



MSc Program and Research Project Energy for Sustainable Social Development (MSESSD)

Graduation of 48 Master students and 10 PhDs at IOE (incl. up to 6 months visit at NTNU)

Duration 2015-2020

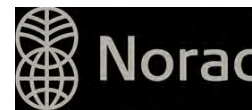
Financed by NORAD's Energy and Petroleum Program, Budget 9 mio. NOK (1.1 mio. USD)

Project Leaders:

Prof. Dr. Martina Keitsch, Faculty of Architecture and Design, Department of Design, Norwegian University of Science and Technology (NTNU), Norway

Associate Prof. Dr. Sushil Bajracharya, Department of Architecture, Institute of Engineering (IOE), Tribhuvan University, Kathmandu, Nepal

Prof. Dr. S. K. Mishra, Director, Center for Applied Research, Institute of Engineering (IOE), Tribhuvan University, Kathmandu, Nepal



Objectives

The main objective is providing Nepalese society with **qualified professionals, who facilitate the design of clean energy solutions** and contribute to good energy governance adapted to national, regional and local stakeholder requirements. Teaching and research focuses on the following sub-goals:

1. Systematize: To methodically **include societal stakeholders in planning, design and operation of clean energy systems.**
2. Appraise: To gather and process reliable information on pressing energy issues to be scaled up to policy levels for decision makers.
3. Design: To design energy-efficient solutions, prototypes and settlements having a positive impact on peoples' livelihood.

Outputs

IOE /NTNU take in	2015	2016	2017	2018	2019	2020
Number of enrolled master students	16		16	16		
Number of enrolled PhD candidates		7	2	1		
Number of graduated MSc and PhD			16		23	19

1. Courses and group work	<ul style="list-style-type: none"> At least 10 elective courses which contains curriculum about clean energy technology stakeholder inclusion and gender mainstreaming. At least 12 group work projects with inclusive gender focus in each.
2. Master program	<ul style="list-style-type: none"> Courses will be included in existing Master programs to ensure sustainability 12 Workshops with experts students, IOE staff and stakeholders for better communication and implementation
3. Administrative support	<ul style="list-style-type: none"> 2 Project Management course for administrative personell at IOE at least 50% female (4+4).
4. Candidate output	<ul style="list-style-type: none"> 48 MSC in four years, 14 female 6 PhDs, at least 2 female (start 2014, 2015, 2016) 2 post-docs, 1 female (start 2014, 2015) 4 faculty staff exchange, 2 female
5. Dissemination	<ul style="list-style-type: none"> 40 articles in international and national journals 1 Web page with program newsletter 4 Clean Energy Manuals for AEPC, ADDCN and VDC and local stakeholders.

SGD Cross cutting and transdisciplinary implementation for 60 Master students and 10 PhDs (visiting NTNU) from IOE



Master theses with focus on renewable energy and entrepreneurship generation

- Solar greenhouse for organic food production
- Bio briquettes from weed for heating and selling
- Artificial hotspring with solar energy for rural tourist business.



PhD and Master theses with focus on cities and communities

- Eco-village and eco-settlement planning and design
- Eco-Cities
- Sustainable urban transport
- Rural and Urban renewable energy entrepreneurship



PhD and Master theses

- Energy Efficient Network Deployment for Rural ICT Expansion of Nepal

Examples for case sites



1 Baglung
2 Muktinath
3 Kagbeni

4 Chitwan
5,6 Patan, Kirtipur

MSESSD student field work at case site,
Lower Mustang, Gandhaki Province, Autumn 2018

