

PLANETARY HEALTH IN ACTION

Online Education Exchange Program

Photo credits:

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We offer experiential learning opportunities for professionals and students to engage with our work as a case study for exploring how the health of humans, ecosystems, and the planet are connected.

This document provides an overview of our virtual educational experience and what to expect as a participant of Planetary Health in Action.

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Our Story

The vision behind ASRI began when a Reed undergraduate biology major, Kinari Webb, traveled to West Kalimantan, Indonesia to pursue her dream of studying orangutans. There, she experienced the splendor of the rainforest. But she also saw that orangutans were losing their habitat at an alarming rate, and the sound of chainsaws was always nearby.

To protect the orangutans, she would need to listen to and work with the people who steward their habitat. Kinari met many villagers who lived near the rainforest. In general, they lived in poverty and lacked adequate health care. What care they had was expensive, far away, and low quality. She also learned that these individuals often had no choice but to cut down trees to pay for treatment. Kinari realized that their lack of access to care, not ignorance or apathy, was driving deforestation.

She went back to the United States, earned a medical degree from Yale University, and completed her family medicine residency in California. During her years of training, she decided to move to Indonesia full-time. She was determined to help people in rural Borneo get better healthcare, and also to conserve habitat and wildlife in the rainforest. After volunteering with many international NGOs after the devastating 2004 Aceh tsunami, Kinari saw that most nonprofits are not able or willing to implement community solutions and were ultimately limited in their impact. She realized she would have to start her own organization to truly save the rain forest.



Kinari returned to West Kalimantan in 2007. Kinari searched to find a place with 1) a significant human health need, 2) viable forest under threat, and 3) an engaged local government. After traveling extensively around the region, she chose Sukadana. The city not only met these criteria, it was adjacent to Gunung Palung National Park (GPNP), an important habitat for approximately 2,500 orangutans.

Kinari, Dr. Hotlin Ompusunggu, and Dr. Toni Gorog established Health In Harmony's pilot program, Alam Sehat Lestari (ASRI), with conservation guidance and leadership from rainforest expert Dr. Cam Webb. Together they facilitated more than 400 hours of Radical Listening with the communities around GPNP. Limited access to health services, high healthcare costs, and a lack of alternative livelihoods were the reasons people logged in the national park. With high quality, affordable health care and organic farming, the communities said they could put down their chainsaws and live in harmony with their environment.

Based on the results of these discussions, in 2007, ASRI opened a clinic to provide high-quality, affordable healthcare for all community members. People no longer had to choose between their health and cutting down trees in the forest. Guided by community design, ASRI established medical and conservation programs that work in harmony with each other. Today, Health In Harmony continues to support the program work, data collection, and research of its partner, ASRI.

Meanwhile, our goal is to establish new partnerships around the world. By listening to community needs, we can protect additional high-value ecosystems. We are also gathering evidence to prove the effectiveness of our unique model and understand the critical and scalable elements. As we grow, we are working in new sites and will establish programs that address both human and ecosystem health. Health In Harmony has a growing staff based all over the world.

In 2008, Health In Harmony received the Mongabay "Innovation in Conservation Award". We have been nominated for the Classy Awards twice, in 2014 and 2017. In 2014, Kinari won an Ashoka Social Entrepreneur Fellowship and was selected as Rainer Arnhold Fellow by the Mulago Foundation. Our work has appeared in BBC, PRI The World, NPR, HuffPost Live, Voice Of America, PBS NewsHour, The Lancet, Sierra Magazine, O Magazine, and TEDx, among others.



Planetary Health In Action

As a member of the Planetary Health Alliance, and a leader of Planetary Health in-action, we are working with academic institutions, medical professionals, businesses, and NGOs to explore innovative solutions to health and environmental challenges via Planetary Health educational opportunities. For more than 10 years, we have worked with universities including Yale and Yale NUS, Stanford, Rochester, Ohio State, and University of Montana to send student groups and professionals to take part in these educational opportunities.

Through our Education Exchange Programs in Indonesian Borneo, participants gain hands-on experience in the emerging field of planetary health. What sets us apart is the opportunities to make genuine connections; we offer community-based experiential learning, where participants can shadow patient visits in the hospital, harvest vegetables alongside farmers, or co-create a business plan with a former logger turned entrepreneur.

Our classrooms are clinic exam rooms, rainforests, organic gardens, rural villages and now an online platform. Our curriculum connects issues in this region to worldwide ecosystem transformations and health trends. We also teach our Radical Listening methodology, equipping participants with skills to meaningfully engage with communities. Participants share their expertise and learn how human health and the environment are intertwined. We emphasize hope and motivate people to find ways to act on social, environmental, and economic issues, creating planetary health change-makers. Participants in the Education Exchange Program meet the following learning objectives:

- Broadly understand the concept of planetary health, and summarize some of the worldwide ecosystem transformations and health trends.
- Understand relationships and interconnections between history, economics, policy, ecosystems, and healthcare in the Gunung Palung National Park region.
- Connect the situation in and around Gunung Palung National Park to worldwide planetary health trends.
- Learn Radical Listening methodology and recognize the importance of grassroots initiatives and the need for participation and ownership of most-affected groups.
- Learn more about program replication.
- Develop a plan for ongoing planetary health advocacy and action.

