UNIVERSITAS PENDIDIKAN INDONESIA

INTERNATIONAL CONFERENCE ON ELEMENTARY EDUCATION

From Cultural Symbols to Disaster Mitigation

Ethnopedagogy in Elementary Education

Trisna Nugraha **Nana Supriatna** **Muhammad Rizal Fauzi**

Universitas Pendidikan Indonesia & IKIP Siliwangi

The Illusion of Preparedness



Individualistic & Reactive

Current elementary disaster education prioritizes isolated self-rescue procedures and post-disaster response.



Collective & Communicative

Surviving a disaster requires identifying hazards, communicating information, and taking coordinated collective action.

The Ethnopedagogical Lens



Indigenous Practitioners

2 customary leaders from the Cirendeu Indigenous Community.

Elementary Educators

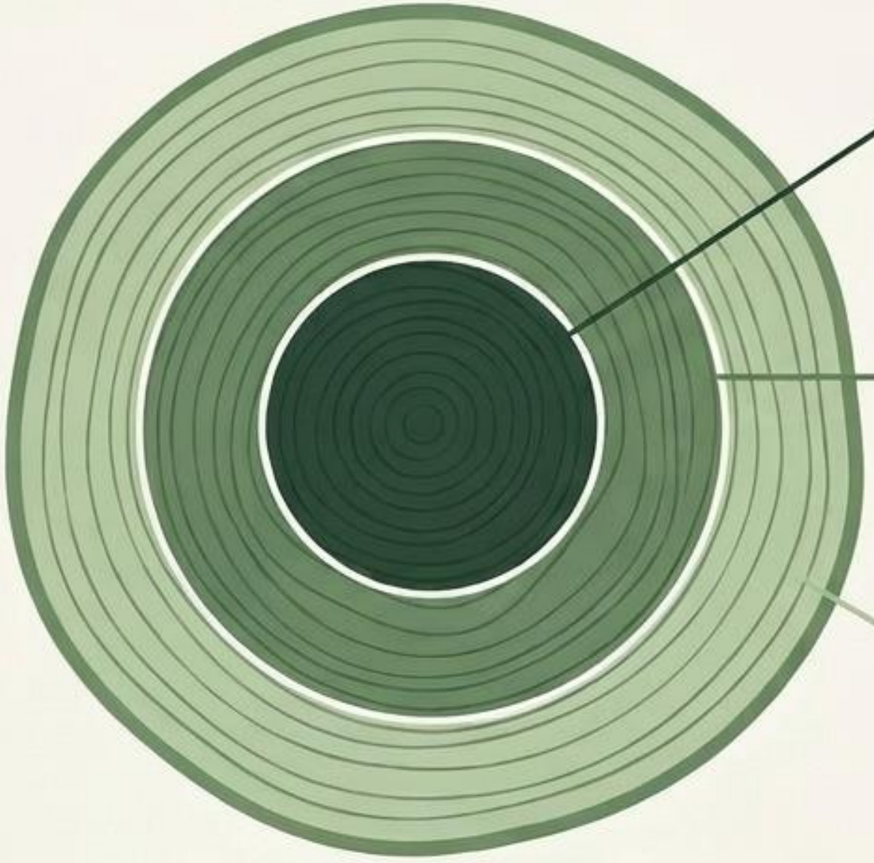
8 teachers across West Java filtering knowledge.

The Classroom

The target environment for Didactic Transposition.

A qualitative, focused ethnographic approach to mine local wisdom and translate it—through the eyes of teachers—into an actionable elementary school curriculum.

Cirendeu's Ecological Blueprint



Leuweung larangan (Protected Forest)

Customary law prohibits tree cutting. Serves as the critical water reserve.

Leuweung tutupan (Managed Forest)

Sustainable utilization. Every harvested tree must be replaced with a new plant.

