Giacomo Butte

Portfolio
11.2021

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Profile

Environmental engineering

Project management

Teaching and facilitation

Design and planning

Project

Photo caption

Area of work

“...[2]...”
Figure number

Design for development

Desgin and planning

Employer: local NGOs (STT Cambodia), international INGOs (Habitat for Humanity, People in Need), internation donors (AusAID).

Data: project

Background: I have provided design services related to architecture and urban planning in two moments.
In the planning phase there is often a need for feasibility studies [2] and alternative costed solutions. During implementation phase, design via participative process is a requirement in many projects [3]. When working with limited budgets it is important to make sure the
Another group of project is related to low cost housing [6]. Design was always informed by surveying the existing uses [4], this assures that the assumptions behind the design are as close as possible to reality. In this type of project it is important to communicate effectively with local communities. Often scale models [3,7] and visualization [5] were used.

Role: project architect and project manager.

Work tasks: architectural design, budgeting, site supervision, presentation to communities, management of team members, report preparation for clients.

1. Community Centre in Oudong (Cambodia) for habitat for Humanity. The building was designed placing particular attention to the way it relates with the surrounding. 1

2. Alternative planning for community in fear of eviction. The idea was to relocate community members without land ownership of bridges. This would allow them to remain in the same area of the city and in contact with their livelihoods.

3. Community centre for AusAID. The design was implemented with the involvement of the community .

Profile

One of the key set of relations to address in this century is defined by society, built and natural environment.

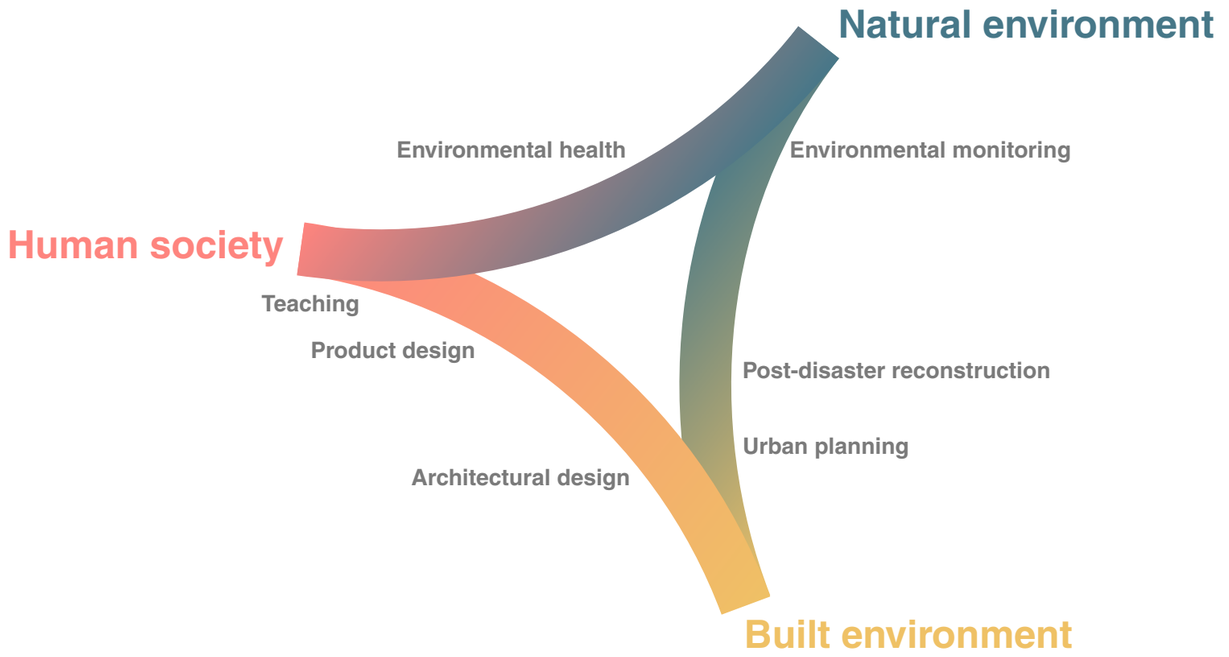
I had the opportunity of exploring these relations in different ways in the past two decades. Initially, as a designer, on the axis society-built environment. Projects involved the design of spaces, building , products but also advocacy campaigns for better cities.

My interest than grew towards the natural and built environment relation. This took me to learn more sustainable construction and working in Nepal in the post earthquake reconstruction.

More recently I have focused the third axis between society and natural environment by working on water security and environmental health.

Now, more than ever, I see this as a journey that mixes practical needs (work), curiosity and existential search.

In the following pages I have collected some material to give you a brief idea of this journey. I hope you enjoy it.



Timeline

Occupation during the period 2000-2021 based on role, expertise area, place and year.
Numbers indicate the duration of each position in months.

Project Management

In the past 13 years I had the possiblity of managing projects in different sectors and at different scales. Working in design and construction has been a very valuable experience. The complexity and diversity of stakeholders involved in these projects gave me the opportunity to gain experience from a vary wide set of situations.

Aside from construction, I have planned and managed other type of activities such as training, university courses and education summer camps. Working with people from various socio cultural background improved my interpersonal skills.