The Lancet's Principles for Planetary Health (PH) Education are outlined throughout the modules. The Planetary Health Alliance, made up of over 200 universities, non-governmental organizations, research institutes and government entities, published these cross-cutting principles to guide our learning about PH. Our online education exchange program's curriculum, however, hopes to go beyond just these principles to include more local and Indigenous perspectives. After all, the planetary health idea that human and environmental health are closely intertwined is not a new one — it has been around for centuries and forms the core of many Indigenous peoples' values! As such, we have also included in our curriculum relevant resources from various Indigenous communities so that we can uncover and address biases and gaps in our learning of Planetary Health.



Course Outline

Participants will have access to an online learning portal provided by Health In Harmony. The modules are structured to meet Lancet's Principles for Planetary Health Education through reading materials and resources, online trainings, and virtual trips to villages. Trainings will be given by planetary health education professionals. Interview videos will feature the experiences and expertise of various members of ASRI team and stakeholders in Indonesia. Participants will also be able to engage in discussion and reflection activities with one another and with the education exchange staff during the course of the program.

Modules:

1. Introduction to Planetary Health
2. Planetary Health in Indonesia
3. Radical Listening Methodology
4. Healthcare
5. Conservation
6. Education
7. Advocacy

This course is open to professionals, community and individuals from the field of healthcare, conservation, education as well as those interested in learning about planetary health more broadly.

Custom Programs: While the online program is designed to facilitate self-learning and can be taken at learners' own pace, Health in Harmony can assist institutions and universities in designing customized programs or courses for groups to enjoy facilitated discussions and experience the program within a fixed duration.



PH Principle: A Planetary Health Lens

“Many global challenges come into sharper focus when they are viewed with the idea of planetary health in mind.”

ASRI's transformative approach to human health provides participants with a better understand of crucial linkages, cause-effect relationships, and feedback loops between environmental change and human health. It allows them to recognize and explore how human stewardship of the Earth is a primary determinant of future population health



Medical Professionals

We have linked the Education Exchange Program to four of the six ACGME General Medical Competencies: Patient Care, Interpersonal Communication Skills, Medical Knowledge, and Systems Based Care.

1) Patient Care: Support patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

- Learn to assess social, economic, political and environmental/ecological determinants of health with individual patients and how structural issues can become barriers to health and health care delivery in West Kalimantan
- Learn to adapt one's clinical skills in a low-resource setting to provide quality care
- Understand the common presentations of prominent diseases in the region, their diagnoses, and treatment

2) Medical Knowledge: Demonstrate knowledge about established and evolving biomedical, clinical, and related (e.g. epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.

- Contextual understanding: lower-middle income country, history, socio-economics
- Learn the epidemiology of common disorders/diseases in the region
- Understanding ethics of the ASRI intervention, including Radical Listening and Community-Directed solutions design
- Self-directed language and culture learning

3) Interpersonal and Communication Skills: Demonstrate interpersonal and communication skills that result in effective information exchange and teaming with patients, patients' families, and professional associates.

- Communicate and work with patients from another culture and using another language
- Communicate and collaborate with an interprofessional team of global health colleagues

4) Systems-Based Practice: Residents must be able to demonstrate an awareness of and responsiveness to the larger context and system of health care and the ability to effectively call on system resources to provide care that is of optimal value.

- Learn about the Indonesian health care system
- Understand how economic, social, cultural, ecological and political factors (i.e., determinants of health) impact the diagnosis and treatment of health in the region, and how ASRI addresses these in its intervention model. Introduction to human-ecosystem health links, and ASRI's integrated health and conservation programming.
- Understand the HIH/ASRI model (integrated approach, health of humans and the natural systems that underpin it) and theoretical basis (Protected Area and Payment for Environmental Services)
- Understanding and exposure to theory of the field of Planetary Health



Global and Local Context

Progress in human health and poverty reduction in the 20th century was built on a foundation of earth's existing natural systems. Nutrition improved as people converted land for agriculture, and energy capacity grew as people dammed rivers and mined coal. Simultaneously, freshwater, forests, and fish were depleted. As humans pressured the environment to improve their own health and wellbeing, they destroyed earth's natural buffers against threats such as flooding and disease, undermining human health progress.

Successful efforts to improve human health came with increased carbon dioxide emissions, ocean acidification, tropical forest loss, and energy, water, and fertilizer use. The impacts of climate change are already undermining human health progress, particularly in poor communities. Current and expected climate- and weather-related health threats include flooding, droughts, and vector-borne diseases.