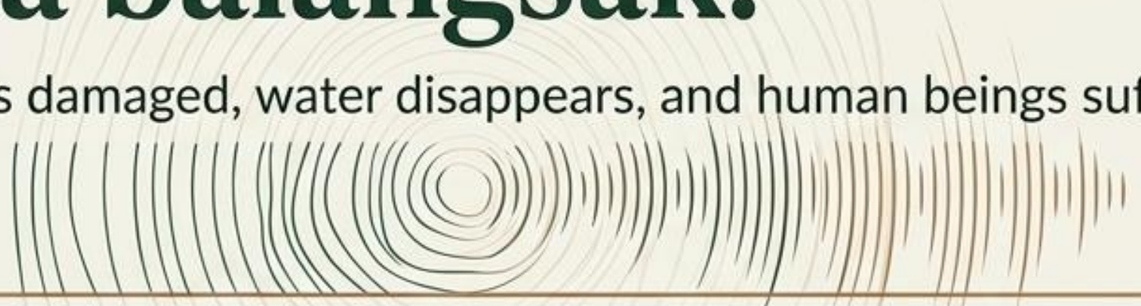
Leuweung baladahan (Agriculture)

Land utilized for cultivating cassava, corn, and peanuts.

Disaster mitigation begins long before an emergency. In Cirendeu, spatial harmony and strict resource management serve as the primary defense against ecological collapse.

“Leuweung ruksak, cai beak, manusa balangsak.”

(When the forest is damaged, water disappears, and human beings suffer.)



The forest is regarded as the *indung* (mother) of life.

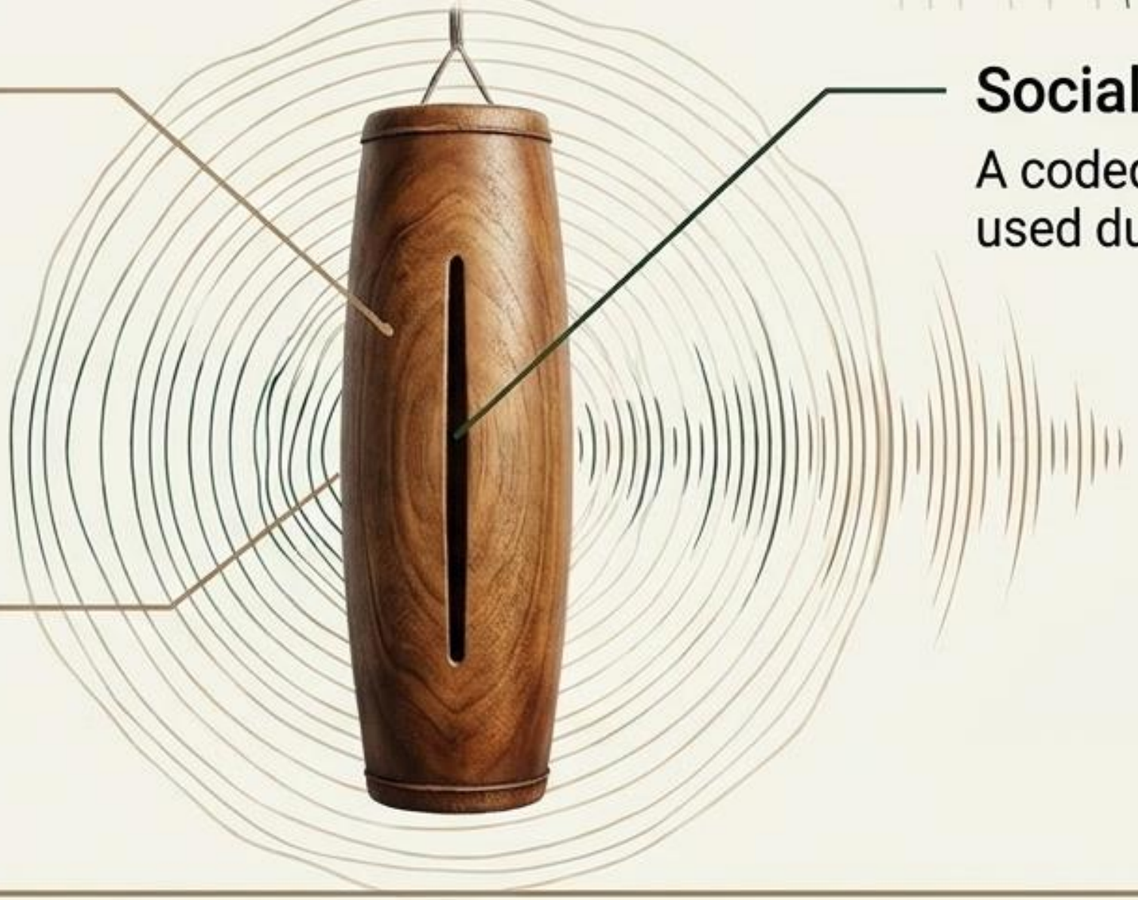
Gusti Nu Asih, Alam Nu Ngasah, Manusa Nu Ngasuh

