Schist-On-Site™ & Lept-On-Site™

HeaRTNovation
DOST-PCHRD INNOVATION PORTFOLIO

THE PROBLEM

Schistosomiasis and Leptospirosis are pressing public health challenges in the Philippines, deeply affecting the lives of those in rural and underserved communities. These diseases, shaped by environmental and socio-economic factors, continue to threaten the health and well- being of countless Filipinos. In regions with poor sanitation, Schistosomiasis often leads to serious complications like liver damage, while Leptospirosis, worsened by the frequent typhoons and floods, puts many, especially in urban poor areas, at risk of severe illness, including kidney failure and even death. One critical aspect that needs emphasis is the importance of early detection of suspected *Schistosoma japonicum* cercariae and pathogenic *Leptospira spp.* in environmental and flood waters through advanced early warning systems for disease outbreaks. Early detection enables proactive intervention and supports the Department of Health (DOH) in disease surveillance. Currently, there is a lack of advanced technology capable of effectively addressing this critical need. The ongoing struggle against these diseases highlights the urgent need for comprehensive prevention measures.

THE SOLUTION

To tackle the ongoing challenges of Leptospirosis and Schistosomiasis in the Philippines, the Central Luzon State University, under the leadership of Dr. Rubigilda Paraguison-Alili, has developed rapid on-site test kits named Schist-On-Site™ and Lept-On-Site™. These innovative biosensors employ an advanced isothermal amplification-based detection system to accurately identify pathogenic strains of *S. japonicum and Leptospira spp.* in environmental and flood waters. These cutting-edge technologies are integral to the broader control and management programs led by the Department of Health (DOH). While not standalone solutions, they represent a significant improvement over the conventional surveillance methods, offering a simplified, field-ready option that delivers precise results in just 10-15 minutes.

TECHNOLOGY GENERATOR

Central Luzon State University
Project Leader: Rubigilda Paraguison-Alili, Ph.D.

TECHNOLOGY DEVELOPMENT

The technology is currently at Technology Readiness Level (TRL) 7. The research team is currently working on the pilot testing and field validation of Schist-On-Site and Lept-On-Site.

The technology owner is seeking strategic partnerships to first pursue validation and ultimately identify technology adopters. Interested parties may send letters of intent to contact details provided below.

Interested technology adopters may send a letter of intent addressed to:

Central Luzon State University – Agriculture and Food Technology Business Incubator (CLSU-AFTBI)
Science City of Muñoz, Nueva Ecija
clsuaftbi@clsu.edu.ph