Subject: China-Philippines Schistosomiasis Joint Research Collaboration

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This letter formalizes our mutual understanding regarding the proposed collaborative research project focused on *Schistosoma japonicum* (*S. japonicum*) comparative study between China and the Philippines, building upon the prior grassroots social-practice work of the Tongji Medical College School of Basic Medicine Schistosomiasis Research and Social Practice Team. Our institutions will combine resources and expertise to produce groundbreaking research with significant outputs for schistosomiasis control in the Western Pacific Region.

China has accumulated decades-long on-the-ground experience advancing from morbidity control toward national schistosomiasis elimination, including integrated One Health interventions, digital surveillance tools for intermediate-host snails, community-oriented health education, as well as South-South cooperation experience from the China—Tanzania schistosomiasis aid program. The Philippines faces persistent *S. japonicum* endemicity within complex socio-ecological settings, with solid front-line experience in mass drug administration and community engagement in Eastern Visayas. Our joint work intends to bridge implementation gaps by cross-comparing control strategies, diagnostic workflows, zoonotic reservoir management and community intervention models from both contexts.

Professor Jiahui Lei's research group from the Department of Pathogen Biology, School of Basic Medicine, Tongji Medical College will lead the Chinese side of this partnership. Our team will deliver comparative epidemiological and implementation analysis between the two national schistosomiasis control systems. Our team will also share practical know-how built from domestic grassroots field investigations, laboratory maintenance of snail hosts, digital monitoring platform trials, and youth-led community health outreach.

Intellectual property arising from joint discoveries, innovations and research outputs shall be shared proportionally in accordance with each collaborating institution's actual contribution. All peer-reviewed publications derived from this collaboration require prior consensus among all partner representatives.

Bi-monthly progress meeting will be held virtually for core team representatives, to track project milestones, resolve implementation obstacles, coordinate exchange arrangements, and align activities with WHO 2030 Neglected Tropical Diseases Roadmap targets.

This collaboration advances both institutions' academic and public-health mission. It translates real-world field experience into collaborative solutions for persistent zoonotic neglected tropical

disease threats across the Western Pacific. while addressing critical microbiology and public health challenges. Your formal confirmation will enable us to begin the formal approval process with our respective research teams for the attached Memorandum of Agreement among the three partners.

Sincerely,

Professor Jiahui Lei
Department of Pathogen Biology, School of Basic Medicine, Tongji Medical College, Huazhong University of Science and Technology (HUST)

MEMORANDUM OF AGREEMENT

for Academic Collaboration China-Philippines *Schistosoma japonicum* Research & Control

Effective Date: XX September 2026

This Memorandum of Agreement (MOA) sets forth the terms of collaborative academic and public-health cooperation, built upon prior grassroots social-practice investigations conducted by the Tongji Medical College schistosomiasis social-practice research team. It is not a legally-binding commercial contract; it represents a statement of mutual intent for joint research, capacity-building and health promotion activities.

1. Introduction

This Memorandum prepared on XX September 2026 among,

Partner A (Chinese Lead Party): Research Team, Department of Pathogen Biology, School of Basic Medicine, Tongji Medical College, Huazhong University of Science and Technology, represented by Prof. Jiahui Lei (hereinafter "Partner A");

Partner B (Philippine Government Implementing Party): Center for Health Development, Department of Health-Eastern Visayas, Republic of the Philippines, represented by [Designated Representative] (hereinafter "Partner B");

Partner C (Philippine Academic Party): University of the Philippines Manila-School of Health Sciences (UPM-SHS), Palo, Leyte, represented by Assistant Professor Charlie Falguera (hereinafter "Partner C");

Collectively referred to as the "Partners".

The Partners intend to cooperate on research, academic exchange, capacity-building and community-oriented schistosomiasis prevention work. All activities shall be performed in compliance with respective national regulations, research ethics requirements, institutional policies, and the clauses contained within this Memorandum.