As the availability of legal sources of timber in the Indonesian forestry sector decline, protected areas such as national parks face increased pressure from illegal logging. Tens of millions of cubic meters are lost to illegal logging each year, costing the Indonesian economy between US \$1-5 billion annually in the form of lost royalties and national tax revenue, and the smuggling of merchantable timber. In addition to the loss of valuable environmental services, illegal logging generates illicit wealth that fuels social conflict and widespread corruption.

Gunung Palung National Park

Gunung Palung National Park (GPNP) is a 108,000 hectare protected area in West Kalimantan, Indonesia that hosts an estimated 2,500 orangutans and a number of other rare and endangered species, including gibbons, clouded leopards, palm civets, crested fireback pheasants, great argus pheasants, and eight species of hornbills. Considered by many to be the jewel in the crown of Indonesian national parks, its habitat range includes coastal forest, mangrove swamps, peat swamps, lowland rain forest, and montane forest. More than 60,000 people and 44 villages are supported by the park's watershed.

Illegal logging has severely degraded the park over the past several decades. Between 1988 and 2002, 38% of the park's lowlands and 70% of the 10-km buffer zone surrounding the park was deforested through intensive logging by timber concessions. In Kalimantan, these concessions often illegally expand beyond concession boundaries into protected areas. Even as logging concessions of the 1980s and 1990s expired, population growth and the expansion of palm oil reinforced pressure on the park, and an estimated 12,384 hectares were lost between 1992 and 2004 - 13% of the park's formally designated total area.



Timber concessionaires in GPNP were replaced in the 1990s by “community-based logging,” where local teams of community loggers exploited residual forest stands that were too heavily degraded for timber concessionaires to economically log. By the late 1990s, an estimated 80% of households obtained more than half of their cash income from logging.

Our program in Indonesia serves over 125,000 people in the communities surrounding Gunung Palung National Park. The diverse population is comprised of Malays (coastal peoples), Dayak tribes (indigenous forest peoples), and landless migrants from the islands of Java and Bali. In general, these communities live on \$1.44 per day, which is below the World Bank’s international line for extreme poverty. Women bear the brunt of the effects of poverty and are often not included in decision-making.

Sustained human health and wellbeing requires a planetary health approach. ASRI and HIH approach this global challenge through programs that recognize the linkages between human and environmental health. The impacts of climate change can be limited with immediate action.



**PH Principle:
Historical and current
global values**

An understanding of the local and global context is necessary to solve problems in the present. Our unique approach identifies opportunities for positive interventions by recognizing patterns and appreciating the local context.



Radical Listening

Radical Listening is the most important aspect of HIH's work. We believe that communities know the root causes, and therefore the solutions, to their social and environmental problems. We listen to their ideas and implement them. This is our approach and the foundation for ASRI's programs. This method allows us to see the intersection of health, environmental, and economic issues and address them effectively to protect earth's critical ecosystems.

Radical Listening can have a transformative impact on international development programs, conservation initiatives, or Corporate Social Responsibility (CSR) plans. Radical Listening is more than communication-- it's a unique approach to community engagement that generates win-win solutions.

Radical Listening is trusting community members to be the best solvers of their problems. It means facilitating community consensus about root causes and implementing their solutions. Radical Listening is not a one time intervention, but an iterative process that continuously improves programs over time. It offers a simple but holistic and effective approach to problems like poverty and environmental degradation. Through Radical Listening, communities will own, build, and sustain the solutions they design.

If scaled, these solutions can produce amazing results in human development, conservation, or CSR initiatives. In fact, we've seen great interest in our Radical Listening methodology around the world - recognized more and more for its application across public and private sectors and we are teaching clients all over the world how to practice radical listening with communities. You can learn more at www.radicallistening.org



Our Methodology

The intended outcome of this component of the course is to grow the impact of participants working on planetary health challenges, by focusing on how to facilitate community-designed solutions.

Our trainers will guide participants in exploring the theory and practice of Radical Listening, and participants will leave with the following skills:

- Organizing and conducting Radical Listening meetings,
- Practicing active listening,
- Navigating potential pitfalls,
- Consensus building methodologies for community-led programming
- Developing effective probing questions for their own organizations and interventions



PH Principle: Organizing and movement building

We believe that communities know the root causes and therefore the solutions to their social and environmental problems. Participants learn how Radical Listening can have a transformative impact on international development programs, and conservation initiatives.

Replication

Our work in Borneo has protected thousands of acres of critical habitat, kept tons of carbon in the ground, and saved lives. With less than 10 years left to halve human carbon emissions, rainforests play a critical role in the planet's future. Health In Harmony has a model of protecting these crucial ecosystems and carbon sinks in a way that improves the lives of previously marginalized communities. We believe we have an imperative to replicate this success in more tropical rainforests and ultimately scale it around the world.

