

Design Directions

Sustainable Design / Design for Planet

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Photo credit: Gabriella Manurung

PEDAGOGICAL OPENING

& Design Directions

Rice Waste Burning

Post-harvest rice stubble burning releases massive amounts of CO₂, methane, and black carbon.

It's the fastest, cheapest option for farmers, but creates climate and air quality crises.



Micro-Teach Session Design:

"Kinship Through Rice"

"Why SDG 17?"

- Functions as meta-SDG that enables all others through partnership and collaboration
- The rice stubble challenge cannot be solved by farmers, designers, or scientists alone; it requires cross-sector collaboration (farmers need alternatives, scientists need to develop them, policymakers need to incentivise change, designers need to create markets for bio-waste materials)
- Different contexts require different partnerships: example, solutions in Punjab differ from those in Java (climate, infrastructure, cultural practices, and economic systems vary)
- Interdisciplinary practice
- Challenges students to think beyond single-solution design toward relational, collaborative approaches

Pedagogical Strategy:

- Active learning through making: physical mapping creates embodied understanding
- Scaffolded complexity: moves from familiar (food) to complex (global systems)
- Collaborative sense-making: pairs encourage diverse perspectives
- Speculative thinking: "who's missing?" prompts creative stakeholder identification
- Real-world grounding: actual project case study demonstrates practical application with urgent environmental stakes
- Comparative thinking: exploring multiple contexts prevents single-solution thinking
- Critical framework use: students practice using SDGs while questioning their limitations

Demonstrating Learning Outcomes:

Students explore collaborative approaches, and designing interdisciplinary partnerships around an urgent environmental challenge, while critically evaluating the SDG 17 framework itself.

Students Demonstrate:

Systems thinking: Mapping complex networks of human & more-than-human stakeholders

Contextual awareness: understand how place shapes solutions

Collaborative practice: Working in groups, sharing across contexts, designing partnerships

Speculative design: Identifying missing partnerships & imagining new collaborations

Critical reflection: Examining power dynamics, Western bias, whose knowledge is valued

Real-World application: Engaging with actual project case study with climate urgency

Decolonial awareness: Recognising SDGs as Western constructs requiring careful use

Ethical reflexivity: examining designer positionality in global systems



MICRO-TEACH SESSION: Lens SDG 17



Learning Outcome:

*SDG 17 goal emphasises that achieving the SDG goals requires a "Global Partnership" involving governments, the private sector, and civil society to mobilise resources, knowledge, expertise + **designing for planet skills***

SDG 17 requires a collaborative and interdisciplinary approach.

10 mins:

- Introduction & "Who ate rice this week?"
- Present the problem: 12-15M tonnes (Indonesia) burned annually + Visual
- UK connection: We import 500,000+ tonnes annually
- Introduce SDG 17: Partnerships for the Goals

3 mins:

‘Dear Sawah’ audio-visual

10 mins:

Give the Proposal (what if waste became a resource) - in 2 groups - circulate prompts about power, knowledge, context

[Task] Map stakeholders around rice bio-waste transformation & identify partnerships needed to address burning + Consider human & more-than-human actors

5 mins: Reflect - Groups to compare stakeholder maps (2 mins each)

- Specify WHO, WHY, HOW, design role, contextual factors
- Gallery walk: post & review all partnership proposals

10 mins: Closing Reflection + Share outcomes from actual Kinship Through Rice project

- Brief reflective discussion on surprises & tensions

2 mins: Final takeaway: Practice AND critique frameworks (Critical lens: SDGs as Western constructs)

Connect to LO6: How did we address SDG 17?

Today's Goal

“Design as a whole cosmology and worldview within which are a basic set of all encompassing values”

Michael Ben-Eli, 2007

Let's warm up!

Before we start, quick show of hands:

Who ate rice this week?

Keep your hand up if you know where that rice came from?

And keep your hand up if you know what happened to the rice plant after your rice was harvested, what happened to the stalks, the husks, the leftovers?

Rice feeds half the world's population daily. It's also one of the most climate-damaging crops we grow.

That tension, between necessity and harm, is what we're exploring today. And it's why design can't be about simple solutions. Design is a worldview.