Relevant experiences:

Water and Habitat delegate, ICRC
Sudan, 03.2021 - 11.2021

Reconstruction Project Manager at Kam For Sud,
Nepal 12.2016 – 07.2018

Certificate in Construction Management
RICS 2017

Site manager for the construction of a small school,
Csoma's room, India 06.2015- 08.2015

Contractor for AusAID for the design and construction of 5 community centers around Cambodia, 2016.

Co-director of a small design firm
Cambodia, 2010-2014

Director of educational summer camp for children,
Children International Summer Villages, 2006

Skillset:

Ability to manage a team.
Experience in relating with other stakeholders.
Experienced in reporting to donor, client.
Ability to monitor project budget and prepare alternative options to control costs.
Strong interpersonal communication skills.

Project Management

Project: post-earthquake reconstruction in Nepal

Employer: Kam For Sud Switzerland

Time: Decemebr 2016- July 2018

Data: reconstruction of two schools and one clinic (~500 m²). Technical support to ~600 house holds. Budget of the whole project ~450,000 CHF.

Background: the village of Saipu in the district of Ramechhapp was severely affected by the 2015 earthquake. Based on a 20 years old relationship, Kam For Sud and the local community decided to team up for the reconstruction phase. The program implemented was articulated with different activities long three areas: capacity building, reconstruction of public infrastructure and technical support to privata households.

Role: as a project manager my key role was to act as a conneciton between the head office in Switzerland and the filed office in Saipu. As head of a team I was in charge of the daily planning and implementation of the project activities. Additionally I acted as representative for the project in meetings with stakeholders.

Work tasks: team management, financial and administrativemonitoring, planning of project activities, organization, monitoring and evaluation of training program, coordination and involvment with other stakeholders (community, governmental members, donors), reporting.

The conditions of private homes after the earthquake in Saipu.

Casting of reinforcement beams in one of the school blocks. The design of new buildings had to be approved by the National Reconstruction Agency.

One of the two schools rebuilt .

The technical support module supported local house owners in complying with the technical and legal requirements to receive the national financial support for the reconstruction.

In the initial phase of the project, 90 individuals were trained on construction methods that they could use for their household reconstruction. Some of the trainees used this opportunity to become commercial contractors during the reconstruction phase.

Project Management

Project:
design and construction of five community centres across Cambodia

Employer: Australian AID

Data: five community centres located in different towns in Cambodia. Budget ~150.000$.

Background: the project was connected with the intention of bringing improvements to the communities that have been effected by the reopening of the rail line in Cambodia. The aim of the project was to design and build a small community centre in each of the 5 communities involved. It was a requirement for the design to be done with participation of the community. The contract was awarded after a competitive bid.

Role: as a contractor for AusAID I was in charge of the design and construction of the centres. This also included budget control and hiring the subcontractor for the construction. The main challenges of the project were given by the limited size of the buildings (<100 m² in three cases) and the distance between the locations (500 Km).

Work tasks: prepare bidding document, hiring community facilitator to involve the community in the design process, hire subcontractors, manage budget and project timeline, prepare reports to donor.

Environmental Engineering

With the idea of acquiring new knowledge in environmental sciences I went back to university in 2018. I took courses in water supply, treatment, waste management, fate of pollutants and did a dissertation on a risk estimate for the use of biosolids (wastewater sludge used as fertilizer).

I have gained some experience in the field of Water Security, microbial risk assessment and citizen science. Being a relative new field for me, I am expanding by knowledge by following additional courses in civil engineering and sustainable mountain development. Additionally I have enrolled in short courses in hydraulics.

Despite the novelty of many topics I have also found that a lot of skills developed in previous work are usable in this field.

Relevant experiences:

MSc Environmental Engineering, best dissertation award, Newcastle University 2019

Assistant Researcher in a project on water security, Newcastle University 09.2018-now

Assistant Researcher for creating a microbial risk estimate on the reuse of biosolids for agriculture. The research results should be published in July 2020.
Swedish University of Agricultural Sciences, 06.2018-now

Volunteer in river quality monitoring project,
Tyne River Trust 2019

Volunteer in projects on waste management,
Clean Up Nepal, 2015

Urban designer involved in drafting urban upgrading for communities, STT Cambodia 2010-2011

PGCertificate in Civil Engineering,
Surrey University, 2019-2021 (in progress)

PGCertificate Sustainable Mountain Development
Perth College, 2019-2021 (in progress)

Skillset:

Field work:
groundwater quality sampling, borehole pump test, sampling for pathogenic presence on soil, sludge and vegetables, air quality monitoring.

Lab and field work:
water quality (nitrite, nitrate, E.coli, titration, qPCR), pollutants in groundwater (IPC-MS, ICP-OES), presence of pathogen in different matrix (soil, sludge, vegetables).

Software:
LaTex,excel, R, tableau, MathCAD, QGIS, Archicad, EPANET

Environmental Engineering

Project:
risk assessment for the reuse of biosolids in agriculture in Uganda.

Employer: Swedish University of Agricultural Sciences. Will be submitted for publication in July 2020.

Place: Uganda (for field work).

Background: wastewater sludge is a very valuable source of nutrients for agriculture. In order to be used, an assessment on possible health and environmental risk is necessary. From a human health perspective, in a context like Uganda, the pathogens present in the sludge can be a source of illness for farmers, workers and consumers of agricultural products. In this work ,we estimated the risk and possible mitigations coming from the use of the sludge.