In September 2018, we initiated work at Bukit Baka Bukit Raya National Park (BBBR), a 181,090 hectare protected area in West and Central Kalimantan that is an important orangutan translocation site. As in Gunung Palung National Park, vulnerable communities that live close to the rainforest participate in logging and hunting to pay for their basic needs, particularly healthcare, because they have limited alternatives to generate income.

We began work at BBBR with the provision of healthcare through monthly mobile clinics and the placement of two midwives in the local villages. We are now working to emphasize community health and focusing on conservation interventions, including alternative livelihood training, peer-to-peer training support, establishment of alternative payment methods for healthcare (including handicraft, seedlings, and manure), and development of seedling nurseries.

The expansion to BBBR is part of an effort to replicate and test our Planetary Health model. We hope to impact millions of people as we scale this approach, which conserves highly biodiverse rain forests that sink global carbon emissions from around the world and provide necessary habitat for endangered species like the orangutan.

We started replicating our model in Madagascar and the Brazilian Amazon.



Replication

Health In Harmony is starting new sites to protect more tropical rain forests, considered the lungs of our planet, improve health and economy for traditionally marginalized communities, and also to understand the key elements of this success so it can quickly be scaled around the world.

Participants will learn more about Health In Harmony's replication model and learn more about setting up a health care and conservation program. We will draw from our experiences at our first and second site at Gunung Palung National Park and Bukit Baka Bukit Raya (BBBR) in West Kalimantan, Indonesia. Further insights come from sites that were visited before the start of ASRI, candidate sites that have been evaluated for potential replication, our two new sites in Madagascar and Brazil, and the experiences of other organizations on similar journeys.

We will cover the following topics:

- Criteria for selecting a site and the process of selecting a site
- Context of our current sites
- The importance of setting up a Baseline Survey
- Root Causes Analysis
- Radical Listening
- How to set up healthcare and conservation programs
- The importance of organizational culture and team building
- The importance of building government relationships
- How to monitor and learn from mistakes



PH Principle: Urgency and Scale

The field of planetary health is driven by the scale of environmental change, its effects on human health, and the urgency with which the global population must respond. Participants will learn more about Health In Harmony's approach to replication and the complexity of interactions between the geographical scale, temporal scale, socioeconomic factors, and political and cultural context that shape specific challenges to and potential solutions for sustainable human health outcomes.



OUR PROGRAMS

Health In Harmony and ASRI work hand-in-hand. Health In Harmony leads the strategic direction, global focus, and growth priorities, while ASRI operates the Community Medical and Training Center, as well as conservation and alternative livelihood programs in Indonesia.

Health In Harmony's work includes monitoring and evaluation expertise, impact assessment and communication of ASRI's successes and outcomes, managing an exchange program that brings medical professionals and students to ASRI, and developing partnerships and fundraising.



ASRI Medical Center

In the 2006 Radical Listening meetings, accessible and affordable healthcare was the greatest need communities expressed and the biggest barrier they had to conserving the rainforest. The ASRI Medical Center was founded in 2007 with official support from the regional health department in order to reach the organization's vision – a healthy world community, where people are able to conserve forests, ecosystems, and water sources. ASRI is short for Alam Sehat Lestari, which means 'healthy nature everlasting' - the acronym, ASRI, itself means 'beautiful'.

By leveraging health care as a valuable resource, ASRI has developed strong relationships with its partner communities. Together, they developed programs that reflect both ASRI's conservation mission, and the needs of the individual communities.

Gunung Palung National Park was selected as a site because of its incredible rainforest conservation value, the high illegal logging threat, the government support, and the need for healthcare. Transportation by road or boat is possible to all the villages within one days travel (although staying over-night is required for the more remote villages). Access all the way around the park is important as it has meant that we can monitor logging in all the villages and not fear that a reduction in one area means an increase in another area.

The communities surrounding the park are ethnically and religiously diverse. Melayu, Dayaks, Javanese, Chinese, Madurese, Bugis, and Balinese live together, and practice Islam (90 percent), Christianity, Buddhism, and Hinduism. Approximately 103,000 people live in the main district.



In October 2016, the ASRI Medical Center moved from a small house to a larger, new building. The new building has space to treat more patients and to provide comprehensive medical services. While ASRI is currently functioning as an expanded clinic with inpatient and outpatient care, including midwifery and dentistry, the future hospital will include an X-ray machine, operating room, Intensive Care Unit (ICU), Newborn ICU, and isolation room.

ASRI provides quality care by treating not only the symptoms, but also their root causes of health challenges. ASRI's doctors understand their patients' medical and personal histories, and ensure that patients understand their illness from cause, to diagnosis, to treatment.

Effective communication with patients is a vital part of ASRI's work because the modern medical process can be confusing for families who receive care from traditional healers.

