Field Internship:
Exploiting the Educational Power of Fields

Yohei Murakami
Unit of Design,
Kyoto University
Design School Curriculum

Cultivating outstanding professionals who can design social systems and architectures in collaboration with experts from diverse domains

“T-shaped People”

Write doctoral thesis

Leading Project (PhD research) Approx. 100 weeks

Field Internship Research Internship

Several weeks – months

Open Innovation Practice Approx. 10 weeks

Qualifying Examination (QE)

Domain Design Courses

Approx. 5 courses

General Design Courses

Approx. 5 courses

Field-based Learning / Problem-based Learning 1 week × several times

Before QE, take general design courses, own domain design courses, and design practices on campus

After QE, gain practical field experience in companies, NPOs/NGOs, and universities

Study in preparatory course for half a year, then begin regular course

Pass entrance exam of desired graduate school

Architecture (Graduate School of Engineering)

Mechanical Engineering (Graduate School of Engineering)

Informatics (Graduate School of Informatics)

Management (Graduate School of Management)

Psychology (Graduate School of Education)
Field Internship

Internship exploiting the educational power of fields. Students form an interdisciplinary group and tackle a field problem as professionals.

Goals

- Identify the field problem and define it as a solvable challenge
- Practically apply design theories/methods to the field
- Propose solutions through communication with local stakeholders
Interns form a team to solve a design problem in a field where a host organization is working.

Kyoto University
- **Supervisor**: Instruct design methods
- **Student**: Expert advice
- **Advisors**

Host Organization
- **Host Mentor**
- **Coordination**
- **Design Team**
  - **Facilitator**
  - **Problem Solvers**
- **Field**
- **MoU (Regarding intellectual property & expenses)**

Host organization’s design problem and field

Team consisting of internal and external experts

Utilize expertise to explore possible solutions

Participation
## Schedule (30 course-hours)

<table>
<thead>
<tr>
<th>Time</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 hours</td>
<td><strong>Explanation &amp; Internship Preparation</strong></td>
</tr>
<tr>
<td></td>
<td>Introduction to Internship by the supervisor. Comprehension by the students through online surveys. Lectures and interviews with the Host Mentor if possible.</td>
</tr>
<tr>
<td>15 hours</td>
<td><strong>Field Practice 1</strong></td>
</tr>
<tr>
<td></td>
<td>Students start internship under the guidance of the Host Mentor. Mainly focus on problem-finding by field analysis.</td>
</tr>
<tr>
<td>2 hours</td>
<td><strong>On-Campus Activity</strong></td>
</tr>
<tr>
<td></td>
<td>Brush-up solutions that was examined in the field under guidance of the Supervisor and Advisors. Make an activity plan for the latter field practice.</td>
</tr>
<tr>
<td>10 hours</td>
<td><strong>Field Practice 2</strong></td>
</tr>
<tr>
<td></td>
<td>Crystallize the solutions and prepare presentations under guidance of the Host Mentor. Explain the solutions to local stakeholders on the final day.</td>
</tr>
<tr>
<td>1 hour</td>
<td><strong>Final Presentation</strong></td>
</tr>
<tr>
<td></td>
<td>Explain design process, theories, and methods to be applied, and own role and contributions. Report additional surveys after the field practices.</td>
</tr>
</tbody>
</table>
### Case | Conserving Rice Terraces in Bali

<table>
<thead>
<tr>
<th>THEME</th>
<th>Sustainable Tourism around Rice Terraces</th>
</tr>
</thead>
<tbody>
<tr>
<td>HOST</td>
<td>Indonesia Heritage Trust (NGO)</td>
</tr>
<tr>
<td>DURATION</td>
<td>2015/8/3-7, 2016/8/18-22</td>
</tr>
<tr>
<td>CONTENT</td>
<td>Create solutions to improve QoL in a rural community while maintaining rice terraces</td>
</tr>
</tbody>
</table>

