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CONNECTING PEOPLE. TRANSFORMING NATIONS.



*“As the world becomes increasingly digital...
affordable broadband must be within reach
of people, businesses, and governments in
all corners of the world.”*

– UN Secretary Ban Ki-Moon, in an address to the Broadband Commission for Digital Development



*Nearly 250 million
people live in Indonesia.*

*More than 80 percent
of them have no access to
the Internet.*

Access to broadband has the potential to transform individual lives, local communities, and entire nations. The last decade has seen exponential growth in Internet connectivity. Information and communication technologies, especially high-speed broadband Internet connections, have the potential to catalyze development in ways the world has never before seen.

ESTABLISHING THE CONNECTION. Getting broadband to urban centers and rural villages spread across tens of thousands of islands proved challenging because of multiple challenges including technology, funding, and existing policies. This spurred a partnership between the Government of Indonesia and USAID's Global Broadband and Innovations (GBI) Alliance implementing partners NetHope and Integra Government Systems International LLC (Integra). The partnership addressed national policies that affected broadband rollout, tested ways to increase access in rural communities, and supported applications that could improve lives once reliable and affordable Internet connectivity was established.

A NATIONAL PLAN FOR BROADBAND.



When GBI's partnership with the Government of Indonesia began, the country's president, Susilo Bambang Yudhoyono, made Internet connectivity a national priority. As a result, the Indonesian Ministry of Planning, also called BAPPENAS, launched an initiative to develop the country's first broadband plan to start a national dialogue and set goals for access and usage.

To ensure that the plan met the needs of all its constituents, BAPPENAS worked with GBI to build consensus and set strategic priorities across ministries and the private sector. The GBI team, comprised of local and international specialists, developed the framework for gathering input on the plan and interviewed stakeholders across government reform, health, education, logistics, and procurement sectors.

The final Indonesia Broadband Plan illustrated how the country would capitalize on the benefits of broadband and laid out six high-priority "flagship" programs:

- *Complete construction on the Palapa Ring — a massive national fiber-optic backbone running 35,000 kilometers underwater and 21,000 kilometers over land — to provide connectivity to 440 cities*
- *Adopt national telecommunication policies that allow multiple operators to use the same infrastructure, such as existing underground fiber cables or cell phone towers*
- *Link all government networks and services through a shared data center and common software platforms*
- *Launch a digital literacy program to prepare Indonesian citizens to effectively participate in the information society*
- *Deliver broadband access to rural and isolated communities using innovative and low-cost wireless options*
- *Implement the recommended reforms to the Universal Service Obligation fund to provide funding for rural broadband rollout*



THE INDONESIA
BROADBAND PLAN IS
EXPECTED TO **UNLOCK**
\$23 BILLION IN
INVESTMENTS AND
CONNECT UP TO
140,000 SCHOOLS AND
5,000 HEALTH CLINICS TO
THE INTERNET BY 2019

The plan also identified priority public sector programs and established goals for government agencies to adopt, including:

- **e-Government** — *install an interconnected network and database, create a public data center, and conduct government-wide trainings on new systems*
- **e-Education** — *link all schools, universities, and education offices through a national network, build a database to store education statistics, and develop online content*
- **e-Health** — *link clinics, hospitals, and health facilities through a national network, build a health-statistics database, expand universal health insurance coverage to rural areas, and launch a mobile e-Health treatment program*
- **e-Procurement** — *transfer all purchasing and catalogues online, establish a national e-Marketplace, and build the capacity of government workers to use the new processes*
- **e-Logistics** — *link inventories, supplies, demand, and prices for goods and services to a national data center and make it available to the public at local levels*

The strong political will that spurred the creation of the plan has continued. When the new President took office, he agreed that implementing the plan remained a priority for the new administration, demonstrating that political common ground can be found for essential items such as affordable, reliable, competitively provided broadband Internet.

The plan is estimated to generate \$23 billion in public and private-sector investments over five years. Roughly \$600 million of those funds will be dedicated to completing the Palapa Ring and connecting 100 million Indonesians to the Internet.

INVESTING IN BROADBAND CONNECTIVITY

Universal Service Obligation funds are the mechanism countries use to collect revenue from private telecommunications companies in order to reach rural and underserved geographies. They were first pioneered in the United States in 1934 to solve a rural phone gap; countries now use these funds to solve the digital divide. In Indonesia, that fund has previously been used to build satellite-linked telephone networks in remote villages.



GBI BUILT CONSENSUS
AMONG KEY INDONESIAN
STAKEHOLDERS,
CULMINATING IN THE
SIGNING OF THE
NATIONAL BROADBAND
PLAN BY THE PRESIDENT IN
OCTOBER 2014.

