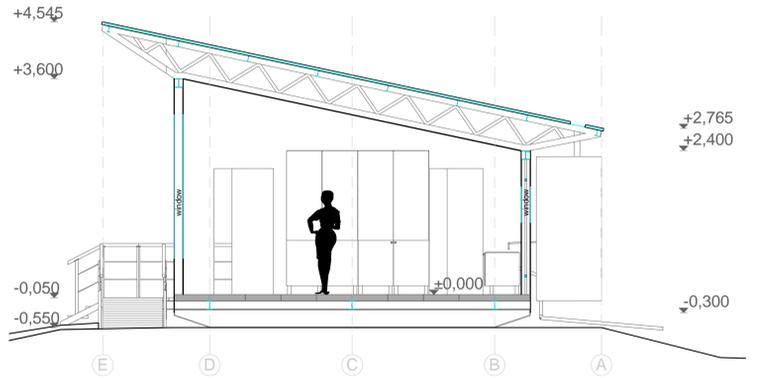
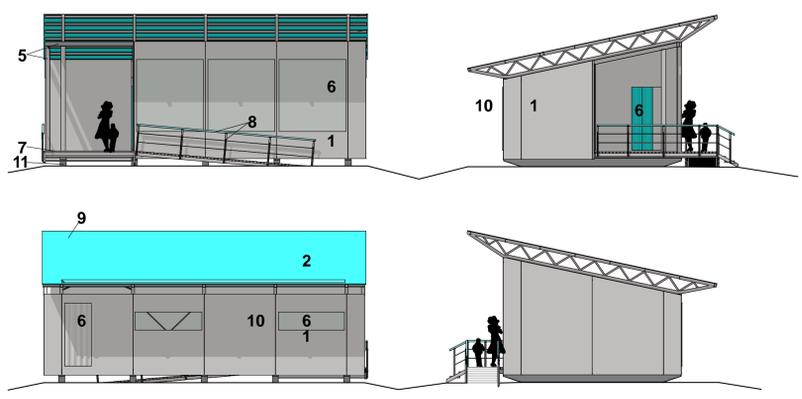


FLOOR PLAN 1:50
canvas tent



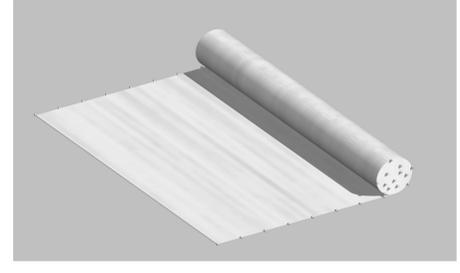
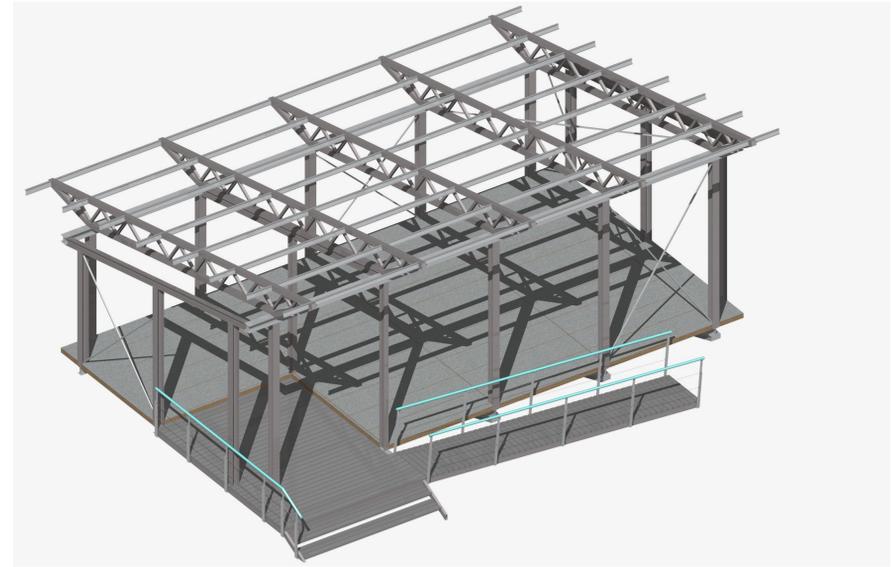
SECTION A-A 1:50
canvas tent