Group 1 Cold Storage Eklebhatti

Group 2: Jhong Monastery Solar Room

Group3: Organic Farming, solar Greenhouse Chokur

Group 4: Folk Museum Kagbeni

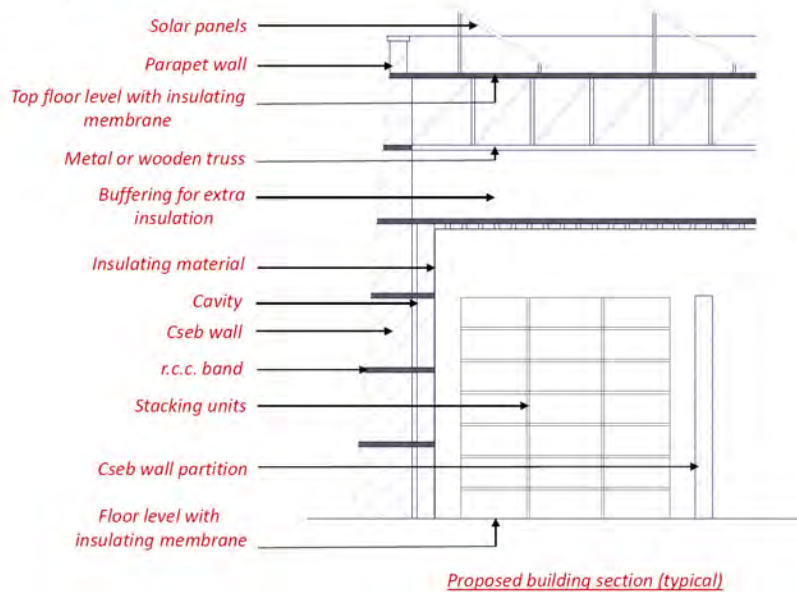
Group 5: Kingar Kindergarden Insulation

Group 6: Jharkot Public School Insulation

(20 students, 6 groups, 4 teachers from 16.11-21.11.2018)



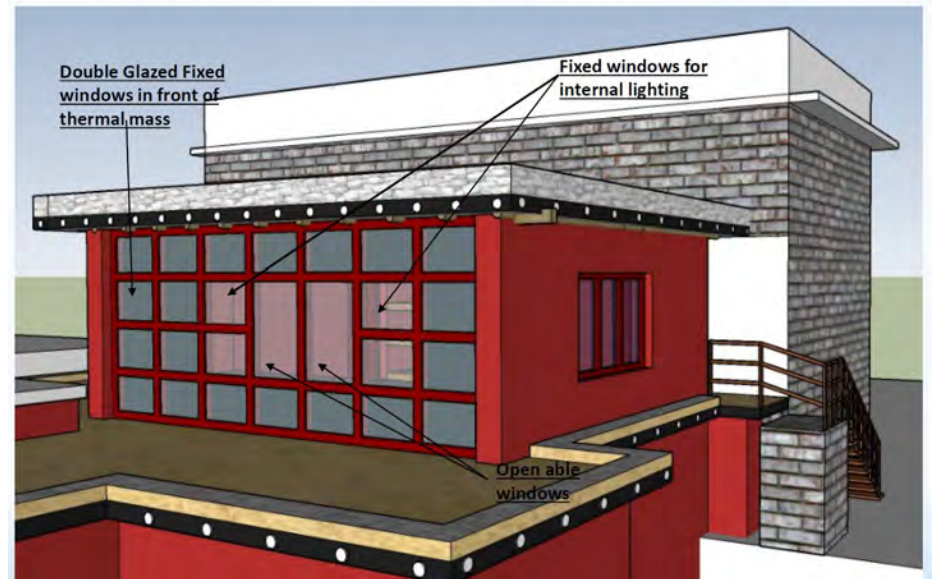
Building form



Proposed building section (typical)