Role: this project started as my MSc thesis and then continued in the following months. The field work included environmental sampling and interviewing stakeholders involved in the project. This was done in Kampala in collaboration with Makere University.

Additionally I had to analyse the data and to set up a numerical model based on the Quantitative Microbial Risk Assessment (QMRA) methodology to estimate the risk for using biosolids in agriculture.

Work tasks: experimental design, environmental sampling, data analysis, numerical model in R, manuscript writing.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Water Research

journal homepage: www.elsevier.com/locate/watres

Assessing the microbial risk of faecal sludge use in Ugandan agriculture by comparing field and theoretical model output

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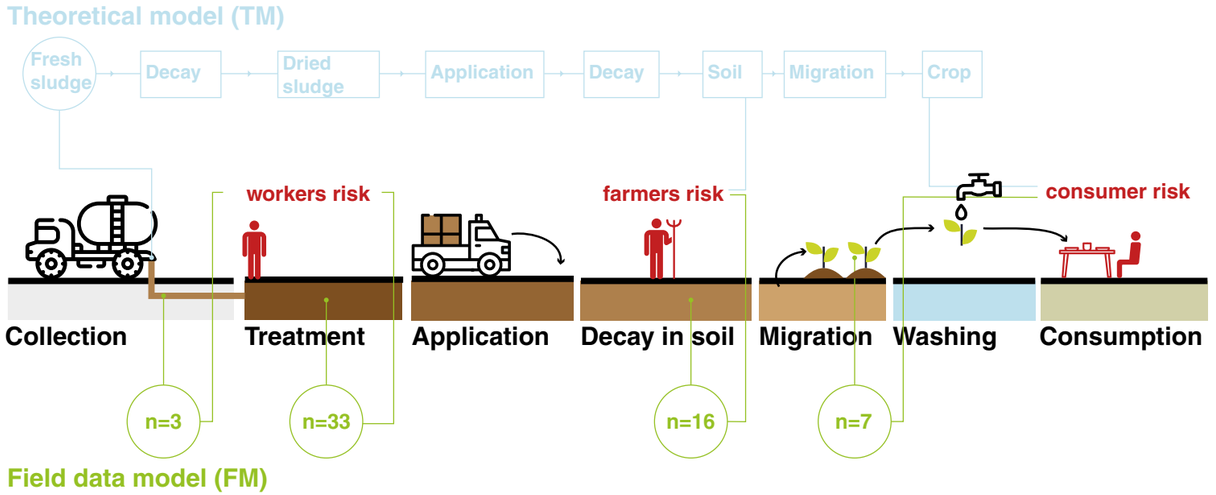
[a] School of Engineering, Newcastle University, Newcastle Upon, Tyne, UK
[b] Department of Civil and Environmental Engineering, College of Engineering, Design, Art and Technology (CEDAT), Makerere University, P. O. Box 7062, Kampala, Uganda
[c] Department of Energy and Technology, Swedish University of Agricultural Sciences, Box 7032, 750 07 Uppsala, Sweden.



The research combined published literature and field sampling to better understand the differences between theoretical models and reality.

The risk estimate model looked at the whole chain from treatment plan to table. Different sampling points were used along the chain.

