER SITE



harsh terrain and vast distances between villages. Grid supply is unavailable since power lines haven't reached the interiors. Also, road access is difficult and diesel fuel is expensive. On the demand side, communities have low income and are thinly distributed. Considering the low subscriber base and low ARPUs, businesses can't justify traditional infrastructure deployment in these regions.

The Solution

With VNL's rural network solution, MMP has found a way to bring mobile connectivity to remote islands which were otherwise cut off from the rest of the world. To begin with, MMP identified 33 villages like Tampak-Kura, Hinua and Lakahang where there was no mobile connectivity. Then, with the help of VNL, each of these sites was powered with a 2-TRX rural network solution. Today, at least 400 subscribers per village, have access to voice and data services. Several, off-grid villages have network sites operating on solar energy, thereby offering seamless coverage and capacity, in a quick and affordable manner.

Benefits

Indonesia's remote villages now have connected schools, health centres, government centres and police stations. Families are connected to their kids working far away and job seekers are finding it easier to seek new opportunities. With voice and data connectivity, students are discovering new ways of learning. Teachers have access to more information and can plan lessons more creatively. Doctors and hospitals are now within reach especially during emergencies. Information related to agricultural inputs and markets is now available to farmers. Local government authorities are now able to dispense various schemes and benefits with ease.

With VNL's help, MMP has been able to develop a successful business model to fill the coverage gap and contribute towards the growth of rural Indonesia. This effort has been appreciated by the government and the ICT department as well. Even in regions where the ARPU was expected to be low, this business model has proven to be profitable and sustainable. VNL's rural network solution has come as a respite for the population that was, until now, isolated from the rest of the world.



"I sell my produce on the phone now. I find out the best prices in the market using Internet and earn fair prices"

Riya,
Farmer, Village Hinua



"Whenever my people need my help, I am readily available on the phone. Earlier, the response time for emergencies was much more."

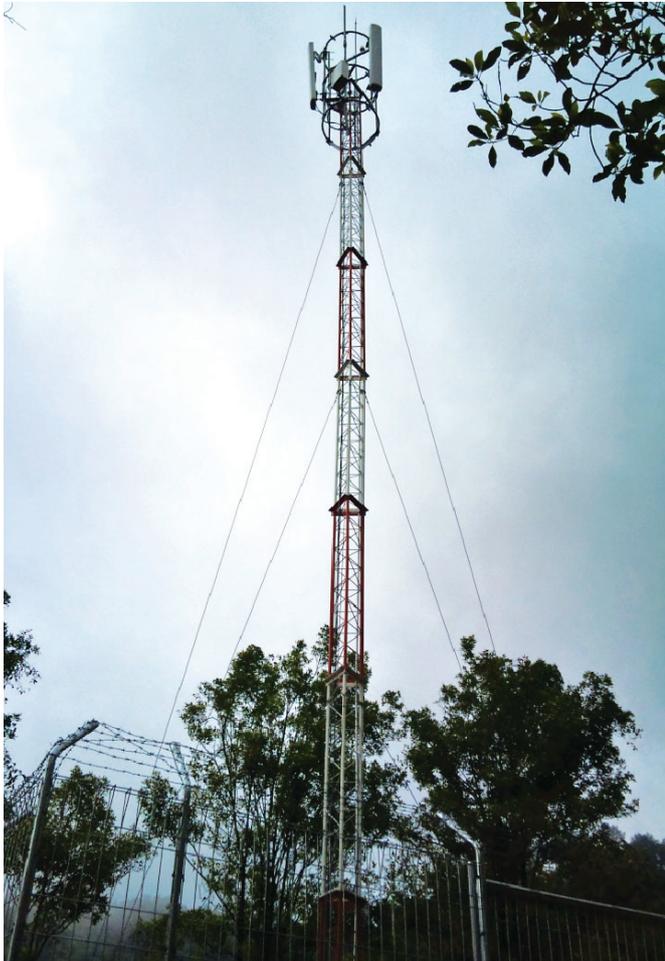
S. Patalangi,
Police officer, Village Tampak Kura



"With connectivity, my students can learn better. Using data services on my phone, I can access more information on the web."

Maria,
School teacher, Village Lakahang

About VNL



VNL makes the award-winning WorldGSM™ system, a sustainable, turnkey GSM and broadband solution specifically for rural and remote locations. It also makes a range of privately owned and managed GSM & broadband network solutions for specialized applications such as secure communication platforms for homeland security, communications for remote industrial centres and rapidly deployable networks for disaster and emergency situations.

VNL's pioneering work has been widely praised. During Mobile World Congress, 2010, in Barcelona, VNL was the recipient of GSMA's 2010 'Green Mobile - Best Green Programme Product or Initiative' Award. VNL was also named a 'Technology Pioneer 2010' by The World Economic Forum. In addition, VNL was named the third most innovative company, and the most innovative telecom company in the world, in the Wall Street Journal's annual Technology Innovation Awards in 2009.

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#ChangingLives