(The Divine is compassionate, nature provides lessons,
and humans have the responsibility to nurture)

The Sound of Collective Action

Material Form

A simple hollowed piece of wood.



Social Function

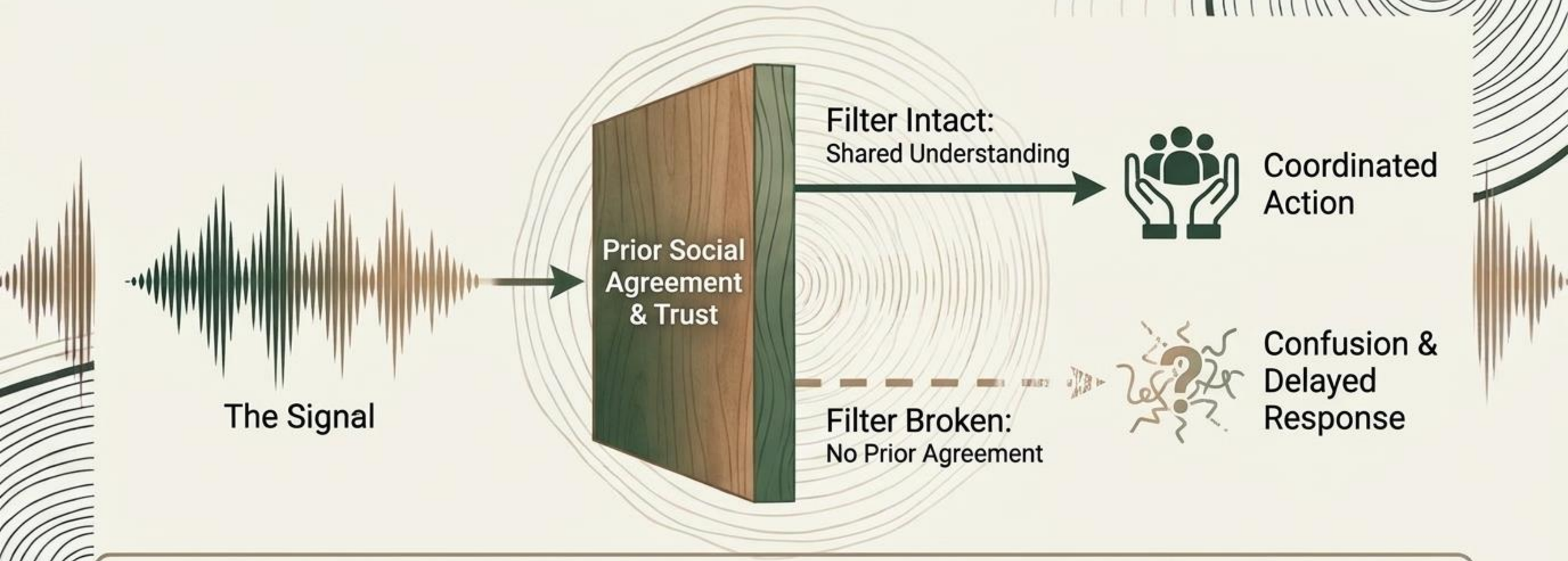
A coded acoustic signal used during forest fires.