low energy cold storage design

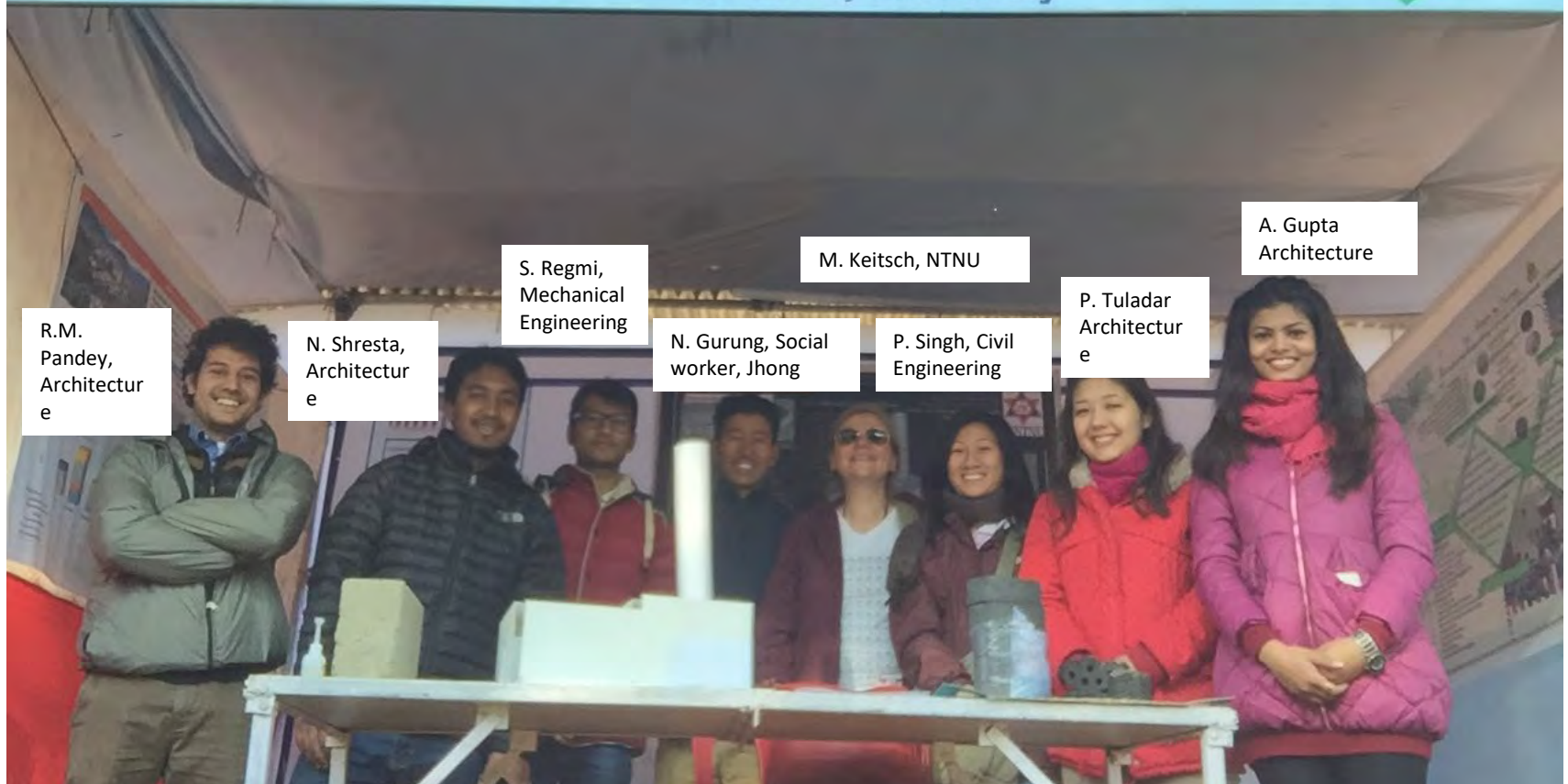
DESIGN OF PASSIVE HOUSE FOR MONASTERY



MASTER PROGRAM FOR SOCIAL SUSTAINABLE DEVELOPMENT

MSESSD

A Collaboration between IOE, Nepal and
NTNU, Norway



R.M.
Pandey,
Architectur
e

N. Shresta,
Architectur
e

S. Regmi,
Mechanical
Engineering

N. Gurung, Social
worker, Jhong

M. Keitsch, NTNU

P. Singh, Civil
Engineering

P. Tuladar
Architectur
e

A. Gupta
Architecture

Master Student Project Works exhibited at
Mountain Festival Pokhara, DECEMBER 2016

