FLOODING BANGKOK
EXPERIENTIAL LEARNING IN THE PLANNING DISCIPLINES

DOROTHY TANG / BA(LS) PROGRAM DIRECTOR / ASSISTANT PROFESSOR
DIVISION OF LANDSCAPE ARCHITECTURE / FACULTY OF ARCHITECTURE / 21 MARCH 2013
WHAT ABOUT LANDSCAPE PLANNING?
(1) identification of ecological relationships and of landscape problems and issues at a scale larger than that of an individual site;
(2) understanding landscapes as dynamic systems and the importance of protecting and maintaining natural processes;
(3) development of techniques for the spatial analysis of landscape and cultural resources data, resource processes and relationships between and among data sets;
(4) understanding variable values within and among cultures;
(5) recognition of the need for multi- or interdisciplinary approaches to planning.
CHALLENGES:

RECONCILING SCALES
THE INFRASTRUCTURAL LANDSCAPE OF THE CHAO PHRAYA WATERSHED
ECONOMIC LOSS

$ 45.7 BILLION US DOLLARS
INFRASTRUCTURAL FAILURES

Photos from Regional Irrigation Office 12, Chainat
WORLD BANK ESTIMATES

REHABILITATION COSTS

$ 24.6 BILLION US DOLLARS

PRE-SEMESTER VISIT & RESEARCH
OTHER INTERESTED PARTIES
STUDIO PROCESS

REGIONAL STUDY
indexing

DETAILED STUDY
typologies

FIELD VERIFICATION
annotations

PROPOSAL
prototypes & deployment

This map shows the precipitation in August 2005 and the 2005 flood. Floods occurred in the area of high rainfall and the area near major rivers.

Relationships Between Precipitation, River, and Floods in Thailand

LAI YAT LONG LEO
BA(LS)3 FALL, 2012
TRAVELLING ALONG THE WATERSHED-DATA COLLECTION
Analytical Photography

Photographs are drawings. Good photography goes beyond a good camera; it involves a critical understanding of the issues involved, a focused objective, and an artist's eye. This document suggests some strategies for you to compose photographs regardless of hardware, and enables a strong narrative for your project.

Framing a View

Think before shooting
As designers with a particular understanding of how the landscape operates, it is critical that we think before taking a photograph. Any photograph represents our view of the subject, and therefore its framing, composition, and content are all important aspects of our research.

Tagging in Picasa

This is an important part of building an archive that you should make a part of your own design practice. This technique is increasingly being used not only for photos, but also for PDF's, web images, and other data. What we will be trying to do in this studio is build an archive of photos that everyone can search through and use later on in the semester. For instance, if you become interested in canals later on in the semester, it will be useful to be able to search through every photo the class took for images of canals. This is only possible if pictures containing a canal are tagged "canal." In order to increase the chances of finding what we want, we will be employing a standard framework for tagging our photos.

Every photo should have at least 5 tags:
1. PLACE - specific
2. PLACE - general
3. KEYWORD 1
4. KEYWORD 2
5. AUTHOR - your name

PLACE specific / general describes the type of place that the photo was taken in, for instance, "market." We will be geotagging all of our photos, but this only gives us the location, not the type of location.

KEYWORDS describe what the photo is showing: canal, baby, mailbox, floodgate, market, sewer, religion. Make your keywords as generic as possible. Try to imagine someone actually searching for the keyword you create. For instance, inflatable spaceship is not a good keyword, even if you see one.

Unlike the EXIF metadata format for geographic information, there are no standard formats for attaching keyword information to photos. This is why we will all be using Picasa. To access the Picasa Tagging menu, click the icon as shown below.

Annotated Photographs

When you annotate a photograph or create diagrams with your images, consider the invisible forces, actors, materials, relationships, and movement that are critical to your theme. Examine the existing photograph, and consider how you would draw a diagram that would help your viewer gain a deeper understanding of the site—operations that are beyond the surface. The annotations themselves should be more than simply labels, but the identification and emphasis of certain aspects of the photograph that might reveal something new. For example, highlighting certain types of programs, uses, movement over time, or interactions within a photograph would allow the viewer to reconsider overall relationships within a place. Or, drawing a section over a photograph would help the viewer understand the relationship between how something is constructed and water levels. Below are some examples of how others have used similar techniques to annotate photographic images.
TRAVELLING ALONG THE WATERSHED-PROCESSING INFORMATION

hearing from people on the ground
daily debreifings
final workshop
NEW LEVEE AT HIGH TECH INDUSTRIAL ESTATE
NEW FLOODWALL CONSTRUCTION AT NAVA NAKORN INDUSTRIAL ESTATE
NEW FLOODWALL AT NAVA NAKORN INDUSTRIAL ESTATE
NEW LEVEE + WALL IN NAKHON SAWAN
NEW DETENTION AREA IN BUENG BORAPHET RAMSAR SITE
CHAO PHRAYA DAM + IRRIGATION
MANGROVE REHABILITATION
SITE(S)
BETWEEN AYUTTHAYA & BANGKOK

ISSUE(S)
ADDRESS FLOODING IN RELATIONSHIP TO THE INDUSTRIAL ESTATES

INTERVENTION(S)
WITHIN THE LARGER SYSTEM REGARDLESS OF SCALE

RESOLUTION(S)
MUST OCCUR PHYSICALLY AND MATERIALLY
Elevated Evacuation

The last project combines as a final design project. Depending on our observations from the Thailand fieldtrip, we are to focus on several issues and try to come up with different typologies to deal with the situations. Each student may work on a different scale according to the issues they identify, the design should eventually act as an argument to the current infrastructural system that is starting to fail at dealing with the floods. The ultimate goal is to come up with an alternative approach to the landscape and infrastructural planning of the country and of the individual region or sites.

My project looks into a regional scale at first, focusing on the idea of evacuation and how people react to the flooding events. After some more analysing, the topic is narrowed down to individual transportation infrastructures known as the U-Turn Bridges. These are interesting structures that can remain dry in times of floods, even in the most severe flood in 2011. My proposal is to utilize the structure of the existing infrastructures and create safe zones for evacuation while remain as crossing of the highway on a daily basis. The prototype also reflect on the self-protecting industrial estates which are all building flood walls around themselves to create island during floods.
U-Turn Bridges
Change of evacuation

These proposed infrastructures should allow faster access during evacuation.

These proposed infrastructures should allow faster access during evacuation. Provide vacancy for around 4000 evacuees, meaning an additional 33% more displaced people will be able to settle compared to 2011.
Using the space in between the existing flood walls, both the old and the new walls, and allowing water to be stored here during the flooding period so that the pumping of the site won't effect the surrounding landscape as well as containing this contaminated water within the site and treating it effectively.
FOR THE INDUSTRIAL ESTATES TO BECOME MORE SUSTAINABLE, WATER MUST BE MANAGED WITHIN THE SITE BY MEANS OF FILTRATION AND REUSE.