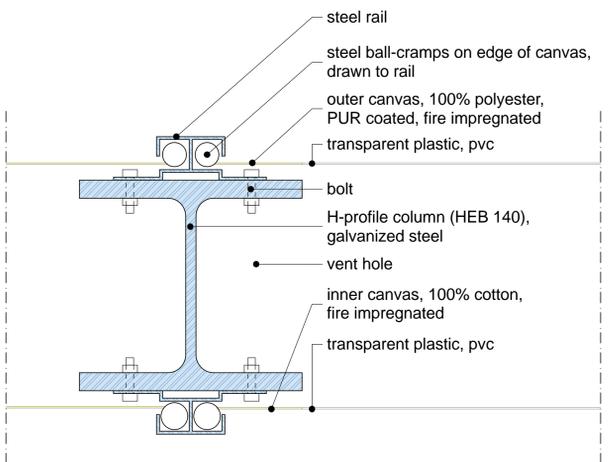
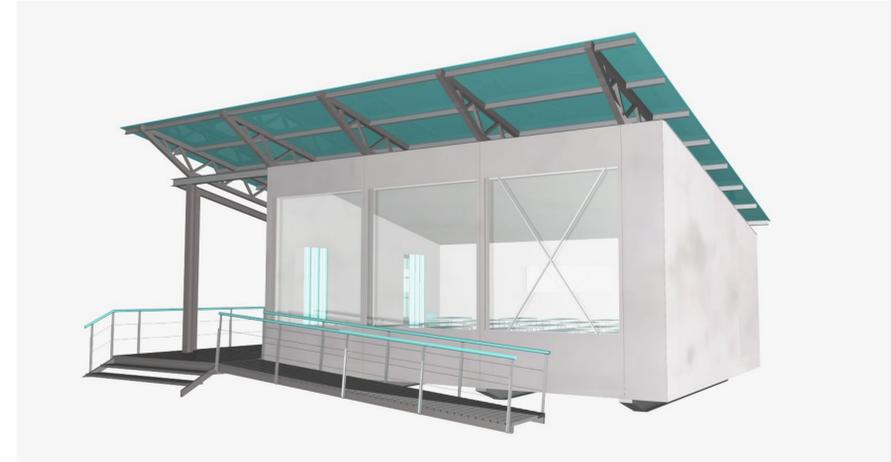
FACADES 1:100
canvas tent

FACADE MATERIALS AND COLOURS (tent)

1	facade canvas	polyester fabric	natural white
2	roof canvas	polyester fabric	turquoise
3	-	-	-
4	-	-	-
5	columns and beams	galvanized steel	-
6	windows	transparent plastic (PVC)	transparent
7	doors	polyester fabric	turquoise/ natural white
8	deck and ramp	galvanized steel, recycled plastic	light grey
9	fence	-	-
	- handrail	pvd-coated steel	turquoise
	- posts	galvanized steel	-
	- wires	stainless steel	-
(9)	solar panels	-	-
(10)	water tank	plastic (PE)	turquoise
11	basement skids	galvanized steel	-



- PRE FABRICATED CANVAS, width 2400 mm**
- Outerfly: water and wind proof PUR-coated 100% polyester, fire impregnated
 - Innerfly: 100% cotton
 - Cut-to-size canvas with windows and cramps
 - Connecting to steel rails in columns with steel cramps



DETAIL 1:2
- connection of canvas to frame



LOCAL CLADDING MATERIALS



Alternative Cladding Systems to Steel Frame

Canvas Cladding

Alternative solution to steel sheet-PUR-panels, is canvas cladding. It is done with cut-to-size polyester/cotton fabric sheets that have fixings ready on the edges of canvases. Steel frame of teaching unit is the same, whether is cladding implemented with panels, canvases or with local materials. In canvas option, the fabric sheets are connected to frame with rail-connection and locked on place from up edge of canvas.

Classroom tent has double flies to keep the interior comfortable cool, when air between flies balances the temperature. Inner fly is cotton and outer fly is made with 100 % waterproof polyester. Colour of tent is natural white, except of the roof, which is light turquoise. Doors are implemented as fabric curtains, and windows are made with transparent plastic, that is ready sewn to the wall canvases. Windows are also equipped with adjustable flaps.

Cladding with Local Materials

In general, it would be favorable to use local materials whenever it is possible, to support local market and to avoid transporting materials long distances. When it is possible to find some solutions of cladding with local materials and there is time for this process, it should be done.