“The key recommendation that was implemented was extending the use of the USO fund to address the connectivity ecosystem, not only infrastructure issues.”

—Ibu Mira Tayyiba, BAPPENAS official

Two enterprising women in the Indonesian Government — Ibu Mira Tayyiba, a BAPPENAS official, and Ibu Woro Indah Widiastuti, who oversaw the Universal Service Obligation fund — knew that the \$460 million in the fund could be put to better use by rechanneling it to long-lasting broadband deployment. GBI implementing partner Integra worked with BAPPENAS to diagnose the issues, compare their policies to international best practices, and recommend structural and organizational reforms.

The branch of government responsible for administering the fund — the Ministry of Communications and Information Technology — needed assistance in re-purposing the fund in three distinct areas: a new strategic plan, oversight and management changes, and a new investment plan. To facilitate these changes, GBI recommended that the fund’s governance be revised to streamline decision-making. They recommended that resources be set aside to build the capacity of the individuals administering the fund. The fund’s monitoring and evaluation functions were also improved to ensure that projects were being properly financed and implemented.

Lastly, collaboration with other government agencies and the private sector was key to improving the fund’s performance. “International global and local technology companies like Microsoft, Google, Intel, Cisco, Internet service providers, and mobile network operators drive broadband deployment. The key to successful national rollouts come from a synchronous relationship between Government policies and private sector investment,” said Jonathan Metzger, GBI Chief of Party from NetHope.

LAST MILE CONNECTIVITY

One of the goals of the Indonesia Broadband Plan is to provide an Internet connection — either through fixed lines or wireless technologies — to half of its rural population by 2019. To achieve this goal, the Government of Indonesia determined that one of the plan’s flagship programs would be to study new, low-cost, high-efficiency technologies, specifically those that use previously unoccupied television frequencies that can now be repurposed for wireless broadband Internet.

In partnership with the Ministry of Communications and Information Technology — which oversees the Universal Service Obligation fund — and with financing from USAID, Microsoft, and Hitachi, GBI launched a project to assess the feasibility of using these frequencies in several rural villages. The project used wireless technologies that were capable of sharing radio spectrum without interfering with each other. For example, in a rural area that had an existing Internet service provider, the pilot project set up one link between a local government office, an Internet center in a village nine kilometers away, and a small local business. A second link connected the office of the local Internet service provider to a high school six kilometers away and a health clinic close to the school. These projects found that the new technology was able to provide the community with true broadband connectivity that will grow with the country’s increasing



BETWEEN MARCH 2015 AND
MAY 2016, **MORE THAN
800 RURAL VILLAGES**
WERE CONNECTED TO
AFFORDABLE AND RELIABLE
INTERNET SERVICES

demand for Internet. They also proved that private companies can make enough profit to justify investments in rural connectivity.

In addition, they demonstrated that low-cost technologies could provide significant social and economic benefits:

- *A small business owner was able to connect to the Internet from his factory and recruit new distributors, resulting in a 15 percent revenue increase in just a few months.*
- *Teachers in the village high school found that because of broadband access and access to new high-quality lesson plans, they were able to increase the time they spent on classroom instruction.*
- *A village health clinic was able to treat more patients because it used the broadband connection to verify information with the national health insurance plan; this connection to the health insurance plan saved patients an average of eight dollars a month.*

As a result of the GBI pilot, the Government of Indonesia developed a program to connect 1,600 additional communities as a large second phase to a national rollout of rural broadband. As of August 2016, more than 800 (817) of those villages were connected to affordable and reliable Internet service. This is provided by the wireless technology utilized in the pilot, fiber optics, radio links, and very small aperture terminals (VSATs), a form of satellite communication.

LOOKING TO THE FUTURE

Over the next fifteen years, the UN Sustainable Development Goals will be the main focus of programs to improve lives around the world, and Internet connectivity will be a vital part of making those goals a reality.

“All three pillars of sustainable development — economic development, social inclusion, and environmental protection — need ICTs as key catalysts,” said Secretary-General Houlin Zhao, the head of the International Telecommunications Union, a branch of the United Nations. “That is why the Commission believes that ICTs, and particularly broadband, will be absolutely crucial for achieving the SDGs.”

The success GBI achieved with BAPPENAS in Indonesia shows that investments in capacity development and pilot projects can result in wide-reaching and lasting improvements. The implications of this new connectivity are vast and will help Indonesia continue to grow and thrive.

IMPACT BY 2019

- **\$23 billion in investments** are expected to be made as a result of the Indonesia Broadband Plan
- Up to **140,000 schools** and **5,000 health clinics** will be connected
- **\$460 million** from the Universal Service Obligation fund will be used for **infrastructure improvements and broadband connectivity**
- **More than 1,600 rural fishing and farming villages** will have broadband Internet access



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