2. Rationale

Schistosomiasis japonica, caused by the blood fluke *Schistosoma japonicum* (*S. japonicum*), remains a high-burden zoonotic Neglected Tropical Disease (NTD) in both the Philippines and China. China has achieved major public-health milestones, progressing from morbidity control through transmission-interruption towards national elimination, accumulating field-validated experience including One-Health integrated governance, digital snail-surveillance systems, multi-sector joint prevention, community-led health education, as well as South-South cooperation lessons from China—Tanzania schistosomiasis assistance projects.

The Eastern Visayas region of the Philippines remains an endemic hotspot for *S. japonicum*, shaped by complex socio-ecological landscapes. Local programs rely heavily on Mass Drug Administration (MDA), while facing persistent challenges including zoonotic reservoir hosts (cattle, pigs, dogs), favorable snail-breeding environments, diagnostic limitations, and constraints on cross-sector coordination.

While the two countries sit at different epidemiological stages of schistosomiasis control, they share core challenges: persistent intermediate-host snail habitats, animal-driven zoonotic transmission gaps, and demand for improved, field-adapted diagnostic tools.

This bilateral comparative collaboration seeks to bridge implementation gaps: combining China's practical elimination-oriented know-how with the Philippines' rich on-site field experience across diverse endemic ecosystems. The Partners aim to build synergies and accelerate progress toward sustainable schistosomiasis control and elimination across the Western Pacific Region, aligned with the WHO 2030 NTD Roadmap.

3. Objectives and Scope of Collaboration

The purpose of this Memorandum is to enable joint research, academic exchange, capacity-building and community-health promotion activities. The primary objective is to conduct comparative joint research on schistosomiasis control between China and the Philippines. Specific workstreams are listed below:

3.1. Preventive Control Strategy Comparative Research

3.1.1. Compare and evaluate historical and current national schistosomiasis control strategies. Contrast China's integrated multi-sector-oriented elimination approach with the Philippines' MDA based endemic management approach.

3.1.2. Document lessons from China's grassroots practice: drone-AI snail monitoring, cross-regional joint-prevention mechanisms, and school-family "Small-Hands-Holding-Big-Hands" health education models; identify elements suitable for local adaptation in Philippine endemic settings.

3.2. Diagnosis, Clinical Management and Treatment Evaluation

3.2.1. Evaluate practical limitations of existing diagnostics protocols by comparative analysis of conventional parasitological methods (e.g., Kato-Katz technique), and field-friendly molecular diagnostic tools (e.g. RAA).

3.2.2. Review China's community-oriented mass-screening experience, identify opportunities for pilot application within Philippine project sites.

3.2.3. Characterize clinical profiles of schistosomiasis patients in Eastern Visayas project communities; assess praziquantel real-world effectiveness and monitor signals of potential drug tolerance or resistance.

3.2.4. Document manifestations across early-to-advanced schistosomiasis complications; support joint clinical immersion exchanges to share best-practice for managing chronic and late-stage schistosomiasis cases.

3.3. One Health Framework Integration Research

3.3.1. Apply a holistic One Health analytical framework integrating human health, animal reservoir hosts, and environmental risk factor to address zoonotic transmission.

3.3.2. Investigate human-animal transmission dynamics at Philippine community level to develop integrated interventions targeting both human and livestock reservoirs.

3.4. Expected Outcomes

3.4.1. Generate evidence-based, context-adaptable actionable policy recommendations for integrated schistosomiasis prevention and control.

3.4.2. Produce joint academic outputs including manuscripts, workshop reports and technical briefs.

3.4.3. Build bilateral youth-and-expert exchange mechanisms for parasitology and NTD control.

3.4.4. Contribute implementation evidence supporting the WHO 2030 NTD roadmap and establish a sustainable model for long-term bilateral public health and environmental cooperation.