- After recognized as a world heritage in 2012, Bali attracts more foreign tourists rapidly
  - cf. 3 million foreign tourists in Kyoto
- Many villas and cafés for foreigners are being constructed near rice terraces
  - Areas for Gods are invaded by tourists
- Many high-class hotels are built along a river
  - Decrease in quantity and quality of water
- Weaken irrigation associations
  - Increase in maintenance cost of irrigation
Implementation Structure

Kyoto University Design School

Indonesian Heritage Trust

Urban Discovery Asia

- Supervisor
  - Instruct design methods
  - Students
    - Expert advice
    - Advisors (Architecture)

- Host Mentor
  - Coordination
  - Nyuh Kuning Village
  - Design Team
    - Problem Solvers
    - Facilitator
    - Experts (Cultural Resource)

- Urban Discovery Asia
  - App. Developers
  - Universities, News Media, Governments
    - Professors, Students, Journalists

- Udayana Univ. (Local Univ.)
  - Experts (Agriculture)
<table>
<thead>
<tr>
<th>Day</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>DAY 0</td>
<td>Literature Research</td>
</tr>
<tr>
<td></td>
<td>Internet and paper survey on campus</td>
</tr>
<tr>
<td>DAY 1</td>
<td>Lecture from Experts &amp; Field Visit</td>
</tr>
<tr>
<td></td>
<td>Receive a lecture from local experts about rice cultivation, irrigation associations, and religious rituals</td>
</tr>
<tr>
<td></td>
<td>Lecture from Experts &amp; Field Visit</td>
</tr>
<tr>
<td>DAY 2</td>
<td>Field Survey &amp; Interview</td>
</tr>
<tr>
<td></td>
<td>Trace irrigation and interview stakeholders like a leader of the association, chief priest, travel agency, local government etc.</td>
</tr>
<tr>
<td></td>
<td>Field Survey &amp; Interview</td>
</tr>
<tr>
<td>DAY 3</td>
<td>Group Discussion</td>
</tr>
<tr>
<td></td>
<td>Organize insights obtained from the lectures and field survey. Do ideation like brainstorming</td>
</tr>
<tr>
<td></td>
<td>Group Discussion</td>
</tr>
<tr>
<td>DAY 4</td>
<td>Prototyping &amp; Preparation</td>
</tr>
<tr>
<td></td>
<td>Make a sketch and mockup of ideas as a prototype, and prepare slides for the presentation</td>
</tr>
<tr>
<td></td>
<td>Prototyping &amp; Preparation</td>
</tr>
<tr>
<td>DAY 5</td>
<td>Presentation</td>
</tr>
<tr>
<td></td>
<td>Explain the ideas to local stakeholders like local governments, irrigation associations, travel agencies, temples, farmers, etc.</td>
</tr>
</tbody>
</table>
## Problem Finding and Solving

### Culture

**Problem:** Potential decrease in farmers caused by low interest in religious rituals

**Solution:** Agriculture education to young people by active learning

### Economy

**Problem:** Decrease in tourism resources caused by retirement of craftsmen

**Solution:** Rural camp to experience local life related to Subak

### Environment

**Problem:** Buyout of rice fields by foreign investors. Farmers sell them due to high-tax

**Solution:** Tax exemptions according to the purpose of land use

### Interview with irrigation associations

### Interview with tourist agencies

### Analysis of transition of land use by GIS

### Buyout of rice fields by foreign investors. Farmers sell them due to high-tax

### Tax exemptions according to the purpose of land use
Deliverables 1

**GIANYAR RECOMMENDATIONS ON THE SUSTAINABILITY OF SUBAK**

In 2012 UNESCO has admitted the subak system in Bali as a Word Heritage of Cultural Landscape. The world admittance towards subak, is something to be proud of, as it is our traditional inheritance. It was established since the 11th century and pioneered by Rai Markandya-the ancestor of Balinese people, had finally received the international recognition.