Environmental Engineering

Research in progress

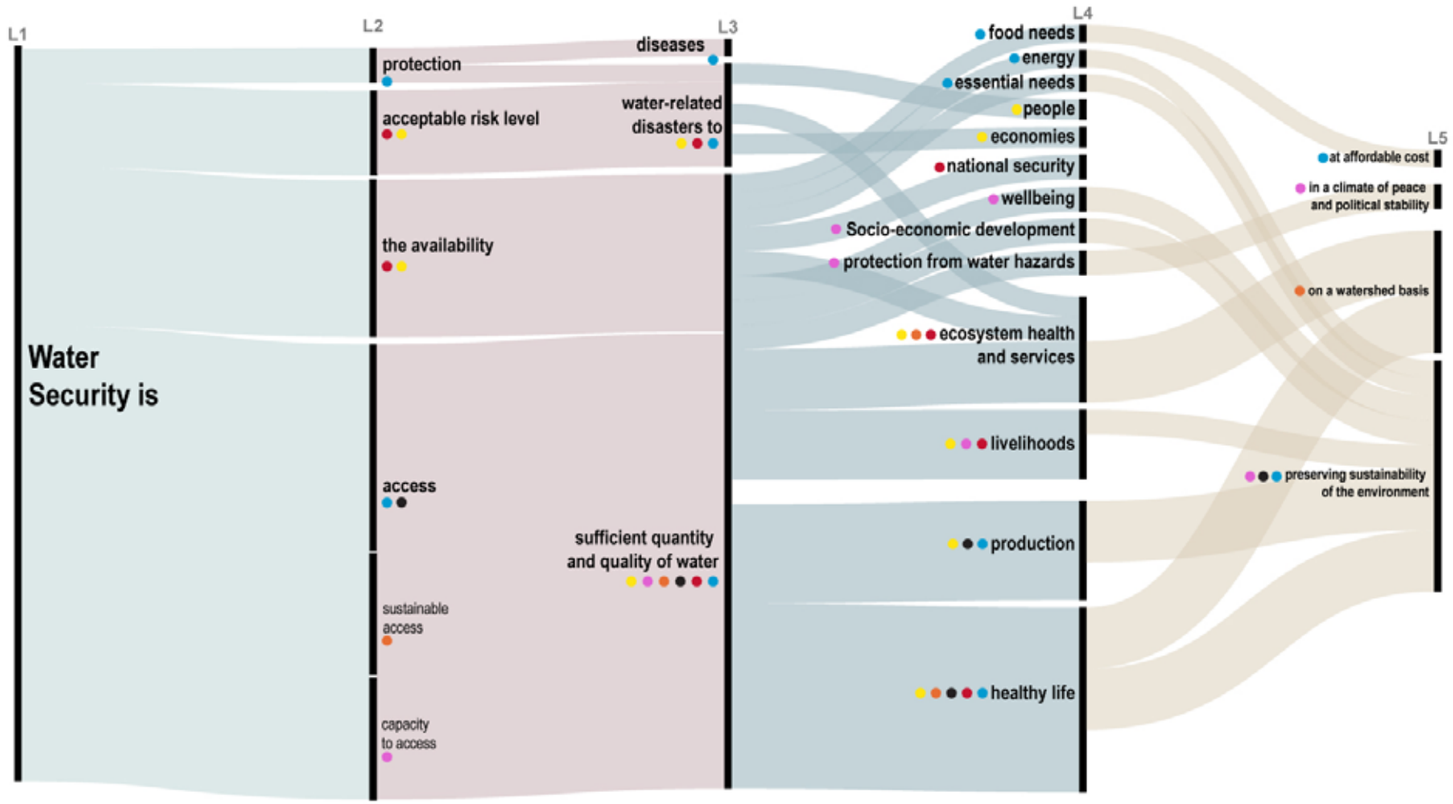
Employer: Newcastle University

Background: achieving and maintaining Water Security is a pre-requisite for a stable and prosperous society. Due to climate, economic and social changes, this is harder and harder to achieve, not only for developing countries. The Water Hub at Newcastle University is running a 5 years investigation on this issue in partnership with four other countries.

Role: Assistant Researcher in the coordination of a Workstream

Article in progress:
Data gathering for Water Security: a Suggested Framework.

Microbial risk assessment for risk of gastroenteritis for aquaculture workers in Thailand



Legend:
- Bakker, K., 2012. Water security: Research challenges and opportunities. Science (80-.). 337, 914–915. https://doi.org/10.1126/science.1226337
- Grey, D., Sadoff, C.W., 2007. Sink or Swim? Water security for growth and development. Water Policy 9, 545–571. https://doi.org/10.2166/wp.2007.021
- GWP, 2000. Towards water security: Framework for Action. Glob. Water Partnersh. 10.
- Norman, E., Bakker, K.J., Cook, C., Dunn, G., Allen, D., 2010. Water Security: A Primer.Program on Water Governance, University of British Columbia.
- Nakyama, M., Jansky, L., Pachova, N., 2008. International water security : domestic threats and opportunities. United Nations University Press.
- UN-Water, 2013. Water Security & the Global Water Agenda.

Visualization of six of the most used definitions of WS. The different framing given to the concepts can be seen at L2 in relation to L3. L4 identifies the aim that WS wants to achieve in terms of activities, population and environment. Some definitions refer to the external context or to a particular condition (L5)

Teaching and facilitating

Several experiences in planning and running educational activities. These range from university courses in architecture to trainings for construction workers. Additionally, worked as private tutor in sciences and music.

These experiences were very valuable in learning how to structure group activities, communicate information and facilitate collaboration. The skillset gained was used very often in projects that require stakeholder involvment.

Relevant experiences:

As organizer of training courses:
Training for Galvanized Wire reinforcement Technology, Nepal 2017

Training for builders on typhoon prone houses
for People In Need, Cambodia 2016

As tutor/ Lecturer in University courses:
University of New South Wales, Sydney
Street Life Studies 2015-2020

Politecnico of Milan,
Tutor in the Master of Urban Interior 2014
Tutor in Design Studio 3, interior arch. dept., 2006

Tribhuvan University, Kathmandu:
Street Life Studies Kathmandu / workshop 2017

Norton University Phnom Penh:
Phnom Penh, Architecture Design Studio 3 2010/11
Architecture Design Studio 5 WS 2010 and SS 2011

Limkokwing University:
Phnom Penh Interior Design Studio 1 2010/2011
Interior Design Studio 3 WS 2010 and SS 2011

Architecture University of Yadz:
tutor in the workshop: Culture of living, Iran 2006

University of Yogjakarta:
tutor in the workshop “Culture of living”, Indonesia 2006

As speaker in public presentations:
Speaker at Choson Exchange Workshop, Pyongyang 2016

Speaker at Cities in Renaissance, Lille 2016 1.2016

Speaker at the conference Affordable Housing Forum, Manila 10.2013

Guest Speaker at the National University of Singapore 10.2012

As educational facilitator:
covered different positions up to camp manager within the organization Children International Summer Villages (CISV)

Skillset:

planning and conducting learning activities, ability to visualize and communicate complex concepts, leadership.

Teaching and facilitating

Street Life Studies

To keep high levels of engagement and interest, the course uses a variety of activities: discussion,s, games, lectures, individual presentations .