4. Identification of Partners & Official Contact Information

4.1. Partner A (China Lead)

Professor Jiahui Lei

Department of Pathogen Biology, School of Basic Medicine, Tongji Medical College, Huazhong University of Science and Technology

Wuhan 430030, Hubei, China

Email: leijiahui@hust.edu.cn

4.2. Partner B (Philippine Health Government Agency)

Hygeia Grace Agosto

Center for Health Development, Department of Health - Eastern Visayas, Philippines

Email: hygeia.agosto@ro8.doh.gov.ph

4.3. Partner C (Philippine Academic Institution)

Assistant Professor Charlie Falguera

Midwifery Department, University of the Philippines Manila School of Health Sciences (UPM-SHS), Palo, Leyte, Philippines

Email: ccfalguera@up.edu.ph

5. Areas of Collaboration

The Partners agree to collaborate on *S. japonicum* research, prevention-control, and elimination strategy and capacity-building through the following specific areas:

5.1. Research & Development

5.1.1. **Laboratory & Site Immersion Initiatives.** Conducting bilateral dry-lab (data analysis, bioinformatics, statistical modelling) and wet-lab (parasitology experiments, molecular diagnostics) exchange activities between Chinese and Philippine institutions, under the

guidance and coordination of Partners.

5.1.2. **Epidemiological Field Studies**. Joint research on transmission dynamics, intermediate host snail ecology, and zoonotic reservoirs. Conducting joint surveys and human prevalence mapping at the grassroots level to identify hotspots within Philippine project communities.

5.1.3. **Clinical Practice & Evidence.** Conducting observational studies on *S. japonicum*-infected patients in Philippine endemic sites

5.2. Academic Exchanges

5.2.1. **Joint Webinars & Workshops.** Organizing joint webinars and workshops between involved collaborating institutions covering local epidemiological updates**,** clinical practices, environmental maintenance and control, and prevention strategies for schistosomiasis. Include participation from students, front-line health staff and researchers.

5.2.2. **Expert Think-Tank Meetings.** Convening joint expert panels to discuss current research agendas for the collaboration, aligned to global WHO 2030 (NTDs) and bilateral public-health priorities

5.3. Health Promotion & Community Awareness

5.3.1. **Specialized Health Education Seminars.** Short online webinars for medical and health-allied students, professionals, and researchers of either collaborating institutions.

5.3.2. **Community Health Communication.** Co-design cultural bilingual/multilingual (Filipino/English/Mandarin) health communication campaigns, targeting endemic communities in the Philippines.

5.3.3. **Joint Educational Digital Resources.** Joint development of open-access educational website (including images, videos, and infographics) to combat misinformation, promote health awareness and preventive behaviors of endemic communities.

6. Roles and Responsibilities

6.1. Partner A

6.1.1. **Project Coordination.** Serves as the Chinese-side leading institution to coordinate, manage research and academic projects.

6.1.2. **Personnel** Deployment**.** Designate Chinese principal investigators, technical experts, and research fellows to support joint research, analysis and exchange events.

6.1.3. **Capacity Building.** Joint-lead the training of Philippine counterparts in advanced parasitological techniques, data science, and molecular diagnostics, and digital surveillance tool application.

6.2. Partner B

6.2.1. **Local Coordination & Logistics.** Serve as the primary liaison for Philippine local government units (LGUs), obtain necessary ethical approvals (e.g., PHREB clearance), and coordinate fieldwork logistics in endemic Philippine communities.

6.2.2. **Field-Data Collection.** Lead the on-site epidemiological surveys, clinical sample collection, and community-based intervention implementation within Philippine project sites.

6.2.3. **Local-Personnel Assignment.** Designate local investigators, community health workers,

and field researchers to execute the collaboration.

6.3. Partner C

6.3.1. Academic & Research Support. Provide support in academic and research project, including manuscript writing, data curation and analysis, and local validation.

6.3.2. Local Coordination & Logistics. Assist Partner B with LGUs coordination, obtain necessary ethical clearances, and coordinate fieldwork logistics in endemic Philippine communities.

6.3.3. Personnel Deployment. Designate research assistants, community health workers, and field researchers to execute the collaboration.

6.4. Joint Responsibilities

6.4.1. Bi-monthly Virtual Progress Meetings. All Partner representatives would meet twice every month to discuss progress of involved projects under the collaboration.