ASRI and Health In Harmony's core values include the interdependence of human and environmental health, respect, and capacity building, all of which are on display in the ASRI staff and culture. Conservation, healthcare, and general management staff all start their day together in an egalitarian morning meeting where everyone has the opportunity to share ideas and challenges. We know from practicing Radical Listening that effective solutions come when everyone has a voice, and we reflect this in daily interactions among staff, patients, and community members.

As a growing Medical Center, the facilities and resources to treat all patients are not always available. Sometimes patients need a treatment that ASRI cannot provide, but they cannot afford the treatment at another facility. ASRI is working to increase the number of services available for patients to meet their needs in a way they can afford without logging.

ASRI's conservation model is based on health care as an incentive. By providing high-quality healthcare, and non-cash payment options and discounts, ASRI is able to curb deforestation with collaboration from local communities.



**PH Principle:
Systems Thinking and Interdisciplinary Collaborations**

Transformative solutions to planetary health challenges are developed by collaborating across disciplines. The different programs at ASRI reflect the need to consider both the natural and social systems that contribute to human health outcomes.

The broad scope of planetary health calls for all of us to work together. To create solutions, we need to communicate across boundaries and analyze challenges comprehensively. You will collaborate with colleagues from a variety of fields including medicine, ecology, and business.



Non-cash Payment and Incentives

ASRI's non-cash payment option improves access to healthcare for people with limited economic resources.

Patients can pay for healthcare with goods such as woven mats and baskets, organic compost, seedlings, and labor in the organic garden.

These payments then drive the success of other programs; for example, seedlings are planted to reforest sites in the national park, and compost is used by farmers.

ASRI monitors deforestation indicators in the villages around the national park, and healthcare discounts are applied for people from villages with little to no logging. For example, people from logging-free villages receive a 70 percent discount.

ASRI CLINIC ACCEPTS PAYMENT IN THE FORM OF:

1 CASH =



2 NON-CASH PAYMENT METHODS =



HANDICRAFTS

SEEDLINGS

RICE HUSKS

ANIMAL MANURE

WORK





Professional Healthcare

Part of the problem communities identified in initial Radical Listening meetings was not just access and affordability of healthcare, but also its quality. If you could be seen by a doctor, you might not receive the correct diagnosis or treatment.

When we started the medical center, preventable and treatable diseases like malaria and tuberculosis were common and maternal and infant mortality rates were high. We addressed this by hiring smart, young, eager Indonesian doctors and creating a 6+ week professional exchange program with Western medical professionals - the Indonesian doctors learn diagnostic and treatment skills, while the visitors learn about tropical and low-resource medicine.

Today, infant and childhood mortality rates have improved, malaria and tuberculosis are effectively treated and disappearing, and disease indicators are declining.

Impact

Since the start of ASRI in 2007, over 75,000 patients have been treated. In 2022, ASRI received 10,600 patient visits and received over 21,655 seedlings of 42 different species in exchange for high-quality healthcare. Other forms of non-cash payment included handicrafts, livestock manure, and rice hulls which are used to amend the soil as organic compost.

Patients also paid for healthcare with handicrafts, livestock manure, and rice hulls which are used to amend the soil as organic compost, adding up to a total of \$6,866 worth of high-quality healthcare afforded with non-cash payments.

This program makes healthcare accessible to all, meaning people no longer need to log illegally to pay for their families' health needs.



Mobile Clinic

ASRI's mobile clinic provides basic healthcare to remote villages that have limited access to the medical center in Sukadana. The mobile clinic visits two villages once per month and our new site in Bukit Baka Bukit Raya National Park once every two months. As road conditions have improved, the travel time to the medical center in Sukadana has decreased, making it possible for more people to access the health center. The mobile clinic continues scheduled visits to Matan Jaya, Pangkalan Jihing, Cali and smaller villages nearby are served there.

Mobile clinics are set up in a neutral and practical space in the village, where community members feel welcome and comfortable, and there is access to a working generator. ASRI's visiting team includes a doctor, pharmacist, a nurse, and a driver.

Medical examinations and non-urgent treatments are available for patients at the mobile clinic, and a dentist is available upon request. The team brings small amounts of all of ASRI's medications in preparation for a variety of patients. It is not possible to bring heavy or expensive equipment such as an ultrasound or an inhalator, so patients needing further medical treatment are advised to make the trip to the medical center in Sukadana.

Non-cash payment options are available for patients, and those who choose to pay in seedlings can have ASRI's reforestation staff pick them up. ASRI conducts more than 800 patient visits per year with the mobile clinic.



Ambulance

The ambulance is an ASRI service that is available as like operational time. It serves as a patient shuttle to and from ASRI Medical Center for patients who have no vehicle or who live far away. It is also used to transport patients who are referred to another facility. The cost of the ambulance service is relatively low, and patients can use non-cash options for payment.

Laboratory

ASRI Medical Center has a laboratory that does basic tests such as routine blood tests, urinalysis, blood sugar checks, gram stains, malaria smears, TB tests, and other diagnostic tests. ASRI laboratory works with other health agencies in Kayong Utara.