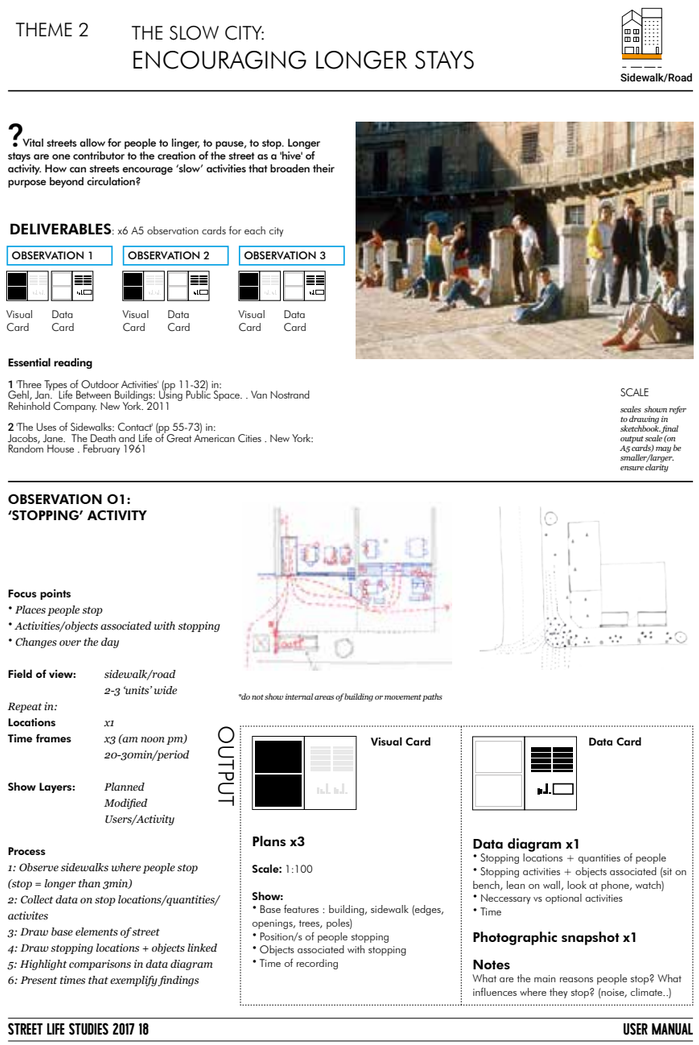
Employer: UNSW Sydney and RUFA Phnom Penh

Data: the course has been running since 2015 and has reached its fifth edition. Overall 200+ students have participated. The course is usually ranked by students in the top 10% of the department.

Background: public spaces are a crucial factor in creating a healthy and tolerant society. The increase of privatization, together with the spread of a generic global culture is putting a lot of pressure on the quality and rishness of public spaces around the world.
the idea of Street Life Studies comes from the discepancy that exists between theoretical models (in the case of architecture, design drawings) and reality. Public spaces, especially in Asia, are used and invented on a daily basis. This shall not be seen as a negative behaviour but on the contrary as an incredible source of inspiration and understanding. This course wants to apply post occupancy surveying techniques to better understand how public spaces are used in cities.

Role: together with Eva Lloyd we created the course, its activities and got a grant from UNSW to run it. As course convenor (in 2016) and tutor I lead classes by lecturing, running activities and giving feedback to students. I am also involved in grading student work.

Work tasks: lecturing, preparing and running classes, learning material, managing course budget.



THEME 2 THE SLOW CITY:
ENCOURAGING LONGER STAYS

Sidewalk/Road

? **Vital streets allow for people to linger, to pause, to stop. Longer stays are one contributor to the creation of the street as a 'hive' of activity. How can streets encourage 'slow' activities that broaden their purpose beyond circulation?**

DELIVERABLES: x6 A5 observation cards for each city

OBSERVATION 1 — Visual Card, Data Card
OBSERVATION 2 — Visual Card, Data Card
OBSERVATION 3 — Visual Card, Data Card

Essential reading

1 Three Types of Outdoor Activities' (pp 11-32) in:
Gehl, Jan. Life Between Buildings: Using Public Space. . Van Nostrand Rehinhold Company. New York. 2011

2 The Uses of Sidewalks: Contact' (pp 55-73) in:
Jacobs, Jane. The Death and Life of Great American Cities . New York: Random House . February 1961

SCALE

scales shown refer to drawing in sketchbook. final output scale (on A5 cards) may be smaller/larger. ensure clarity

OBSERVATION 01: 'STOPPING' ACTIVITY

Focus points
- *Places people stop*
- *Activities/objects associated with stopping*
- *Changes over the day*

Field of view: *sidewalk/road 2-3 'units' wide*

Repeat in:
Locations *x1*
Time frames *x3 (am noon pm) 20-30min/period*

Show Layers: *Planned Modified Users/Activity*

Process
1: Observe sidewalks where people stop (stop = longer than 3min)
2: Collect data on stop locations/quantities/ activites
3: Draw base elements of street
4: Draw stopping locations + objects linked
5: Highlight comparisons in data diagram
6: Present times that exemplify findings

**do not show internal areas of building or movement paths*

OUTPUT

Visual Card

Plans x3

Scale: 1:100

Show:
- Base features : building, sidewalk (edges, openings, trees, poles)
- Position/s of people stopping
- Objects associated with stopping
- Time of recording