The Requirement

Demands an immediate, coordinated community response.

The Kohkol is an acoustic survival tool. Environmental protection is supported not not only by customary regulations but by active, mutual assistance.

Decoding the Signal



A sound only saves lives if the community agrees on its meaning. Disaster education must teach students how to decode warning signals, not just react to noise.

The Global Language of Disaster Communication

Cirendeu



Medium
Acoustic signal / Wood

Function
Real-time alert for forest fires

Educational Value
Interpreting signals and coordinating collective responses

Simeulue



Medium
Oral tradition / Song (Smong)
Song (Smong)

Function
Transmitting collective memory for tsunamis

Educational Value
Recognizing environmental signs through narrative

Japan



Medium
Public wireless broadcast (Bōsai Gyōsei Musen)

Function
Testing infrastructure and delivering emergency info

Educational Value
Understanding system reliability and routine preparedness

Whether wood, voice, or radio, warning infrastructure must be familiar, trusted, and understood before the emergency.

The Teacher’s Dilemma

High Cultural Relevance

Teachers recognize the immense value of local environmental signs and traditional communication in engaging students.

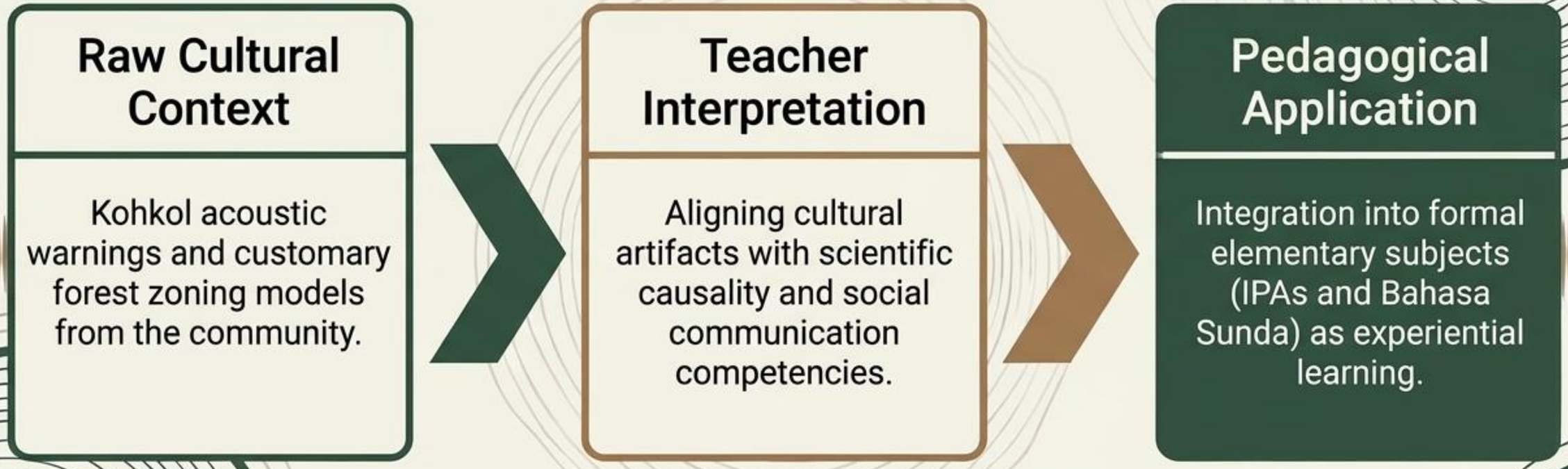


Low Translation Capacity

Severe lack of instructional time and pedagogical frameworks to connect these cultural markers to formal scientific curriculum.