Other activities : Gender conference 2016 and 2017

PROGRAMME:

9:00-10:00:
OPENING SESSION

10:15-13:00:
TECHNICAL SESSION 1:

Gender Mainstreaming
in Sustainable Social Development

13:00-14:00:
LUNCH BREAK

14:00-16:00:
TECHNICAL SESSION 2:

Gender Mainstreaming
in Technical Education

16:15-17:00:
CLOSING SESSION

The Kevnote speakers:

Ms. Svandis Benediksdottir
Gender Advisor,
Office of Rector, NTNU, Norway

Ms. Rita Kumar
Adviser, Learning Festival,
NTNU, Norway

Ms Radhika Aryal,
Joint Secretary, Ministry of Child, Woman and
Social Welfare

The conference committee hereby
requests submission of abstracts and
papers for the technical sessions.

Details for submission:

Deadline for submission of abstracts (300
words): 1 October 2016

Deadline for submission of paper (6000
words): 31 October 2016

The papers submit to:

Ms. Sangeeta Singh Member: Conference
Committee
Department of Architecture, IOE, TU
Email: sangeeta@ioe.edu.np

Organizing Committee:

Coordinator
Prof. Dr. Sudha Shrestha

Members
Dr. Madhura Karki
Ms. Sangeeta Singh
Mrs. Eurika Bajracharya

Contact for details:

Dr. Sushil B. Bajracharya
Coordinator MESSD program
Department of Architecture, IOE, TU
Email: sushil_bajracharya@hotmail.com

Organized by
MESSD program, CARD, IOE, Nepal and
NTNU, Norway



**Gender Mainstreaming
in Energy and
Sustainable Social
Development**



9th November 2016
(25 Kartik 2073)

Venue:
ICTC Centre
Institute of Engineering
Pulchowk Campus
Pulchowk, Lalitpur, Nepal



Workshop with
local stakeholders and local politicians in Jhong Lower Mustang



Other activities : Stakeholder Meeting Kagbeni 2017



MEETING SUMMARY DOING BUSINESS IN MUSTANG, KAGBENI – YAK DONALDS 15 & 16 OCTOBER 2017

बैठकको सार

मुस्ताङ्गमा व्यापार संचालन,
कागबेनी - याक दोनाल्ड्स
२९ र ३० आश्विन २०७४



NITEC – Erasmussen
Netherlands University of
Applied Sciences



Tribhuvan University
Institute of Engineering



Programme Schedule

DAY 1 15/10/2017

09:15 – 10:00 Registration
10:00 – 10:15 Opening Ceremony
10:15 – 11:00 Orientation – “Doing Business”
11:00 – 11:30 Break
11:30 – 13:00 Participants sharing experiences
13:00 – 14:00 Lunch
14:00 – 15:00 Participants talk about their experiences
15:00 – 15:45 Kushal Gurung (WPN):
Entrepreneurship Practice
15:45 – 16:30 Bahadur Thakali (NMB):
Business Practice in Nepal
16:30 – 17:00 Break
17:00 – 17:45 Martina, Bijay: Regional
collaboration
17:45 – 18:30 Ravi Bhandari & David Sharma
(NITEC): Business Canvas
18:30 – 19:00 Discussion
19:30 – 21:00 Dinner

DAY 2 (16/10/2017)

09:15– 10:00 Purna Kunwar (WWF):
Cases in Mustang
10:00 – 10:45 Tulsi Dhahal (ACAP):
Community Business
10:45 – 11:15 Break
11:15 – 13:00 Practical work
13:00 – 14:00 Lunch
14:00 – 17:00 Presentation
Participants' canvas
17:00 – 17:30 Break
17:30 – 18:30 Discussion
18:30 – 19:00 Closing Ceremony
19:30 – 21:00 Dinner