Eyeglass Distribution

Eyeglasses are distributed to patients on the first Friday of each month. Patients are examined by the team of ASRI doctors and nurses prior to trying on the available glasses, collected and donated by elementary schools, religious communities, and other supporters around the world.

Family Planning

The Indonesian government has a family planning campaign that encourages families to have a maximum of two children, with the idea that smaller families are healthier and more prosperous. To help achieve these national objectives, ASRI Medical Center has offered free family planning services since 2009.

Family planning options include: pills, Depo Provera shots, condoms, and IUDs. These are all provided free of charge, by partnering with the health department and the national family planning campaign. Family planning services are offered at the ASRI Medical Center, as well as at mobile clinic services.



DOTS

Tuberculosis (TB) is a serious, communicable infection spread between people by coughing. There is effective treatment available, but it requires multiple antibiotics that must be taken over a period of months. If the antibiotics are taken inappropriately, the bacteria can become resistant, spread more uncontrollably, and in many cases, lead to the death of the infected person. Therefore, it is critical to both the health of the patient and the community that patients receive proper treatment.

ASRI's DOTS (Directly Observed Treatment, Short-course) workers travel by motorbike to visit patients regularly in their homes and support them throughout the course of the treatment. Their relationship with the patient is vital, especially in rural villages where the understanding of illness and treatment can be limited. They ensure that the medication is taken correctly and that the treatment is completed, and answer patient questions and concerns.

Before the DOTS program, the dropout rate for TB patients was 50%. For the last several years, ASRI has maintained a drop-out rate of less than 2%. This is remarkable for Indonesia, which has one of the highest rates of TB in the world.

Immunizations

ASRI offers immunizations on the third Friday of each month. Immunizations are free through our partnership with the Kayong Utara Health Department. ASRI Medical Center reports data to the health department, who reports it to the Ministry of Health. Our immunization program aims to reduce the mortality rate of mothers, infants, and children under 5. Some of the diseases that can be prevented by immunizations are TB, diphtheria, pertussis, measles, tetanus, and Hepatitis B.

Health Education

ASRI Medical Center emphasizes educational programming as part of its primary care services. Each day, educational lessons are delivered by doctors and nurses. We also provide community-based education sessions in sub-villages around the park, where we discuss the connections between health and the environment. In addition ASRI educates every patient about their conditions and their treatment.



Conservation Programs

Reforestation

ASRI's Reforestation Program aims to raise communities' awareness about the importance of the forest. The program also increases buy-in from communities, so they will participate in reforesting the degraded areas in the national park and then protecting them from clearcutting. Reforestation sites include Laman Satong, Sedahan Jaya, Harapan Mulia, Gunung Sembilan, and a mini forest behind ASRI's health center building. There are some method we used, first is Accelerated Natural Regeneration, this method requires little labor, is low cost, and uses traditional reforestation methods. Second is Framework Species Method, this method can assist in restoring biodiversity, habitat structure, and ecosystem functions that have been disrupted and the last is Agroforestry, this method involves planting trees or woody perennials alongside agricultural crops or grazing livestock

Control plots at our reforestation sites are choked by grasses and weeds, whereas the reforested sections are re-growing several species of trees and are now home to birds, primates, and more rain forest biodiversity. Over the last decade, we have seen 20,000 hectares of forest regrowth.

Nursery

In support of large-scale reforestation efforts, Asri has established a structured seedling care system within nurseries. To bolster this program, Asri has set up no fewer than six nurseries designed to nurture the backbone of reforestation - the seedlings. These nurseries are categorized into three types: permanent, semi-permanent, and field/temporary nurseries.

Each nursery serves as a strategic hub for caring for the seedlings crucial for reforestation activities.

These seedlings are sourced from various places, such as other nurseries, community responses, community participation, and even harvested from forests or natural environments. Asri also utilizes environmentally friendly polybags as containers for planting the majority of seedlings, contributing to efforts in reducing plastic waste.



Beyond being sites for nurturing seedlings, these nurseries also function as centers for education and training for surrounding communities, emphasizing the importance of reforestation and environmental protection. Asri not only focuses on the reforestation aspect but also on fostering broader environmental awareness among the public.

With a commitment to caring for and planting these seedlings, Asri hopes to make a significant contribution to regenerating degraded areas and protecting natural ecosystems. Through these efforts, Asri aims to engage more stakeholders in preserving environmental sustainability and delivering lasting benefits to local communities and the entire ecosystem.

Deforestation monitoring and Forest Guardian

Deforestation Monitoring Program aims to gather information about activities that cause environmental destruction such as illegal logging activities in GPNP, new illegal logging access points, and slash-and-burn agriculture. ASRI employs a monitor to visit every village quarterly and determine their discount status based on these indicators.