Currently, earthquake and fire simulations in schools focus purely on isolated self-protection. Teachers struggle to integrate local knowledge without reducing it to mere folklore or decorative trivia.

The Process of Didactic Transposition

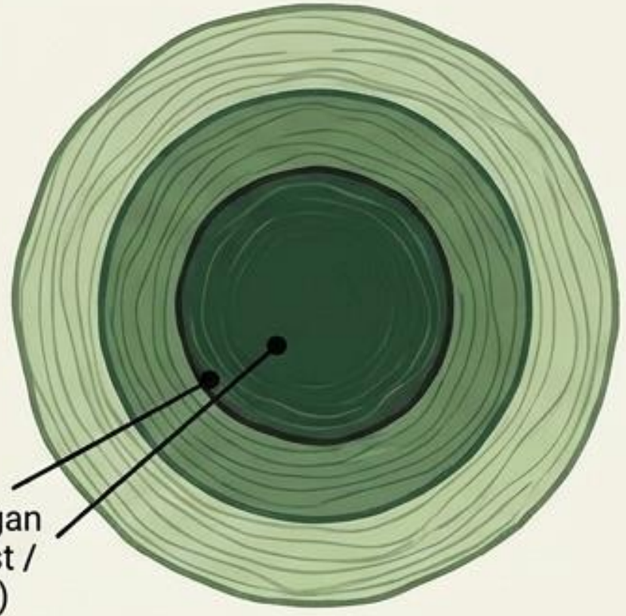


Didactic transposition ensures local knowledge is not just transferred as decorative trivia, but transformed into contextual tools for investigating environmental and social problems.