12,000 - 15,000 tonnes burned annually

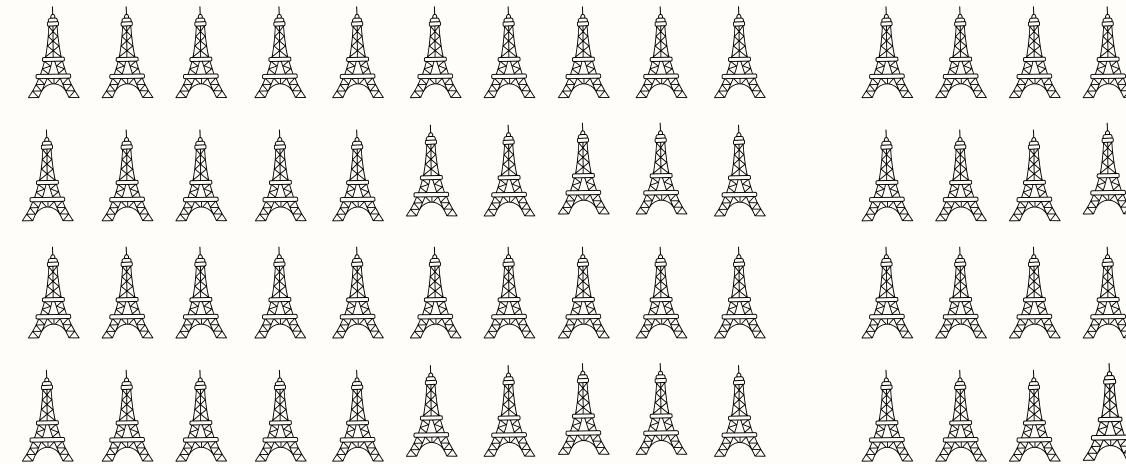
If we built structures from the burned rice material and visualised these as Eiffel towers, this is the volume of waste produced...



1000 tonnes of rice straw = 1 tower



= 1000 Eiffel Towers [weighs 10,000 tonnes]



approx 13,000 Eiffel towers



Refinement level

Using a disk mill machine, the rice husk is pulverized into different levels of refinement.

- A. Fine mill rice husk
- B. Medium mill rice husk
- C. Raw rice husk

Why should UK design students care?



- UK imports 500,000+ tonnes of rice annually from these regions. Products designed in the UK are often manufactured where this crisis is happening.
- Understanding global material ecologies and building cross-cultural partnerships is essential for responsible design practice in a globalised world.
- Why SDG 17? It functions as meta-SDG that enables all others through partnership and collaboration

Group Activity - split into 2 groups

Rice isn't just food; it's a material system, yet most of its potential material is being burned. Today we're exploring why, and who needs to partner to change that.

Task 10 mins: Rice Biowaste Partnerships - Design Challenge

The context: Indonesia

The Situation: You are part of a design collective invited to reimagine rice systems in your assigned region. Currently, millions of tonnes of rice straw are burned after harvest, releasing greenhouse gases and destroying potential biomaterial resources.

TASK 1: Map the network (5 minutes)

Using your large paper and markers, create a stakeholder map

TASK 2: DESIGN A PARTNERSHIP PROPOSAL (5 MINUTES)

On a second sheet, design ONE partnership that could transform rice biowaste into a regenerative resource.

Your proposal must include: WHO (Partner); WHY (Purpose & Impact); HOW (Collaboration Model); DESIGN ROLE (Your Responsibility)

Context : rice as cultural connector, ecological system, economic network



REFLECTIONS

5 MINS:

REFLECT - GROUPS TO COMPARE STAKEHOLDER MAPS (2 MINS EACH)

SPECIFY WHO, WHY, HOW, DESIGN ROLE, CONTEXTUAL FACTORS

REVIEW GROUP PROPOSALS

- SDGs, including SDG 17, are largely Western constructs.
- They were developed primarily through UN processes dominated by Global North countries and international NGOs.
- The language of 'partnerships,' 'development goals,' even 'sustainability' reflects particular worldviews.

Outcomes from actual Kinship Through Rice project

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42 followers

1mo · Edited ·

Kinship through Rice is a unique convergence of design practice, scholarly expertise, and embodied cultural knowledge. My proximity and deep lifelong connections with Bali provide the relational foundation essential for kinship-centred research, understanding that in Balinese cosmology, meaningful knowledge emerges through sustained relationship rather than extractive observation.

In relation to Western design culture theory, this research complements a distinguished lineage of thinkers who recognised Bali as a generative site for understanding systemic design and cultural wisdom. Our working definition of sustainability emerges directly from Buckminster Fuller's [1969] systems thinking and geodesic explorations in Bali during the 'Champuhan 12 gatherings' that planted seeds for Michael Ben-Eli [Fuller's student] and his dynamic equilibrium model that encompasses material, economic, life, social, and spiritual domains. An unbroken intellectual lineage and genealogy that directly influences our intercultural collaboration with fresh hearts and minds.

This kinship-centred research represents the next evolution of a lineage, revealing how these convergences in Bali suggest something deeper than coincidence. Through our collaborative research, there is a recognition of this landscape as a generative site for understanding the integration of human systems with planetary intelligence by centring kinship as both methodology and outcome. We approach Bali as a place of "sacred intervention" in design thinking, applying systems thinking and regenerative principles to rice straw sustainability.