Although the world has admitted the existence of subak in Bali, however, in reality the subak system still undergo the marginalization. There have been already several actions from the government, however, it is not strong enough to stop the marginalization of subak system in Bali. The total number of rice fields continuously diminish in Bali, because there was significant change in the spatial function, in average 750 hectares every year. This indicates that the subak in Bali will continue to degrade in numbers.

If one day, the rice fields and subak in Bali shall extinct, then the world will lose an important heritage in land cultivation specifically the heritage of cultural landscape. That is why we need to perform several other actions to ensure the continuous existence of the subak in Bali.

The Bali Internship Field School for Subak (BIFSS) which was held in the Nyuh Kuning village, Ubud, Gianyar, from August 17 until August 22, 2016, had gathered great attention to the existence of subak in Bali. BIFSS was held by the Indonesian Heritage Trust (BPII) and in partnership with the Gianyar Regency, the Design School Kyoto University-Japan, the Subak Research Center of the University of Udayana-Bali, the Bali Kuna Heritage Society, the Arari DJopnahkusoem Foundation and the Urban Discovery - Discover City Walks. The participants diverse in the spectrum of passionate people interested in heritage preservations. They came from America, Germany, Japan, the Netherlands, Hongkong and Indonesia. BIFSS 2016 had concluded and put together some recommendations for sustainable subak, as follows:

1. **Provide a property tax exemption for the subak system in Bali, and the first to be awarded to a pre-determined subak designated by UNESCO as a World Cultural Heritage.**
2. **Involve the Subak management system in the process of land conversion.**
3. **Reward any company that has given devotion to the Subak, in the form of a "Subak Friendly Company Award".**
4. **Host Subak tourist-related activities in the region to raise awareness about the Subak system.**
5. **Include the Subak system in the curriculum of school education.**
6. **Provide scholarships in priority of the children of the subak farmers.**
7. **Conduct reforestation activities in the upstream area.**
8. **Revise agricultural insurance policy on the base of agricultural production value.**
9. **Develop future detailed spatial plan for Subak.**
10. **Enforce the law in support of the farmers and the Subak system.**

Thus the Gianyar recommendations have been agreed upon by all parties involved in the BIFSS. The recommendations are expected to be the reference to the action program in governing the Subak conservation area particularly in Bali, and at the national level in general.

**REKOMENDASI GIANYAR UNTUK KEBERLANJUTAN SUBAK**


Ketua pada suatu saat, sawah dan Subak di Bali habis, maka dunia akan kehilangan sebuah warisan budaya dalam bidang pertanian yang sangat penting bagi umat manusia. Oleh karena itu diperlukan berbagai upaya yang lain, agar sistem Subak di Bali tetap lestari.


1. **Pembatasan Pajak Bumi dan Bangunan (PSBB) bagi Subak di Bali, dan untuk pertama kali agar diberikan kepada Subak yang telah diletakkan UNESCO sebagai Warisan Budaya Dunia.**
2. **Pembatasan luas Subak dalam proses alih fungsi lahan sawah di kawasannya.**
3. **Penghargaan kepada perusahaan yang telah memberikan perhatian pada Subak, dalam bentuk “Subak Friendly Company Award”.**
4. **Penyelenggaraan wisata budaya dan wisata peduli lingkungan di kawasan Subak.**
5. **Penyertaan Subak dalam kurikulum pendidikan.**
6. **Peningkatan kebijakan untuk anak-anak petani yang cerdas.**
7. **Penghijauan di kawasan hulu untuk memastikan ketersediaan sumber air.**
8. **Penyertaan usulan petani berdasarkan nilai produksi.**
9. **Penyusunan rencana detail lahan untuk menyelamatan Subak.**
10. **Penegakan hukum bagi yang melanggar aturan yang merugikan petani dan Subak.**

Demikian Rekomendasi Gianyar ini disepakati oleh semua komponen BIFSS. Diharapkan dapat menjadi acuan untuk program aksi pelestarian Subak bagi Pemerintah Kabupaten Gianyar pada khususnya, dan Pemerintah Daerah di Bali pada umumnya, serta kegiatan pelestarian lingkungan secara global.