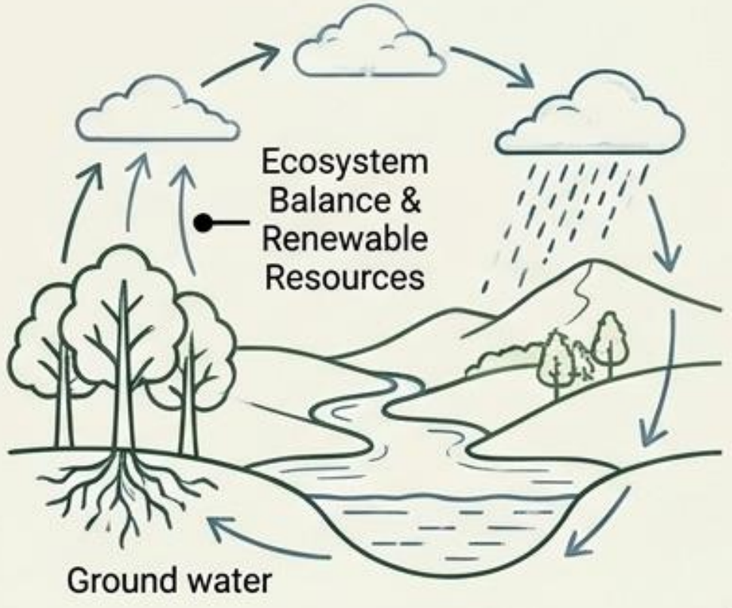
Application 1: Harmony in Ecosystems

Curriculum Integration: IPAS

Indigenous Spatial Logic



Modern Environmental Science



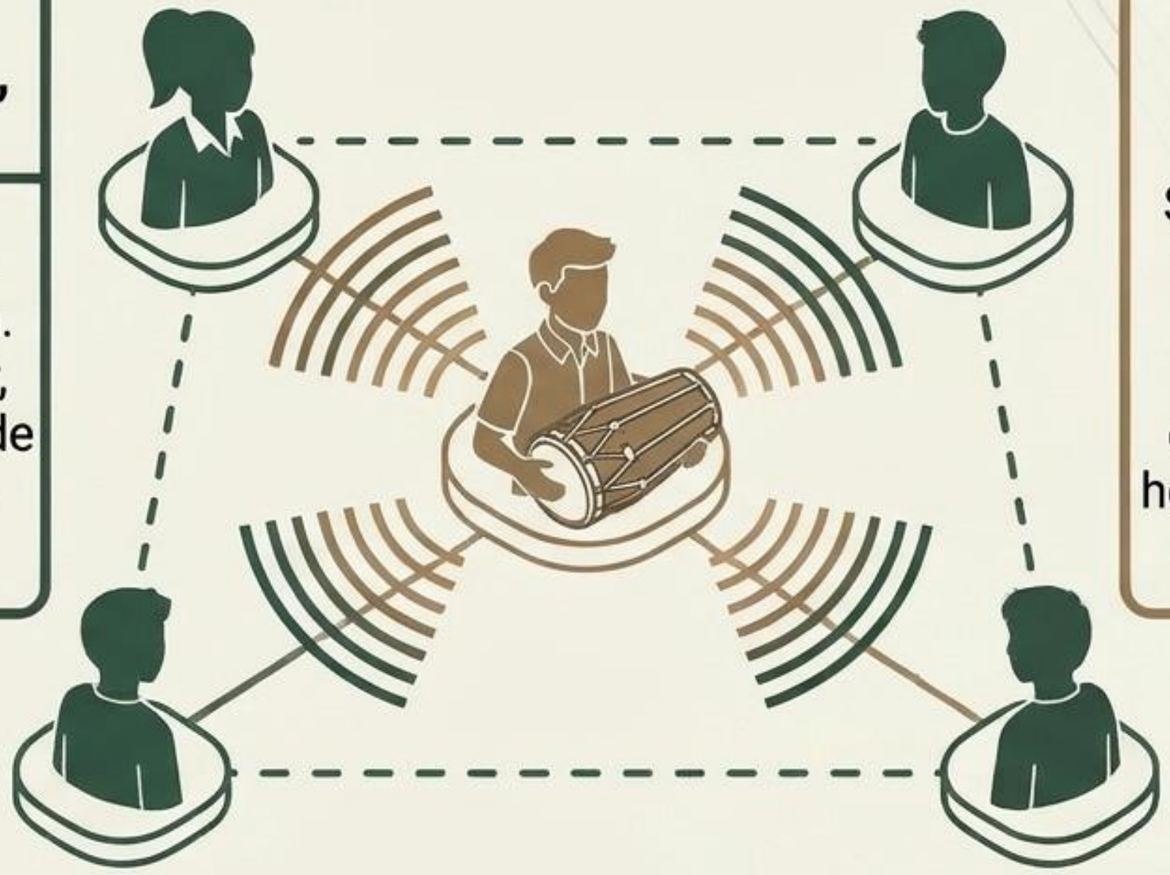
Learning Activity: Students map the functions of customary forest zones to understand the downstream effects of deforestation (cai beak / water disappears). This dialogues customary responsibility directly with scientific causality.

Application 2: The Communication Simulation

Curriculum Integration: Social Cooperation

Moving Past "Duck and Cover"

Students role-play the Kohkol warning system. One acts as the sender, while others must decode the acoustic message.



Experiencing Friction

Students communicate the decoded signal to peers and execute a collective decision, experiencing first-hand how social friction delays emergency response.