The monitor partners with GPNP rangers and ASRI's Forest Guardians. ASRI employs 35 Forest Guardians distributed across 35 sub-villages in 16 villages. The Forest Guardians support monitoring, work individually to transition loggers to more sustainable livelihoods, and act as ambassadors and liaisons for the ASRI medical center and their other conservation programs. In 2022, the Forest Guardians reached over 10,000 people in surrounding communities.



Outreach & Education

There are two divisions within the health and conservation education program: the Community Education Program and the ASRI Kids and ASRI Teens Programs. Community education sessions are usually delivered to patients in the waiting room twice a week and through community education nights in the surrounding villages. Topics include the connection of human health and the environment, ASRI payment options, public health and hygiene (such as smoking cessation and toothbrushing), and general information about ASRI's programs.

ASRI Kids and ASRI Teens are after-school programs that educate young people about health and conservation. ASRI Kids targets 10-11 year olds, and ASRI Teens targets teenagers. This program works in schools in the vicinity of Gunung Palung National Park (GPNP).

ASRI Kids

ASRI Kids is a conservation education program that empowers youth to take pride in their rainforest and gain awareness of the threats it faces. Over time, ASRI Kids has expanded to 39 primary schools with a curriculum covering biodiversity, coral reef and mangrove habitats, threats to the rainforest, organic and nonorganic trash, and nutrition. The kids also go on a field trip to visit ASRI's Organic Garden, and learn how to make recycled paper and organic compost.

ASRI Teens

When the first ASRI Kids session ended in 2012 and plans were made to expand the program, a group of ASRI Kids graduates wanted to stay involved. They helped ASRI prepare teaching materials and supported teaching in new schools. In 2015, the group started ASRI Teens. In exchange for helping with ASRI Kids and getting involved in other ASRI projects, ASRI helps the teens organize field trips to local conservation and ecological sites.



PH Principle: Communication

Effective and meaningful translation of planetary health science across different disciplines, sectors, geographical regions, cultures, and scales. Through ASRI's community education programs participants will learn how to effectively communicate planetary health science.



Training for teacher

ASRI Kids is a conservation education program that empowers youth to take pride in their rainforest and gain awareness of the threats it faces. Over time, ASRI Kids has expanded to 39 primary schools with a curriculum covering biodiversity, coral reef and mangrove habitats, threats to the rainforest, organic and nonorganic trash, and nutrition. The kids also go on a field trip to visit ASRI's Organic Garden, and learn how to make recycled paper and organic compost.

PH lecture

The Planetary Health Lecture (PH Lecture) aims to educate students at Indonesian universities about the concept of planetary health and showcases ASRI as a practical model for implementing planetary health principles. Additionally, the sessions encourage students to brainstorm and consider practical actions they can undertake to promote planetary health in their daily lives.

Community outreach education

The village outreach program is an initiative aimed at raising awareness among the local community around TNGP (Taman Nasional Gunung Palung) about the interconnection between human health and the environment. The activities conducted encompass film screenings, presentation of educational materials, and quizzes. These educational endeavors are carried out through collaboration between the education team and the health team.

Aside from enlightening the community about the correlation between environmental health and human health, the education team also disseminates information regarding ASRI's programs.





Alternative Livelihood Programs

ASRI's Alternative Livelihoods Programs are a solution for creating productive, sustainable work opportunities for the communities living near Gunung Palung National Park (GPNP) and stem from the direct request of communities in Radical Listening meetings.

These programs are designed to reduce illegal logging activities in GPNP. They involve ex-loggers and their wives, farmers, housewives, and widows. The aims are to increase participants' income, manage expenses, and improve household financial management so that people do not need to extract resources from the forest.

Sustainable Agriculture

Organic Farming

Organic farming is an affordable way to make a living because commercial fertilizers and pesticides are not required. Advances in organic farming technology have improved soil quality and yields.

ASRI's Organic Farming program began in 2009 with ten groups of 15-30 farmers. Through the program, participants learn about the needs of the plants they are growing, and create their own fertilizers with natural ingredients. This gives value to organic waste, and the manure of community livestock. Together, the groups prepared their collaborative farms, and created ten new organic gardens. In recent years, the program has grown to 12 active groups, with the original 10 acting as senior leaders, and assisting with marketing and guidance for newer groups.



Organic Garden

In January 2017, ASRI opened an organic garden behind the new health center building. The ASRI garden serves as a learning and training center for farmers, community members, and students who visit. In its first seven months, the garden welcomed over 300 visitors, and seven interns from vocational agriculture schools and a local university. Students from the ASRI Kids and ASRI Teens programs also visit the garden to learn from staff and help with the planting. The harvests from the garden are used by both the community and cooks at the clinic. Local vegetables and rice allow the community to sustain themselves, while reducing their dependency on products from Java and large-scale commercial farms.

Kitchen Gardens

ASRI's Kitchen Gardens program addresses the limited availability of local produce in partner villages, where many families rely on produce imported from Java and large commercial farms. The program addresses this challenge, while also giving women economic security and control over their family's nutrition by providing access to the healthy foods they want, including eggplants, cucumbers, and chili peppers.