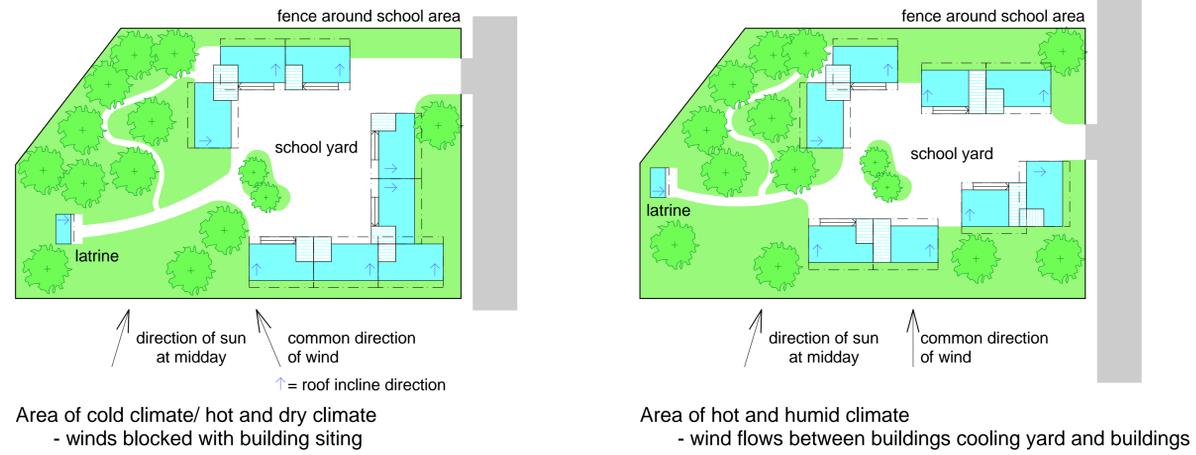
The frame of classroom unit is designed in a way, that cladding with some other materials, than prefabricated panels or canvases is also possible. Suitable other materials for classroom cladding could be for example, metal sheets, wooden boards, plastic sheets, fabrics and tarpaulins. Also woven structures with straws or leaves can be used. Frame has connecting holes, where the cladding materials can be bolted, or there can be fixed wooden boards to frame, where cladding can be fixed for example with nails.