Bridging the Eras

Curriculum Integration: Technology & Public Information



Traditional Acoustic Alarm

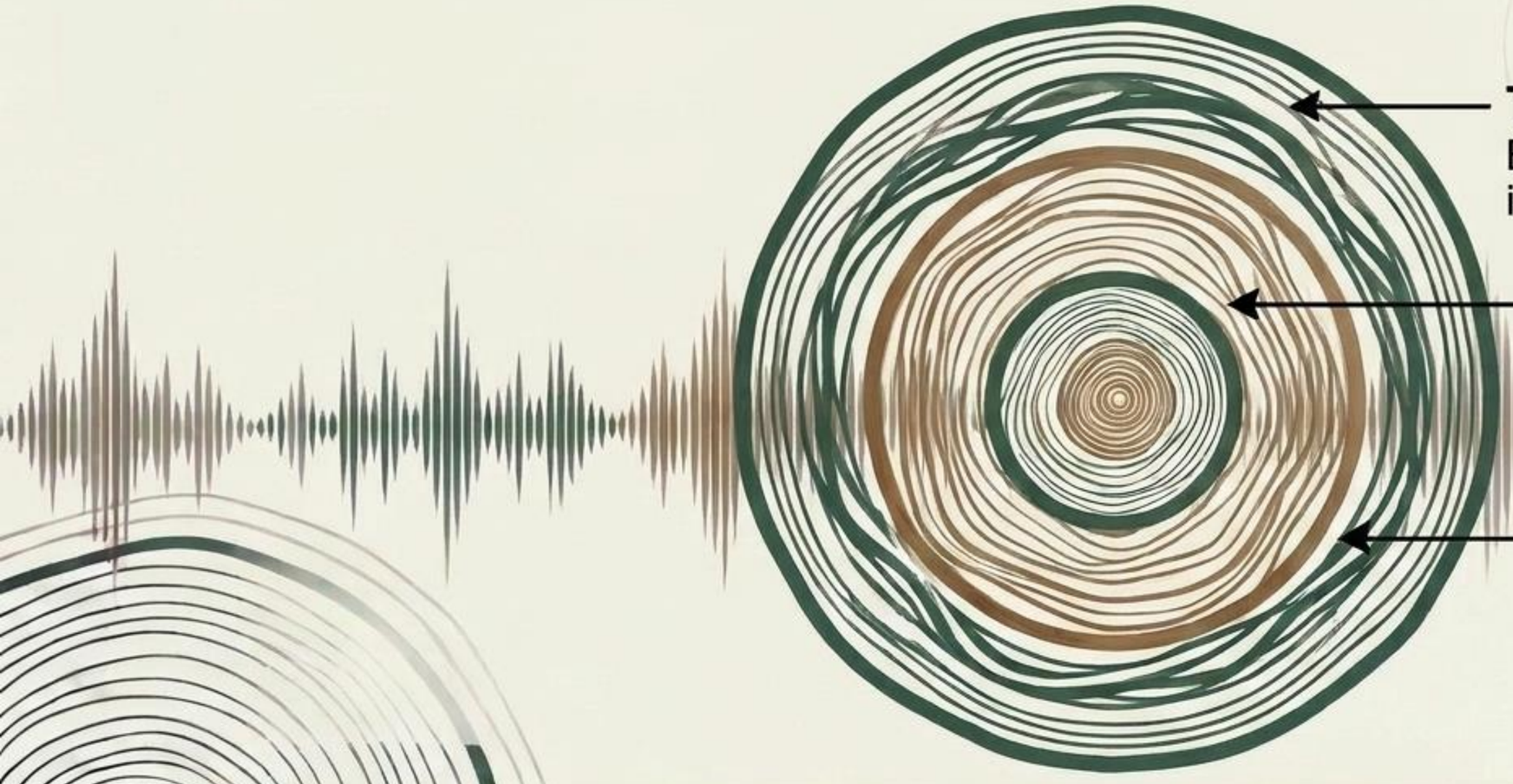
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Digital Warning System

The technology changes rapidly, but the fundamental requirements—clear protocols, reliable information, and a shared social agreement on what the alert means—remain absolutely identical.

The Intergenerational Ripple



The Community
Enhanced collective resilience is built from the inside out.

The Family
Intergenerational spillover effects bring knowledge home.

The Community
Enhanced collective resilience is built from the inside out.

Integrating local knowledge connects school programs with community preparedness. The school becomes the hub for intergenerational disaster resilience.

From Individual Panic to Collective Preparedness

Culturally grounded ethnopedagogy transforms disaster education from an isolated drill into a shared communicative action.

Contact: Trisna Nugraha (trisna_nugraha@upi.edu)
Co-authors: Nana Supriatna, Muhammad Rizal Fauzi

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