Data Card

Data diagram x1
- Stopping locations + quantities of people
- Stopping activities + objects associated (sit on bench, lean on wall, look at phone, watch)
- Neccessary vs optional activities
- Time

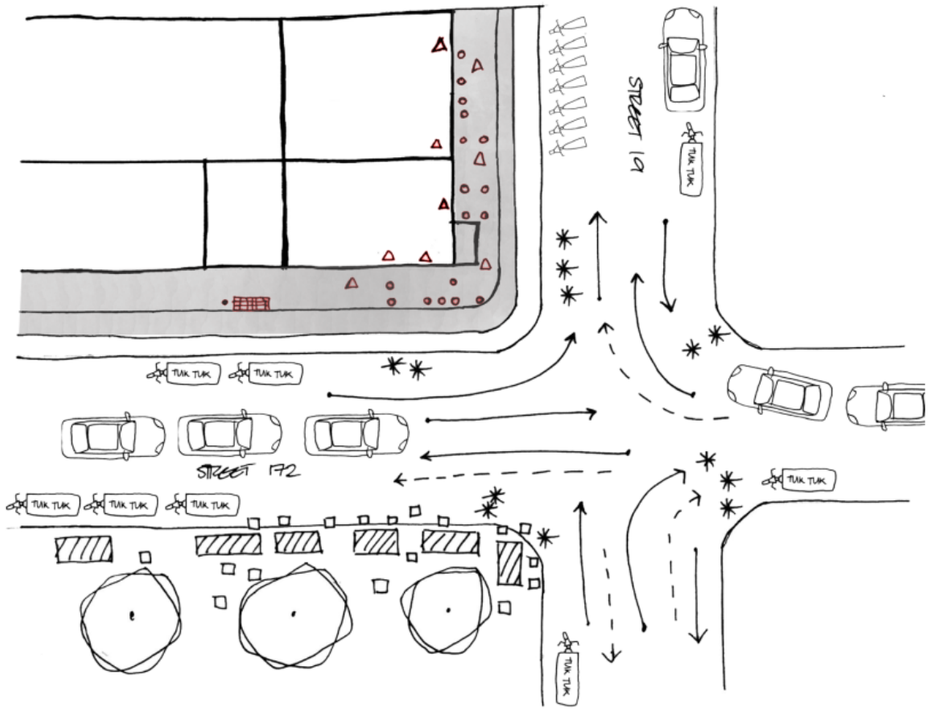
Photographic snapshot x1

Notes
What are the main reasons people stop? What influences where they stop? (noise, climate..)

STREET LIFE STUDIES 2017 18 USER MANUAL

The students are asked to complete different types of observational activities. These activities were particularly designed and communicated via a course manual.

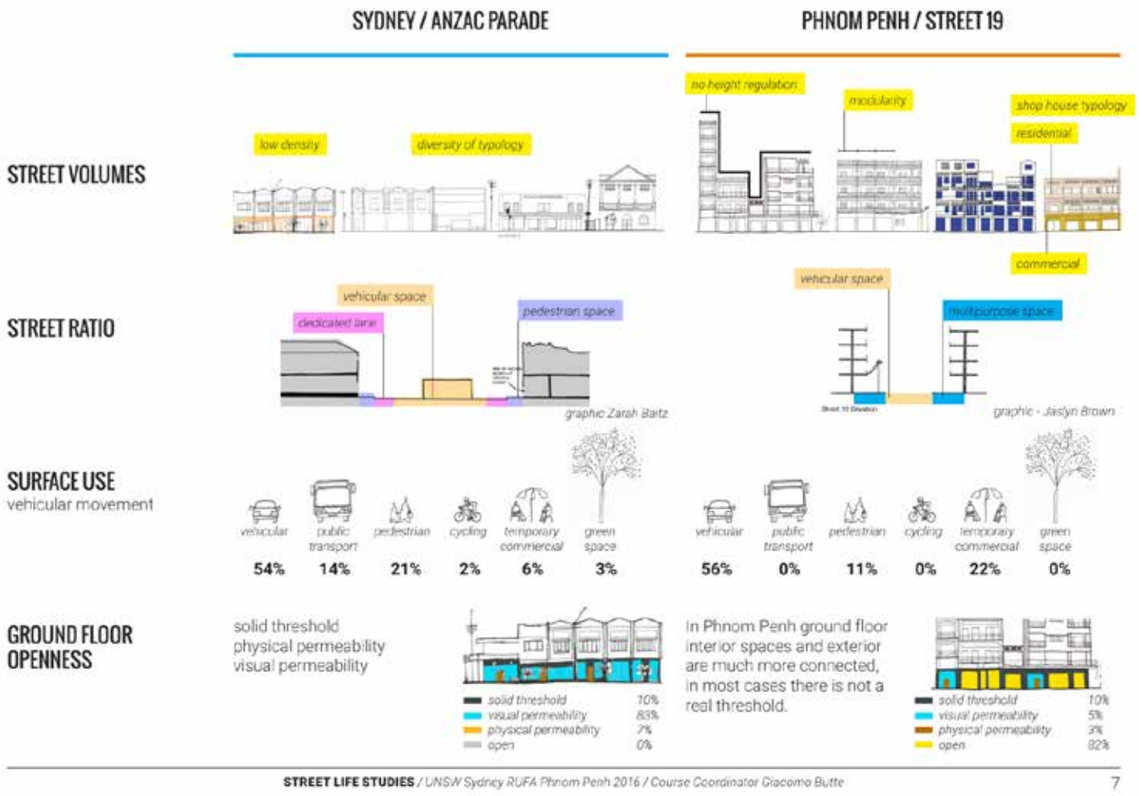
Teaching and facilitating



7 A M

- TOURIST EATING / 20
- WORKER / 9
- RUBBISH COLLECTOR / 1
- PEDESTRIAN / 20
- MOTORBIKES / 425
- TUK TUK / 40
- STREET VENDORS / 6
- KHMER / 18

Students are asked to use qualitative and quantitative methods to observe public areas in different moments during a day and understand activities, movement patterns, demographics.