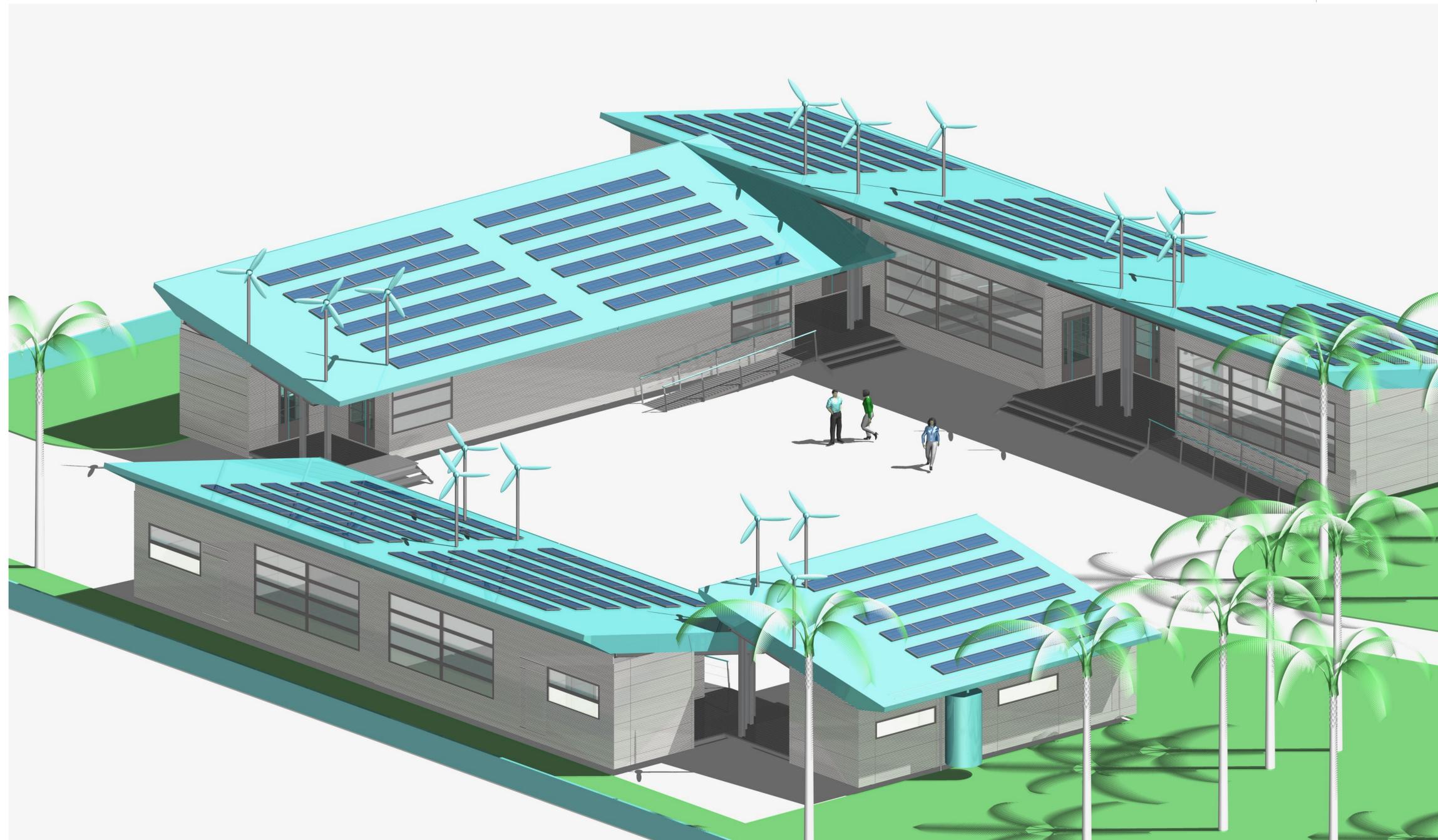
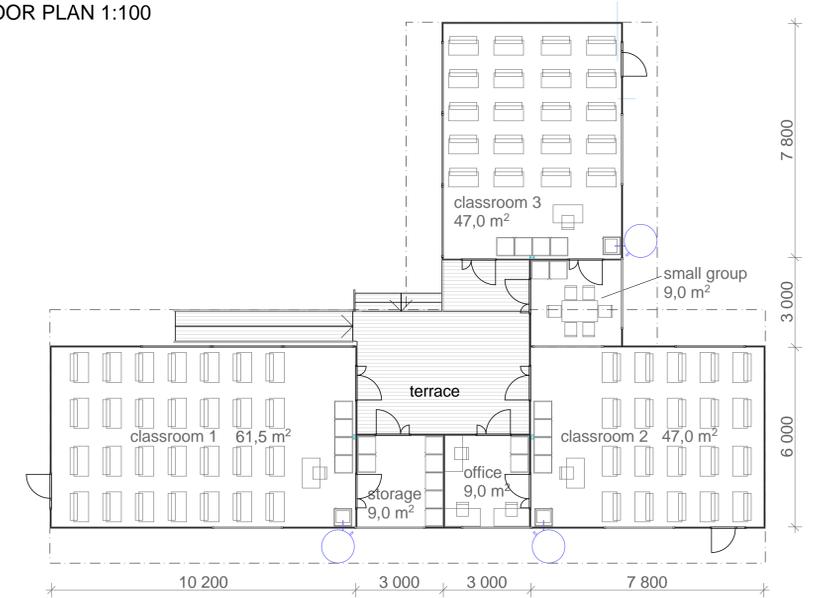
EDUCATIONAL BUILDINGS IN CATASTROPHE AREAS - STUDY AND DESIGN

JENNI LAAKSONEN, May 2010
Master's Thesis, Degree Programme of Architecture
Tampere University of Technology
Instructor: professor Kari Salonen

EXAMPLE SITE PLANS 1:500



COMBINATION OF THREE TEACHING UNITS
FLOOR PLAN 1:100



Siting

Choice of location and orientation of teaching unit are in important role to ensure its comfortable use. It must be done according to local climate circumstances and keeping in mind the risk of possible forthcoming natural disasters. In hot climate the short edges of building should head to East and West to minimize the heat and glare of sun. If there are several teaching units in same place, there should be left gaps between them if climate is hot and humid. But if climate is hot and dry, or cold, buildings should form protected yard, where hot/ cold wind is blocked by buildings.

Combining Teaching Units

Flexibility and multifunctionality are in key role in teaching unit. It is possible to form a school connecting several teaching units to each other, or they can serve as part of existing school. In these cases to create comfortable and safe school yard, it may be necessary that some teaching units are orientated to less favourable direction by climatic issues. Because of modular system, teaching unit can be adjusted to suit to the location. It can be build as reversed, roof direction can be changed, and also windows and doors can be moved.

If there are several teaching units in school, extra premises can serve all the classrooms together if entrance to these premises are from terrace. For example in three classroom school, one extra room can be teachers office, second can be storage for teaching equipment and third can be used for small group studying. If necessary, one classroom can be done bigger, and another one smaller, with modular dimension of 2,4 m.



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