कार्यक्रम तालिका

पहिलो दिन २९/०९/२०७४

०९:१५ - १०:०० दर्ता संकलन
१०:०० - १०:१५ उद्घाटन समारोह
१०:१५ - ११:०० परिचयात्मक कार्यक्रम
११:०० - ११:३० विश्राम
११:३० - १२:०० अनुभव प्रस्तुति
१२:०० - १४:०० खाना विश्राम
१४:०० - १५:०० छलफल
१५:०० - १५:४५ कुशल गुरुङ (WPN) -
उद्यमशीलता अभ्यास
१५:४५-१६:३० नेर बहादुर थकाली (NMB): लघु
वित्तिय लगानी
१६:३० - १७:०० विश्राम
१७:०० - १७:४५ मार्टिना काइज र विजय सिंह -
रिजनल कोलाबरेसन
१७:४५ - १८:३० रवि भण्डारी र डेविड शर्मा (NITEC) - Business canvas
१८:३० - १९:०० छलफल
१९:३० - २१:०० दिनर

दोस्रो दिन ३०/०९/२०७४

०९:१५ - १०:०० पूर्ण बहादुर कुँवर (WWF)
पर्यावरणिय पर्यटन
१०:०० - १०:४५ तुलसी प्रसाद दाहाल (ACAP)
सामुदायिक व्यवसाय
१०:४५ - ११:१५ विश्राम
११:१५ - १२:०० कार्यशाला
१२:०० - १४:०० खाना विश्राम
१४:०० - १७:०० स्थानिय सहभागीहरूका प्रस्तुती
१७:०० - १७:३० विश्राम
१७:३० - १८:३० छलफल
१८:३० - १९:०० समापन समारोह
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 १४:०० - १५:०० छलफल
 १५:०० - १५:४५ कुशल गुरुङ (WPN) - उद्यमशीलता अभ्यास
 १५:४५ - १६:३० नेर बहादुर थकाली (NMB): लघु बित्तिय लगानी
 १६:३० - १७:०० विश्राम
 १७:०० - १७:४५ मार्टिना काइज र विजय सिंह - रिजनल कोलाबरेशन
 १७:४५ - १८:३० रवि भण्डारी र डेविड शर्मा (NITEC) - Business canvas
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 १०:४५ - ११:१५ विश्राम
 ११:१५ - १२:०० कार्यशाला
 १२:०० - १४:०० खाना विश्राम
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 १८:३० - १९:०० समापन समारोह
 १९:३० - २१:०० दिनर



Result of Stakeholder dissemination activities 2018

Stakeholder Manual for Local Project Planning

Author: Nyima Tsering Gurung

Editor: Martina Maria Keitsch

Part of MSESDD Collaboration Project
२०१५-२०२०



Preface

This is a comprehensive planning manual for rural stakeholders, especially for the Bahragaun Muktichhetra, Lower Mustang, and for project planners in similar areas of Nepal. It has the goal to present steps for decision-making and planning for improvements of rural infrastructures. The manual emphasizes social, economic, infrastructure and political development. It also focuses on natural resources, social and traditional structure, historical acknowledgement and political bodies of this area. In recent years, Mustang has been called a forbidden kingdom, hidden kingdom and the last kingdom that preserved Tibetan culture. Mustang is a place where social, and traditional practices and sustainable culture-nature relationships have been maintained for many centuries. It is now also a place where these relationships are endangered due to factors such as climate changes, migration etc.

In this manual, background and history of a rural place called Jhong is described, primarily by looking at local stakeholders, local bodies and alliances. The goal is to provide maximum information for project planners to concern available local natural, and human resources and to connect them to implementation possibilities in rural areas like Mustang. This manual also provides some tools for the local stakeholders to analyze their present situation and conditions relating to economy and livelihood. This can be done for example by looking at their history of occurrences for pertaining social, economic, and political sustainability.

