

66. HEALTH IN HARMONY: PLANETARY HEALTH APPROACH

ACTION AREA	UNIVERSAL FOOD ACCESS TO BUILD RESILIENCE
SOLUTION CLUSTER	ETHICAL DEVELOPMENT PATHWAYS
THEMATIC AREA	ETHICAL DEVELOPMENT PATHWAYS
SUBMITTED BY	HEALTH IN HARMONY

HEALTH IN HARMONY

Health In Harmony is an international nonprofit founded in 2007, dedicated to reversing deforestation of tropical rainforests to address the climate crisis. Humanity must halve atmospheric carbon by 2030 (IPCC, 2018). We are committed to making a significant contribution to this drawdown.

Our planetary health programs are focused in rainforests in Indonesia, Madagascar, and Brazil. Our teams are staffed 100% by Indonesians, Malagasy, and Brazilians, respectively. Our work is deeply rooted in data, monitoring, and evaluation.

MODEL AND APPROACH: HUMAN AND ECOSYSTEM WELLBEING

Using the innovative anti-colonial process of Radical Listening, we are guided by the experts - rainforest communities - who design solutions to local deforestation, which we then invest in. These experts design integrated solutions necessary to stop deforestation, address chronic hunger, and support a planetary health approach to living in balance with the ecosystems they steward. Community-designed interventions address the intersectional drivers of local deforestation.

When asked, what do you need as a 'thank you' from the world to protect this precious rainforest that we all benefit from? Communities surrounding Manombo Special Reserve in Madagascar requested access to high-quality primary healthcare with a focus on maternal and infant health, subsistence livelihood support through rice cultivation agriculture and agroforestry, support in making this transition through food for work programs, and educational support for their communities.

MANOMBO RESERVE, SOUTHEAST MADAGASCAR

Some of the world's most fascinating and complex flora and fauna thrive in the island-nation's dynamic ecosystem - one that remained isolated from the rest of the world for 88 million years. In Madagascar, 85% of plant species, 90% of mammals and reptiles, 99% of amphibians, and all lemurs, the island's iconic primate, are endemic (Harper et al., 2007). However, Madagascar's ecosystems are under increasing duress due to the complex pressures of poverty, an expected doubling of the population by 2050, and widespread food insecurity. Nearly half the island's forests have been lost in the last six decades, and half of the remaining forest is within 100 meters of an edge, making it incredibly vulnerable to further degradation (Vieilledent et al 2018). The rate of forest loss is accelerating (NASA Land Cover/Land-Use Change Program). As a result of human-induced habitat destruction, 95% of lemur species are at risk of extinction, making them the most threatened mammals on earth (IUCN, 2018).

Human and ecosystem health are inextricably linked. Nowhere is this more evident than Madagascar where a lack of access to high-quality, affordable healthcare and chronic food insecurity give communities little choice, but degrade the rainforest. Degraded forests in turn directly contribute to ill health in multiple, intersecting ways.

Madagascar ranks very low on the Human Development Index, at 162nd out of 188 countries (UNDP 2020), and it consistently ranks in the top 10 most climate-vulnerable countries (USAID 2020). An estimated 75% of the Malagasy population experiences extreme poverty, living on less than \$1.90 per day. Hunger is a persistent problem; 42% of children under the age of five suffer from stunting, and 42% of the population is undernourished (Global Hunger Index, 2020). Food stability is threatened by worsening droughts, cyclones that are increasing in severity, and the loss of forest and marine resources. The Manombo region in southeastern Madagascar recently experienced a near-famine hunger emergency due to a three-year drought followed by Cyclone Enawo in March 2017, the most destructive cyclone to hit Madagascar since 2004 (ReliefWeb, 2017).

INTEGRATED DESIGN: A PLANETARY HEALTH APPROACH TO HUMAN AND ECOSYSTEM WELLBEING

Our work in the Manombo Special Reserve with approximately 8,600 community members in 31 villages will protect a critical, highly biodiverse ecosystem to prevent species extinction, reverse forest loss, and improve human health and livelihood outcomes. Manombo's Malagasy communities designed an integrated intervention linking much-needed basic primary healthcare to food security and training to enhance subsistence livelihoods, specifically through system of rice intensification (SRI) of fast-growing varieties of rice and investments in agroforestry.

Healthcare services are coordinated with the national and regional Ministry of Health and directly support the health system's capacity and resources. The goal of our medical teams is to provide high-quality accessible care directly in rainforest communities to improve health and wellbeing. Patients can pay for healthcare with non-cash means, such as labor or seedlings (used in reforestation and agroforestry). Communities receive a discount for their healthcare based on how much their communities are extracting from, logging, and hunting in the rainforest. This incentive system motivates communities to protect the forest.

To address short and long-term wellbeing, we work alongside communities to strengthen food-system resilience. Communities seek to shift away from slash and burn (tavy) agriculture to enhance land-use and minimize deforestation and forest fires. Climate-induced vulnerability also challenges this transition as cyclone season is followed by a lean (or hunger) season, exacerbated by rising temperatures and unpredictable rainy seasons.

A focus on maintaining and enhancing crop variety to support diversified diets and integrating climate resilient crops and crop management will lead to higher yield agriculture and nutrient-dense diets. Communities have placed an emphasis on plant-based interventions.

Community-based reforestation and agriculture interventions incorporate diverse native and novel species to support biodiversity and agroforestry, respectively. This approach promotes ecosystem heterogeneity that supports the wellbeing of rainforest species, particularly charismatic megafauna such as lemurs. Organic fertilizers and pesticides are used in tandem with agrobiodiversity to support resilience.

Intensive community-supported agriculture and reforestation requires more human input and skill development, meaning more people, more jobs, and better outcomes for plant and tree survival due to enhanced monitoring and cultivation. There are also nuanced behavior changes that must be made to support proliferation of these interventions. Community members tend to travel during the lean season, looking for food and money, but these intensive interventions require more tending and cultivation, requiring community members to stay in their villages. Incentives (cash and food-for-work) can be used to support the short-term basic needs they require, while transitioning to long-term improvement of the forest, watershed, biodiversity, and crop yields.

Educational support is provided through training, school infrastructure, and materials using a planetary health approach that appreciates and works at the interconnection of human and environmental wellbeing. Health clinics provide education on forest integrity and how this influences malaria rates, diet, and other wellbeing indicators. In communities like Manombo, awareness of this interconnection is often shared through traditional and oral history and deeply appreciated, but compromised by the crush of poverty and lack of access to basic needs.

COVID-19 IS THE SYMPTOM OF A SICK PLANET; PLANETARY HEALTH IS THE CURE

Intensifying community-designed planetary health interventions during the Covid-19 pandemic has enhanced community resilience and prepared people for the future shocks of climate change. We have not just focused on an emergency infectious disease response for communities, but have also invested in a stimulus package for the rainforests to ensure tandem wellbeing and resilience. Increasing food security will have both environmental and human health impacts. Reforestation will decrease zoonotic transfer of diseases and improve ecosystem integrity, which will support human health.

LISTENING TO COMMUNITIES AND RESPONDING TO THEIR REQUESTS WORKS

Rainforest communities are inextricably linked to the forests they steward. Responding precisely to their holistic and integrated solutions for forest regeneration leads to improved human and ecosystem wellbeing. Global reciprocity is an essential aspect of this response as traditional, local, and Indigenous communities protect the remarkable biodiversity, ancient forests, and unique species that benefit us all.