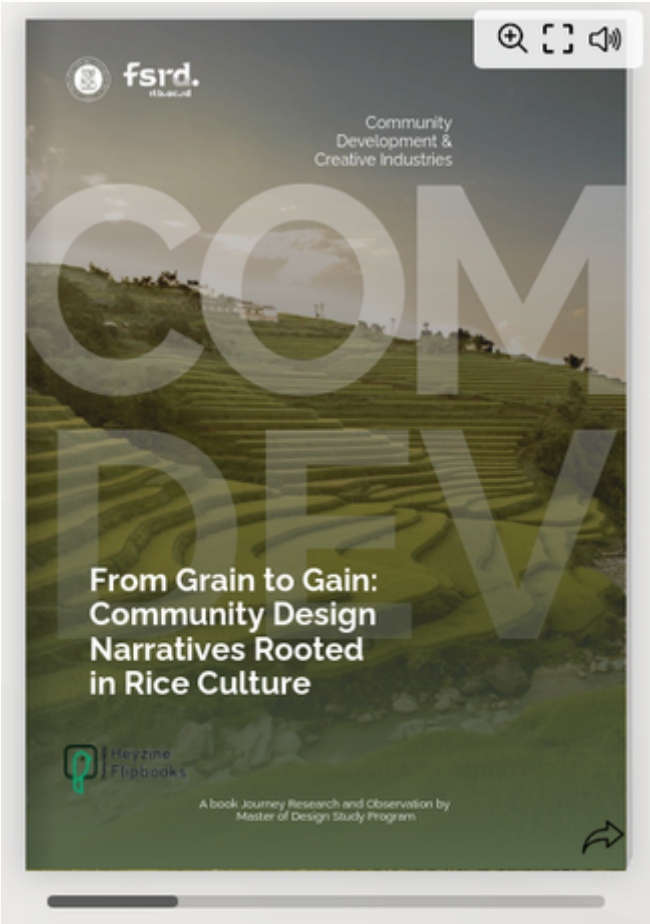
Our research operates from within relational networks, contributing to rather than extracting from local knowledge systems. This positioning enables translation between Balinese wisdom of Tri Hita Karana and contemporary design futures, making our work both academically rigorous and culturally authentic.

Watch this space.

Video Credit: Nyoman Alit

Collaborators: [Ni Nyoman Sulastri Adhi Nugraha Design Gabriella Manurung Markus Wernli](#) and others to be named in the completed works.

[#trihitakarana](#) [#regenerativedesign](#) [#balinesewisdom](#) [#sustainability](#) [#sacredintervention](#) [#connectionthroughculture](#) [#connectionthroughculture](#)



GROUP DISCUSSION

Kinship through RICE

[Home](#) [About](#) [Regeneration](#) [Innovation](#) [Culture](#) [Economy](#) [Resources](#)

What is Kinship through Rice?

If research is about knowing, this work is about making.

Supported by the British Council's 'Connections through Culture' (CTC), Kinship through Rice bridges traditional Indonesian rice farming wisdom with regenerative design through collaboration across UK and Indonesia. We focus on global artisanal practices, making kinship across species and cultures.

This is cultural infrastructure for regenerative futures: living relationships that generate economic opportunities, address climate challenges, and create lasting intercultural connections.

R

Regeneration

Practices, materials, and relationships that restore ecosystems and cultural traditions through post-harvest rice cultivation and more-than-human kinship.

I

Innovation

Practices, materials, and relationships that recognise value where extractive systems see waste through collaborative co-design and traditional knowledge.

C

Culture

Practices, materials, and relationships that express and sustain cultural identity through stories, rituals, and collaborative making.

E

Economy

Practices, materials, and relationships that create viable livelihoods through cultural regeneration and creative adaptation.



Magister Desain 2024

Welcome Amenities Kit

Muhammad Aulia
Natalia Riza
Sania Nurfaridha
Shah Mubaz

27024001
27024002
27024042
27024043
27024004

0505033 - Community Development

Group 2



Magister Desain 2024

AgriPack

Cilangkap Village - Sumedang Regency

Arief Hartanto
27124017

Abdurrahman Rahman S.
27124002

Hafidz Putra W.
27124004

Faiz Aulia Rahman
27124003

Nawafatul Ima
27124010



0505033
Community Development
and Creative Industries

From The Field to The Fingers

Shahin Rahar
27124001

Nurrahma Rika Nopri
27124002

Abdul Hafid
27124003

R. Faza Nurhidayah
27124004

Rizki Marissa
27124005

Translating to some reduction and selection for quality of materials and production process, and a sustainable for use in urban environment and home.

Through this approach, we will be able to produce a product that is functional, aesthetically pleasing, and sustainable for use in urban environment and home.

Mood Board

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Design Concept

The design of the Rice-based Amenities Kit is inspired by the traditional Indonesian rice farming wisdom and the regenerative design approach. The kit is designed to be functional, aesthetically pleasing, and sustainable for use in urban environment and home.

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Product Design Concept.

WWW.RICECULTURES.COM

FINAL SYNTHESIS & TAKEAWAY (1 minute)

Demonstrating Learning Outcomes:

Students address LO6 by actively practicing SDG 17, exploring collaborative approaches, and designing interdisciplinary partnerships around an urgent environmental challenge, while critically evaluating the framework itself.

Final thoughts for your practice whenever you face a complex sustainability challenge, return to these questions:

Who are my partners?

Who's missing from this partnership?

On whose terms are we partnering?

Who decided these were the right goals?

What does the more-than-human world need?

Am I here to serve or to extract?

Thank you!