Citizen Science and Rooted Cosmopolitan Citizenship:
Community-Based Ecological Resilience and Stewardship in South Korea and Japan

From observing a place → producing knowledge → caring together

Suk-Ki Kong | Seoul National University Asia Center (SNUAC)

Why return to place?

Planetary crises are experienced locally

Ecological change

Rivers, wetlands, forests and material flows make climate and biodiversity loss tangible.

Civic capacity

Residents can observe change, produce knowledge, organize care and participate in decisions.

Core proposition

Environmental stewardship requires more than expert science or top-down policy.

Framing: socio-ecological commons and caring democracy (Ostrom, 1990; Tronto, 2013)

The three-part research puzzle

01 Knowledge agency

How do citizens become producers—not only recipients—of ecological knowledge?

02 Responsibility for place

How does place attachment become civic responsibility and ecological care?

03 Community formation

When does repeated participation create relationships and collective initiative?

These transitions are possible, not automatic: organization, expertise, access and autonomy matter.

Analytical framework: from place to planet

Accessible encounters → Observation & recording → Situated knowledge and citizen agency

Place attachment & ecological care → Light community & collaboration → Rooted cosmopolitan citizenship

Satoyama–satoumi is a comparative socio-ecological lens, not a literal label for an urban river.

South Korea | Han River Social Cooperative

Accessible entry points

Ecological walks, picture books, drawing, writing and storytelling invite sustained attention.

Citizen-generated records

Seven monitored groups: birds, fish, amphibians/reptiles, plants, insects, benthos and mammals (otters).

Agency beyond attendance

Field notes shared with specialists; some participants become educators and independent organizers.

Source: Ham Jeong-hee interview, 23 September 2026; Kong & Lim (2026).

Han River Social Cooperative | Ecological Learning in Practice



Field visits, ecological landscapes, and participatory learning activities (photos provided by the author)

Han River | Three observable transitions

Interest → knowledge

Creative entry points lead to repeat monitoring and records.

Knowledge → care

Birds and otters reveal habitat value; residents request and organize activities.

Participation → community

Small roles, local expertise and autonomy help build a flexible light community.

Important qualifications: records require expert validation; cooperation entails negotiation and organizer care.

Japan | Kamikatsu Zero Waste

Everyday environmental learning

Residents observe, classify, sort and reuse materials, making waste and resource flows visible.

Institutionalized collective practice

Municipal infrastructure and local norms connect everyday routines with resource stewardship.

Not equivalent to formal biodiversity monitoring: a neighboring form of civic environmental knowledge.

Source: Kamikatsu Zero Waste Center WHY (2026); Takeuchi (2010).

Kamikatsu | Zero-Waste Sorting in Practice



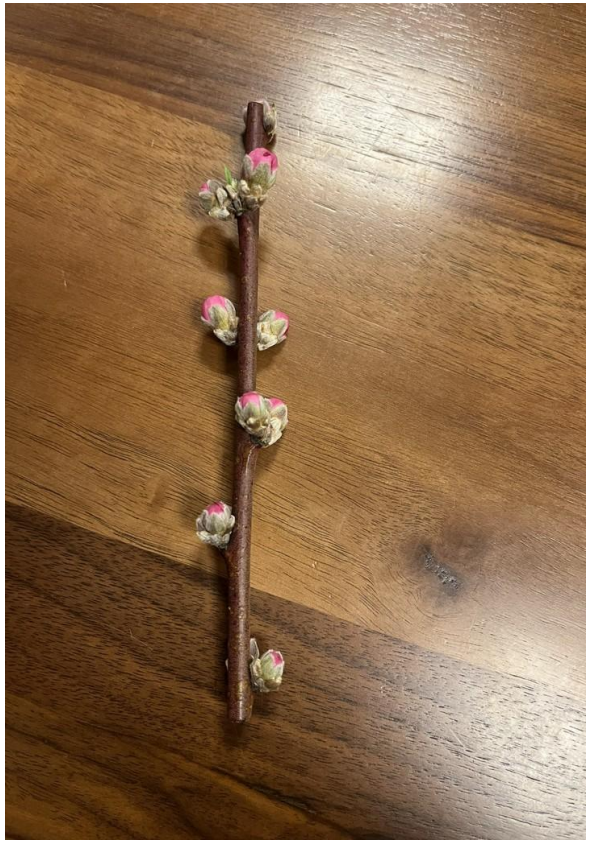
Local food and hospitality



Zero Waste Center



Zero Wast Hotel WHY: Study tour



Seasonal ecological observation and Irodori Project

Author-provided photographs | Kamikatsu field context and everyday community life

Comparison | Two pathways, shared questions

Dimension	Han River Social Cooperative	Kamikatsu Zero Waste
Setting	Metropolitan rivers & wetlands	Mountain town / satoyama
Practice	Seven-group biodiversity monitoring	Material sorting, reuse and learning
Knowledge	Field records shared with specialists	Material-flow and recyclability knowledge
Organization	Cooperative, residents, experts, agencies	Municipal system and community norms
Vulnerability	Short project cycles; organizer burnout	Unequal sorting burden; aging

Theoretical and practical implications

Knowledge co-production

Recognize citizens in problem definition, interpretation and teaching.

Place-based responsibility

Link ecological records to actionable conservation and public accountability.

Relational infrastructure

Support flexible roles, intermediaries and care for organizers.

Durable and fair governance

Sustain physical hubs, open data, intergenerational learning and equitable participation.

Conclusion | Citizen science as civic transformation

Beyond science popularization

Citizens produce situated knowledge.

Knowledge of place can become responsibility.

Repeated cooperation can help form local communities.

Rooted cosmopolitan citizenship: caring for a particular place while addressing planetary challenges.

Conditional pathways—not inevitable outcomes. Evidence: Kong & Lim (2026); Ham interview (2026).