The manual is the result of a Master Program addressing rural stakeholder inclusion. The Program is called M.Sc. in Energy for Sustainable Social Development (MSESDD, <http://msessd.ioe.edu.np/>) and conducted by Tribhuvan University, Institute of Engineering, Nepal, in collaboration with the Norwegian University of Science and Technology, Norway.

Nyima Tsering Gurung, the author of this manual, is part of the rural community in Jhong and has worked as a Social Mobilizer in the Bahragaun area since 2014. He has written both the English and the Nepali text. Martina Keitsch is Professor at the Faculty of Architecture and Design at NTNU and Project leader of MSESDD. She is the editor of the manual. Keitsch has worked with colleagues and students from Nepal and Norway in the area since 2012, mainly with renewable energy projects.

The manual is meant as a guideline how to start and conduct the decision-making and planning process. It describes decision-making and planning steps from local (ward) towards regional level. A second edition might focus on developing the financing- and budgeting structure for the implementation of a local project in detail.

PHD PROJECT

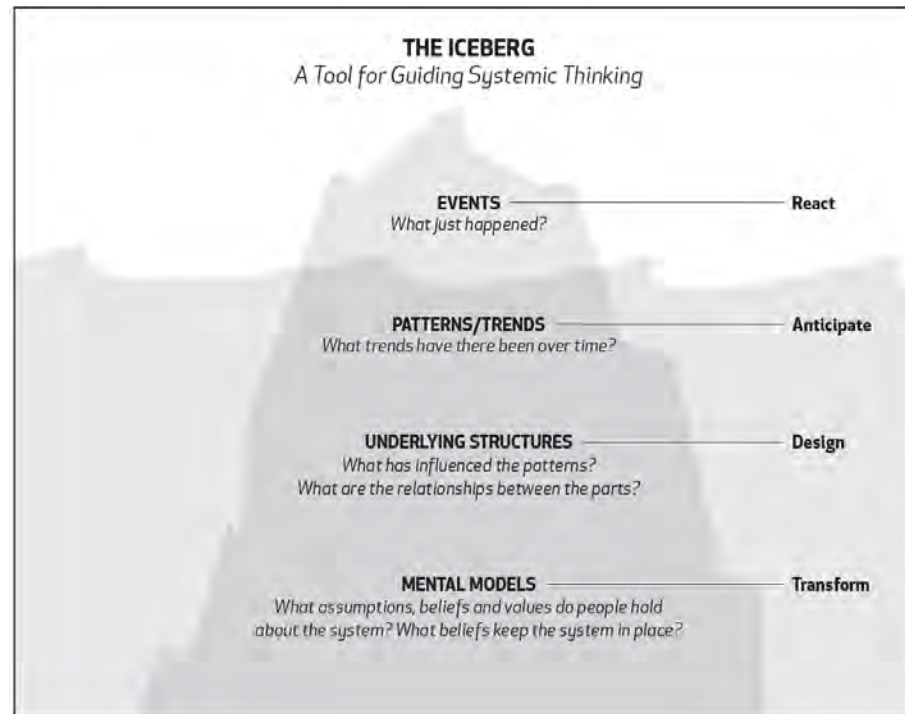
“Reviewing concepts and practices of ecovillage in local and regional contexts in case of Jhong, Lower Mustang, Nepal”

IOE PhD Candidate Bijay Singh,
Supervisors Sushil Bajrarchaya and Martina Keitsch

Objectives

- The overall aim of the research is to establish a connection between national/global policies and local actions in sustainability. In order to achieve this, the research seeks out the following objectives:
- to understand how an innovation, like EV, can contribute to linking the policies to actions at rural traditional communities, like Jhong in Nepal.
- to understand how the cultural practices and their regional relationships in traditional settlements, like Jhong, can contribute to interpreting sustainable policies into locally valued actions.