6.4.2. Ethical Compliance. Ensure all human‑subject and animal‑related research activities strictly follow each respective institution's ethics review rules and national regulatory requirements. No human-sample or animal-sample cross-border transfer shall proceed without separate formal regulatory approval.

6.4.3. Communication. Maintain timely information sharing; promptly notify other partners of risks, delays or changes affecting planned joint-activities.

7. Project Timeline& Milestones

Phase	Timeframe	Key Milestones
Phase 1: **Project Setup & Preparation**	October 2026 to December 2026	1. Draft academic paper on China-Philippines *S. japonicum* research, prevention-control, and elimination strategy; 2. Strategize joint capacity-building, including academic exchanges and lab immersion programs; 3. Strategize field data-collection and methodological framework for local survey; 4. Contact and finalize relevant Chinese and/or Philippine institutions contacts to serve as third-party collaborators of subsidiary programs of this joint collaboration; and 5. Design health education strategy, including health awareness media and exchanges.
Phase 2: **Joint Research & Capacity-Building**	January 2027 to October 2027	1. Finalize academic paper on China-Philippines *S. japonicum* research, prevention-control, and elimination strategy; 2. Implement field data-collection and community-based surverys; 3. Implementation of jointly planned capacity-building programs; and

		4. Implementation of health education strategy, including health awareness media and exchanges.
Phase 3: **Output Generation & Dissemination**	October 2027 to December 2027	1. Draft and finalize a joint project report on China-Philippines collaboration; and 2. Continuous dissemination of health education strategy, including health awareness media and exchanges.
Phase 4: **Culminating Review & Future Planning**	December 2027 to January 2028	1. Discussed the limitations and successes of culminating collaboration; 2. Strategize succeeding joint collaborations and programs; and 3. Draft and finalize succeeding plans for joint collaborations.

Note: This timeline is indicative, and may be adjusted by written mutual consent of all Partners in response to funding, regulatory approvals, field-site conditions.

8. Use of Intellectual Property

The Partners agree that any intellectual property, which is jointly developed through activities covered under this MOA, can be used by either partner for ____ purposes without obtaining consent from the other and without any need to account to the other. Publication in peer-reviewed journals requires consent from involved Partners during the process of certain research project.

All other intellectual property used in the implementation of the MOA will remain the property of the party that provided it. This property can be used by either party for purposes covered by the MOA but consent will be obtained from the owner of the property before using it for purposes not covered by the MOA.

9. Funding Disclaimer

This Memorandum sets out intent for academic and research collaboration, but does NOT commit any Partner to provide direct project funding. Each Partner shall seek respective internal or external grant resources to support joint-activities. Where resources are to be contributed, detailed funding arrangements will be documented within separate supplementary agreements.

10. Term, Amendment, Termination

10.1. Term

This Memorandum shall come into force upon signature by authorized representatives of all three Partners, with an initial term of 24 months. It may be renewed upon written mutual agreement of all Parties.

10.2. Amendment

Any changes or amendments to this MOA must be agreed by all Partners and documented in

writing as an addendum.

10.3. Termination

Any Partner may terminate participation in this Memorandum by providing 60-calendar-day written notice to the other two Partners. Upon termination, clauses governing intellectual property and publications shall survive for reasonable follow-up completion of ongoing joint-research outputs.

11. General Provisions

11.1. Non-binding Clause

This Memorandum represents a statement of collaborative intent. It is not intended to create legally-binding contractual obligations, save for clauses explicitly covering intellectual-property usage, publication consent and post-termination handling of ongoing outputs.

11.2. Non-overriding Clause

Nothing in this Memorandum shall be interpreted to override existing institutional policies or national laws applicable to each Partner.

-- Signatories --

Signed for
Center of Health Development, Department of Health – Eastern Visayas

Hygeia Grace Agosto

Signed on
XX September 2026

Signed for
University of the Philippines Manila School of Health Sciences (UPM-SHS)

Asst. Prof. Charlie C. Falguera

Signed on
XX September 2026

Signed for
Huazhong University of Science and Technology Tongji Medical College School of Basic Medicine

Prof. Jiahui Lei

Signed on
XX September 2026