Working on two cities, Sydney and Phnom Penh, we are able to compare activities and uses. When looking at the vitality of spaces, wealthier cities do not necessarily perform better.

Design for the built environment

For several years I have worked in architectural and engineering firms developing projects for the built environment. The main challenge in this type of work is finding the most suited solution for a specific use given a limited amount of resources. In many cases trade-offs between stakeholders of different aspects of the project need to be managed.

Within this scope of work, I had chance to work not only for private clients but also for non-profit and public institutions. This was also an opportunity to work on commercial and public projects. These experiences were not only beneficial to build a specific skill-set. Design and construction is a very interesting lens to observe the drivers and dynamics of contemporary societies.

Relevant experiences:

Project architect at Prabal Thapa Architects,
Nepal 11.2014-06.2015

Founder and manager of collective studio ,
Cambodia 11.2010-2014

Project architect at Archea Associates,
China 01.2010-07.2010

Project architect at crossboundaries architects,
China 11.2008-01.2010

Designer at Studio Han Design,
Japan 02.2007-07.2008

Designer assistant at Kazuyo Komoda Design,
Italy 11.2005-01.2007

Intern at Park Associati,
Italy 03.2006-07.2006

Intern at Atelier Van Lieshout,
Rotterdam, 06.2005-10.2005

Skillset:

Design:
experienced in designing several typologies of building (private residential, collective housing, office headquarter, factories, public buildings). Proficient in BIM (Archicad).

Supervision:
able to supervise construction sites ensuring quality standards are met, able to find alternative building solutions in collaboration with contractors.

Detailing:
experienced in detailing using different construction technologies (cement, stone, wood, CSEB, bricks).

Team leadership:
able to guide and manage a design team within deadlines and clients requirements.

Desgin and planning

Design for development

Employer: local NGOs (STT Cambodia), international INGOs (Habitat for Humanity, People in Need), internation donors (AusAID).

Background: I have provided design services related to architecture and urban planning in two moments.
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Role: project architect and project manager.

Work tasks: architectural design, budgeting, site supervision, presentation to communities, management of team members, report preparation for clients.

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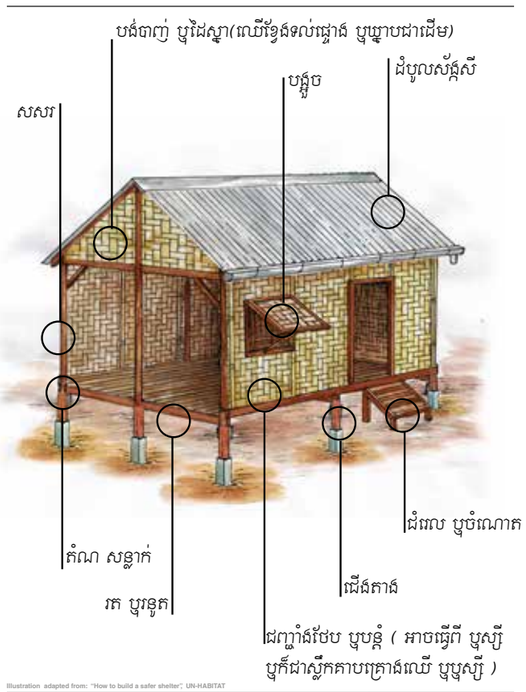
2. Alternative planning for community in fear of eviction. The idea was to relocate community members without land ownership of bridges. This would allow them to remain in the same area of the city and in contact with their livelihoods.

3. Community centre for AusAID. The design was implemented with the involvement of the community .

4. Visual survey of one existing house in the outskirts of Phnom Penh. The need of having shelves for objects and pictures is often not well addressed in low cost housing.



5. Manual for typhoon prone houses (for People in Need). A local artist was hired for creating the drawings of the manual.

6. Low cost housing for Habitat for Humanity. The choice of light weight construction allowed for cost reduction and for a bigger household.

7. Scaled model for a low cost housing unit for Habitat for Humanity. The use of model makes communication easier between project stakeholders.

Design and planning

Shaping public urban space

Clients: Beijing and Zhonxian municipality, Tokyo University, Asian Development Bank, Battanbang municipality.