Methodological Framework

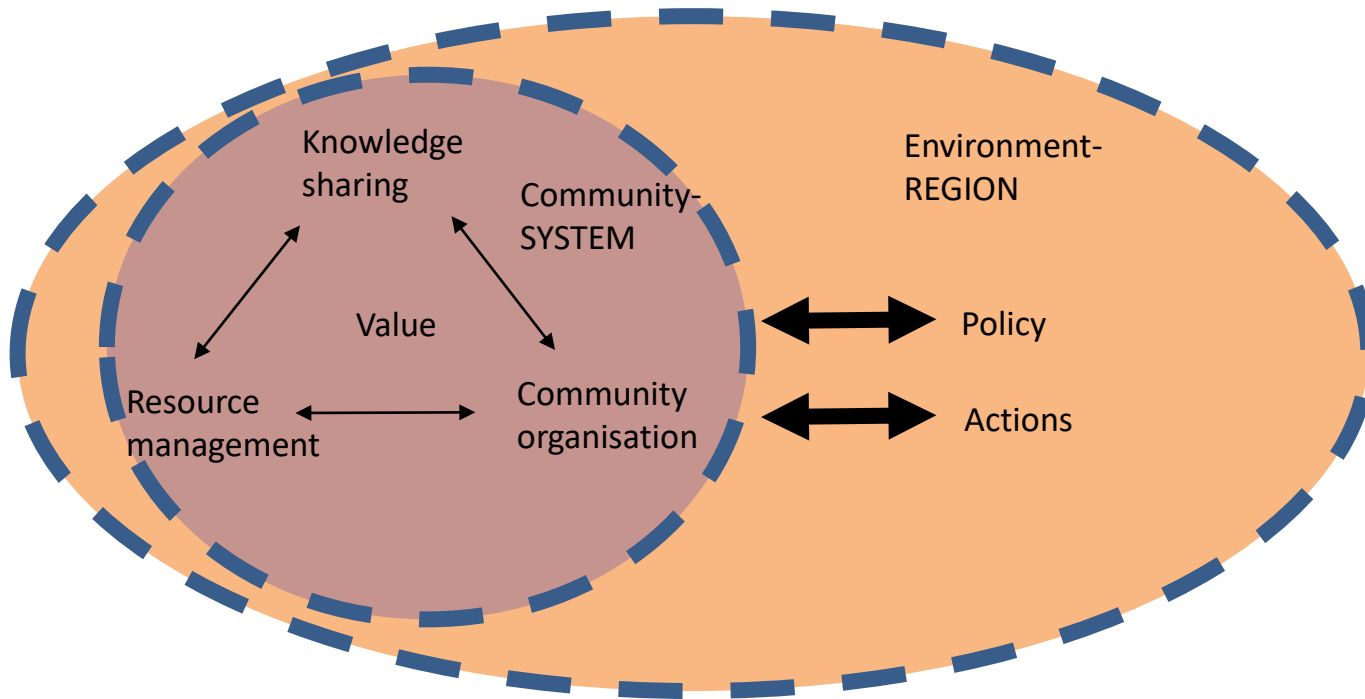


- Holistic approach based on system's thinking through dynamics of human-nature relationship at local and regional levels.
- Use of case studies to understand EVs and Jhong in theory and practices and analyse findings by comparing with EV literature. Method wise, use of narratives, observations, semi-structured interviews and secondary literature for information collection, verification and analysis.
- The research assumes that the success of sustainability is only evident at the local level. The policies can guide or assess the performance of the actions.

Analyses and Comparision of International Case studies



Findings



- At the theoretical level, it is important to focus on developing the right methodological framework that combines theory and practices of sustainability. One way to achieve this is to look at the problems from systemic thinking human-nature-human relationship rather than in specific category.
- At practical level, PhD concludes that spatially, it is important for the abstract concept like sustainability to be interpreted in terms of communicable physical actions at local level. It also emphasises the importance of overlapping of policy that covers broader region and also a community.



Thank you for your attention