In participating villages, groups of women are trained by ASRI staff in organic farming and nutrition. They learn to make organic fertilizers and plant vegetable gardens with polybags and seeds. When women have the tools to start their own gardens, they can support themselves and their families with the income generated, and supply local produce to their families and community. The success is trending. As more community members show interest in planting their own gardens, women are selling their mature plants, and gardens are popping up throughout the village. Women in other villages are also requesting the training from ASRI.



Agro Ecosystems

One of ASRI's sustainable agriculture priorities is ensuring that farmers working within the program are conscious of farming's impact on the surrounding environment. ASRI's partner farmers understand the importance of the organic model as a way to cultivate healthy farming practices that support biodiversity without compromising agricultural yields. For example, farmers learn to make a natural pesticide, which repels, rather than poisons targeted species. In certain areas, ASRI has partnered with the National Park and communities to transition illegal gardens into agroforestry projects that regrow the forest with native species, while also allowing individuals to maintain income from forest products such as fruit.





Goats for Widows

In villages around Sukadana, widows often depend on relatives to support themselves and their children. Traditionally, in rural Borneo, wives whose husbands have died are left with few options for making a living.

One of ASRI's oldest conservation programs establishes an alternative source of income for these women by providing them with goats, as well as a training course and ongoing support on caring for and breeding the goats, and delivering newborns. This empowers these women and give them economic independence.

Each widow receives a female goat and shares with their community a male goat for breeding. The first offspring is returned to ASRI and given to another widow in the program; additional offspring are kept. Once the widow is established with male and female goats of her own, the goats become a source of food and income - she can then sell the animals and their manure.

In 2022, ASRI monitoring 106 widows in Sukadana, 24 goats were sold and 21 widows were able to pay for their daily economic needs through the health program. 52% of the widows paid their goat back to ASRI.

PH Principle: Inequality and Inequity

An individual's vulnerability to the human health impacts of climate change is determined by factors such as socioeconomic status, politics, culture, and geography. Equality and equity are fundamental components of planetary health, and should be integrated in solutions.

The Alternative Livelihood programs and Goats for Widows Program address unequal access to resources address gender inequality by distributing resources in a gender-responsive way.



Chainsaw Buyback Program

In 2017, when the number of loggers was down to approximately 150, ASRI launched a new business development program called Chainsaw Buyback to help those remaining loggers find a livelihood other than illegal timber. These loggers often do not own land, just their chainsaws, so switching to agriculture through the organic farming program is not feasible. This is how the Chainsaw Buyback works: in exchange for their chainsaws, loggers and their families receive seed money, mentoring, and business planning assistance from ASRI staff. They get everything they need to successfully transition to small business entrepreneurship.

In total, ASRI purchased 279 chainsaws from former loggers (2022)—a success for primary forests, as loggers reported cutting an average of 274 old-growth trees per year. This is also a win for the families as logging work is dangerous, difficult, intermittent, and remote. Of these former loggers, 76% have already begun loan repayments. 53% of the small businesses started by former logging households are still running. So far, the program has saved 42,933 old-growth trees. 88 active (monitor every month)

“ [Loggers] are used to turning around a quick profit by cutting down a tree in the morning and selling it in the afternoon. For many loggers, giving up their source of livelihood is daunting, so bringing awareness about the larger effects of logging is essential.

- Pak Agus, Chainsaw Buyback Program Coordinator

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PH Principles: Historical and current global values

An understanding of the local and global context is necessary to solve problems in the present. Our unique approach identifies opportunities for positive interventions by recognizing patterns and appreciating the local context.



Organizing and movement building

We believe that communities know the root causes and therefore the solutions to their social and environmental problems. Participants learn how Radical Listening can have a transformative impact on international development programs, and conservation initiatives.

Inequality and Inequity

An individual's vulnerability to the human health impacts of climate change is determined by factors such as socioeconomic status, politics, culture, and geography. Equality and equity are fundamental components of planetary health, and should be integrated in solutions.



Communication

Effective and meaningful translation of planetary health science across different disciplines, sectors, geographical regions, cultures, and scales. Through ASRI's community education programs participants will learn how to effectively communicate planetary health science.



Healthy People. Healthy Forests. Healthy Planet.

By offering a Planetary Health Education Program for students and professionals from a wide variety of backgrounds, we hope to create a movement of planetary health change-makers. By recognizing the importance of a wider systemic change, we aim to encourage planetary health activism at local, national and international scales.

Our goal is to equip participants with the knowledge and tools to integrate planetary health in their own profession and that they feel empowered to take action and create a plan of ongoing planetary health advocacy and action.

*"Join us in safeguarding our health and that of our future generations" -
A call for clinicians to act on planetary health, The Lancet, Earth Day, 2019*