Deliverables 2

Mobile APP to support sightseeing by Urban Discovery Asia

Kyuuh Kunin - a spiritual awakening

1. Monkey Forest
   Monkey around in the sacred forest
   J. Kyuh Kunin No. 2

2. Puja Dhamma
   Temple of the Subak
   J. Kyuh Kunin No. 5

3. Woman Market
   Discover Kyuh Kunin’s woodcarving history
   J. Kyuh Kunin No. 6

4. Terasi Temple
   The main village temple for honouring ancestors
   J. Kyuh Kunin

5. Terasi Temple
   Temple of the Dewi Damar - goddess of lakes and rivers
   J. Kyuh Kunin

6. Nusa Uma Dewa
   Wander the lush rice fields and feel the harmony
   J. Kyuh Kunin

Drink

7. Bell Botanicals
   Alinky call among the monkeys
   J. Kyuh Kunin

8. Old Friends
   A unique rap on the experience
   J. Kyuh Kunin No. 5

9. Wishing Well
   Enjoy fresh coconut at this local eatery
   J. Kyuh Kunin No. 5

10. Banjor Bridge
    A cafe with a wine style
    J. Kyuh Kunin No. 14

11. WAMMT
    Street restaurant serving organic and local food
    J. Kyuh Kunin No. 24

Shop

12. Holy Clouds
    A unique craft boutique
    J. Kyuh Kunin No. 11

13. Thai Restaurant
    Thai Delight for a good meal
    J. Kyuh Kunin No. 4

14. Smile Shop
    A charity shop supporting the Smile Foundation
    J. Ryuky Kyuh Kunin

Surprise

15. Anubh Ashram
    Laughing yoga & spiritual healing
    J. Kyuh Kunin No. 5

16. Swami
    A slice of coconut water, tea, yoga, & rooms
    J. Kyuh Kunin No. 2-4

17. Taman Kali
    A temple for yoga meditation and aromatherapy
    J. Kyuh Kunin No. 7

21. Village Gate
    Village sculptures welcoming visitors
    J. Kyuh Kunin

22. Rama Addi
    Host the Balinese life
    J. Kyuh Kunin

23. Woodworker
    Meet a local woodworker
    J. Kyuh Kunin No. 2

24. Village Life
    Learn about what makes Kyuh Kunin so special
    J. Kyuh Kunin

Eat

4. Nad Lawar
   Traditional dancing serving Nad Lawar
   J. Kyuh Kunin No. 22

5. Tulip
   A unique outdoor floating restaurant
   J. Kyuh Kunin

18. Waring Polok
    Popular waring serving traditional Balinese food
   J. Kyuh Kunin No. 26

19. Waring Rama
    towering culture serving sumptuous Balinese cuisine
   J. Kyuh Kunin No. 1

    Ex the ever popular delicious Balinese cuisine
   J. Kyuh Kunin No. 19-20

22. Kigomuna
    Japanese cuisine in a stylish setting
   J. Kyuh Kunin

23. Sage
    A unique culinary dream come true
   J. Kyuh Kunin No. 1
# Questionnaire Results

## Field Internship (N=6)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I could complete the practice of problem finding and solving within the internship</td>
<td>33%</td>
<td>17%</td>
</tr>
<tr>
<td>Through the internship, I could find something useful in conducting my research in the future.</td>
<td>17%</td>
<td>67%</td>
</tr>
<tr>
<td>Through the internship, I could find the opportunity to utilize my experience or my expertise.</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>I could think what I can do for the demands from society.</td>
<td>17%</td>
<td>50%</td>
</tr>
<tr>
<td>At the presentation, I could make presentation in consideration of what the audience wants to know.</td>
<td>17%</td>
<td>17%</td>
</tr>
<tr>
<td>I could communicate effectively in English with stakeholders.</td>
<td>0%</td>
<td>83%</td>
</tr>
<tr>
<td>When a problem prevents our work, my group could share the problem with all members and collaborate to find the solution.</td>
<td>50%</td>
<td>33%</td>
</tr>
<tr>
<td>I could communicate effectively in English with my group members.</td>
<td>17%</td>
<td>50%</td>
</tr>
<tr>
<td>I could formulate feasible solutions in a field</td>
<td>17%</td>
<td>33%</td>
</tr>
<tr>