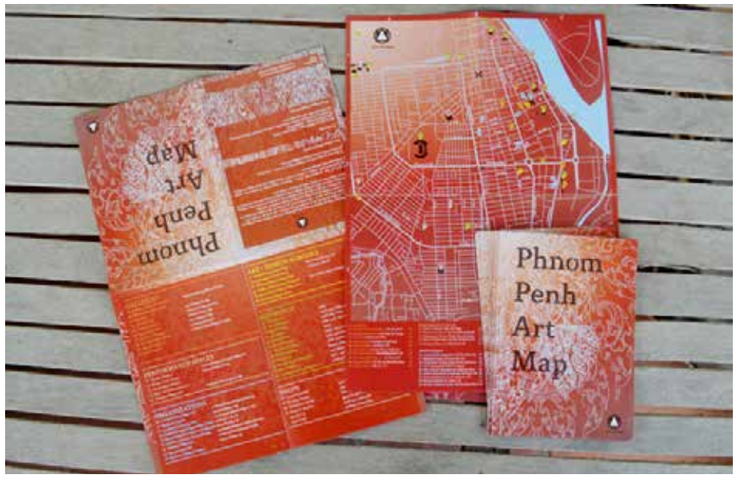
Background: the quality of public space is highly dependent on the importance and care given by its community. In several projects the biggest part of the design process involved creating a common ground, a consensus, upon which it was possible to develop a design. This may involve campaigning for better public spaces [1,2] or via stakeholder consultation and involvement [3,4].

Role: in some cases I self initiated the project by contacting relevant partners. In other cases

Work tasks: architectural design, creating consensus by design, preparing communication material, coordinating team members, curating relation with project stakeholders.

1. Phnom Penh Visions was a campaign developed for the Phnom Penh Post. Readers were asked to submit ideas about public spaces in the city and the design team I lead provided the visualization. The project was than passed over to a local group of architects.

3. Thinking Forest was an installation re-imagining the relation between construction site fences and the campus of Tokyo University (@ Studio Han Design)



2. In collaboration with the Arts+Society group and The Asian Foundation a Phnom Penh Art Map was published to improve exposure of different map venues and organizations.

4. In Cambodia I was a consultant for the construction of a market. Project for ADB. The design process was done in close consultation with local stakeholders. (@ ae engineering)

Design and planning

Design for commercial purpose

Clients: various including private clients, companies, municipalities.

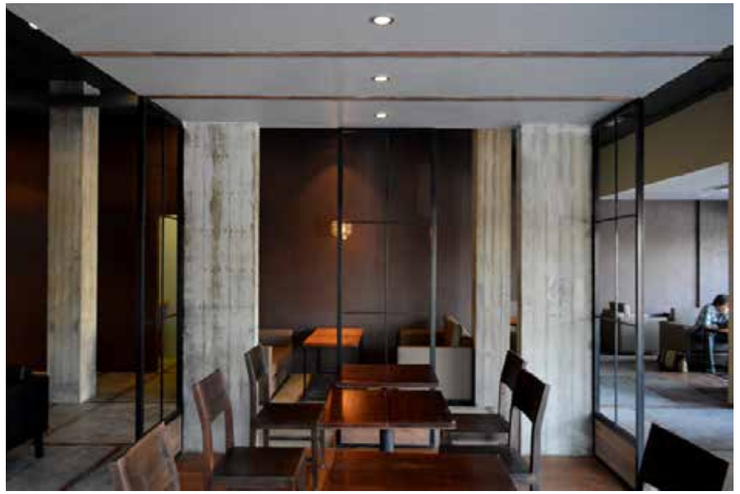
Data: worked on buildings at different scales (10m²to 50.000 m²) and budgets.

Background: I have started working in design firms while still studying. While still in Europe and Japan, I worked on product design and little by little moved to bigger architectural projects. With working experience I started to manage teams of designers. An important part of these jobs was related to understanding clients aspiration and vision and transforming it into defined design. Additionally, working in the private sector has been a very challenging experience in terms of time management and work under pressure.

Role: project architect and project manager

Work tasks: architectural and product design in different project phases (conceptual to construction detailing), preparation of bidding documents, feasibility studies, curated relations with clients, contractors and project stakeholders, presentations.

Design for the flagship store of Joma cafe in Cambodia. The work included design of modular elements to be used in future shops.



At crossboundaries architects I was the project architect for Aimer HQ in Beijing. The challenge was to organize and accommodate the complex functional program into a convincing design. The project received several awards.

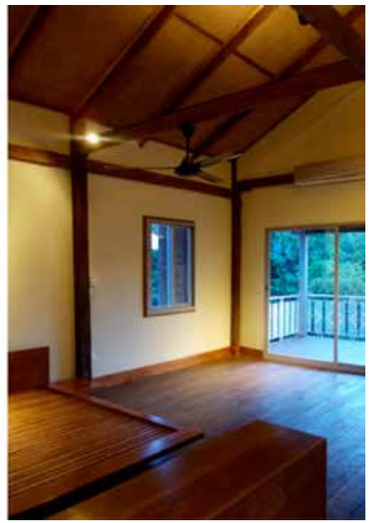
Q Bar Beijing approached us for the design of the roof top. A main concern was the reduction of sound propagation and the creation of a space made of corners and niches.

In many cases existing buildings had to be renovated and adapted to new uses. In this salad bar it was important to create a filtered visual interaction with the garden.

Designing with tight budget requires a careful selection on the components and work used in the project.

Q Bar, Beijing, designing a balance between openness and closure.

Instead of new construction it is often worth improving the existing . In this design for a private house only locally available material and technologies were used.



Kiddie Town, Beijing, an educational and recreational centre for children.

Contacts

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