<td>I could identify a problem to be solved and define it as a solvable challenge</td>
<td>0%</td>
<td>83%</td>
</tr>
</tbody>
</table>

## H26 FBL/PBL2 (N=13)

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Agree</th>
<th>Strongly Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>I could complete the practice of problem finding and solving within the FBL/PBL</td>
<td>38%</td>
<td>23%</td>
</tr>
<tr>
<td>Through the FBL/PBL, I could find something useful in conducting my research in the future.</td>
<td>15%</td>
<td>23%</td>
</tr>
<tr>
<td>Through the FBL/PBL, I could find the opportunity to utilize my experience or my expertise.</td>
<td>15%</td>
<td>23%</td>
</tr>
<tr>
<td>I could think what I can do for the demands from society.</td>
<td>15%</td>
<td>15%</td>
</tr>
<tr>
<td>At the presentation, I could make presentation in consideration of what the audience wants to know.</td>
<td>38%</td>
<td>23%</td>
</tr>
<tr>
<td>I could communicate effectively with stakeholders.</td>
<td>40%</td>
<td>40%</td>
</tr>
<tr>
<td>When a problem prevents our work, my group could share the problem with all members and collaborate to find the solution.</td>
<td>15%</td>
<td>38%</td>
</tr>
<tr>
<td>I could communicate effectively in English with my group members.</td>
<td>0%</td>
<td>83%</td>
</tr>
</tbody>
</table>

*Note: The percentages represent the distribution of responses on a 1-6 Likert scale.*
Questionnaire Results

Practice of facilitation and management skills
• I learned how to manage an international team by carefully confirming mutual understanding in English step by step
• I tried controlling our discussion to be balanced among diverse domains

Utilization of experience and expertise
• I could discuss effectively with other experts in English because I had experienced facilitation and English discussion in design school in Okinawa and Hong Kong
• I could observe the field from perspective of biology and fisheries while understanding information provided by local experts

Feedback to research
• It’s helpful for my research involving local government and inhabitants to know a problem-solving process in collaboration with industry-government

Interdisciplinary collaboration
• I acquired a behavior that always thinks not only how to maximize my presence in my team, but also how to utilize strengths and weaknesses of other members to maximize the performance of the whole team
Interdisciplinary Collaboration

**Division**  Decompose a field problem into sub-problems of each discipline or hierarchically separate implementation of solutions

- Ex. Rural Camp = Agriculture education + Business Model
- Ex. Sightseeing App = App Development + Content creation

**Fusion**  Utilize other discipline’s perspectives, findings, and knowledge each other
Lessons Learned from Fields

Evaluation by host organization

- I was grateful that the students had made a more systematic summary and detailed solutions than the previous interns from other universities
- The students were really active, and naturally compared information obtained from our field with one from other field they had known

- An idea is **implemented by** the host organization
  - Should ask students to consider feasibility of the idea by the host organization as well as social acceptability of the idea
- **Continuous participation** in the field
  - Need to continuously participate in the field but not once to establish a relationship of mutual trust
- Information **synchronization**
  - Need to share information because the host organization has progress and field situation changes after one year passes
Thank you! Terima kasih!