

XIII Architecture & Behaviour Colloquium
Monte Verità, 14-16 April 2008
Architectural Quality on Planning and Design of Schools

Standards, but not standard designs

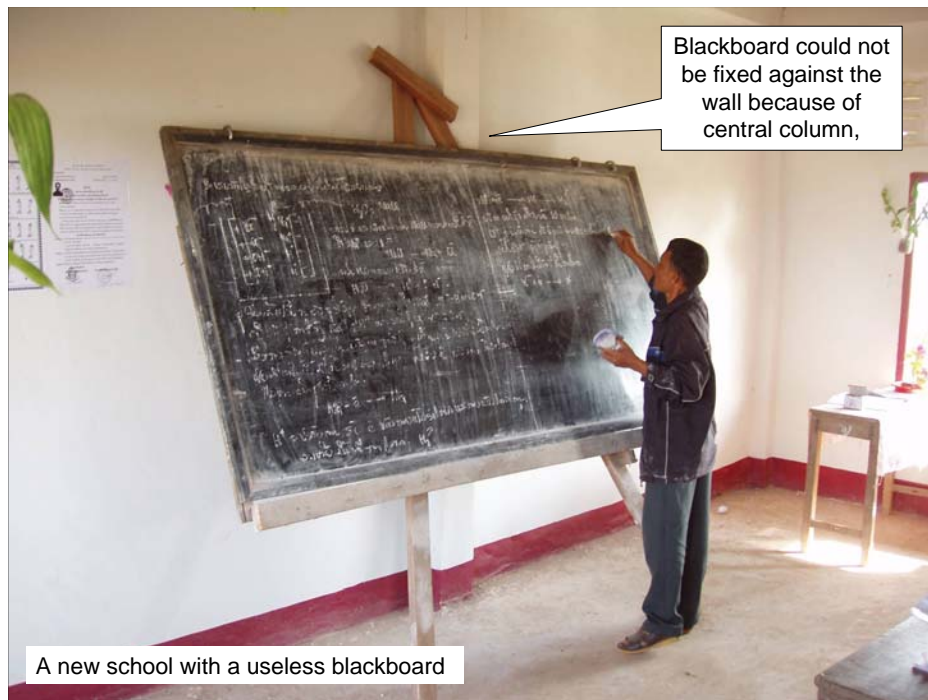
The example of Rural Schools built by the
Poverty Reduction Fund Programme
in Laos

By Tom Schacher, SUPSI
tom.schacher@adhoc.ch

1

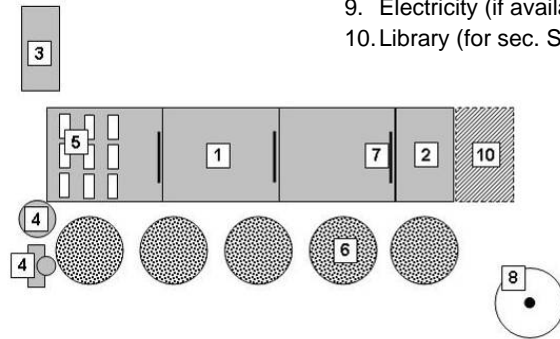
tom.schacher@adhoc.ch





Scheme of School Components (This is not a standard layout!)

- | | |
|---|--------------------------------|
| 1. Classrooms (1.5 m ² /student) | 5. Appropriate furniture |
| 2. Teachers' room (1 for 3 classrooms) | 6. Trees for shade |
| 3. Toilets (1 -2 latrines/classroom) | 7. Good blackboard |
| 4. Water tank / water point | 8. Flagpole (gov't guidelines) |
| | 9. Electricity (if available) |
| | 10. Library (for sec. Schools) |



9

tom.schacher@adhoc.ch

School Components

- Classrooms: Minimal size 6m x 7m (width by length)
- Teachers' room: 1 for every 3 classrooms.
- Latrines: 1 latrine per classroom (example: 3 classrooms = 3 latrines)
- Water point: A drinking water point (4a) must be available on the school site or less than 200m away. In places with no water and no possibility to provide it, a rainwater catchment tank (4b) should be provided (gutters will have to be added to the roof)
- Furniture: Tables and benches for 30 students

10

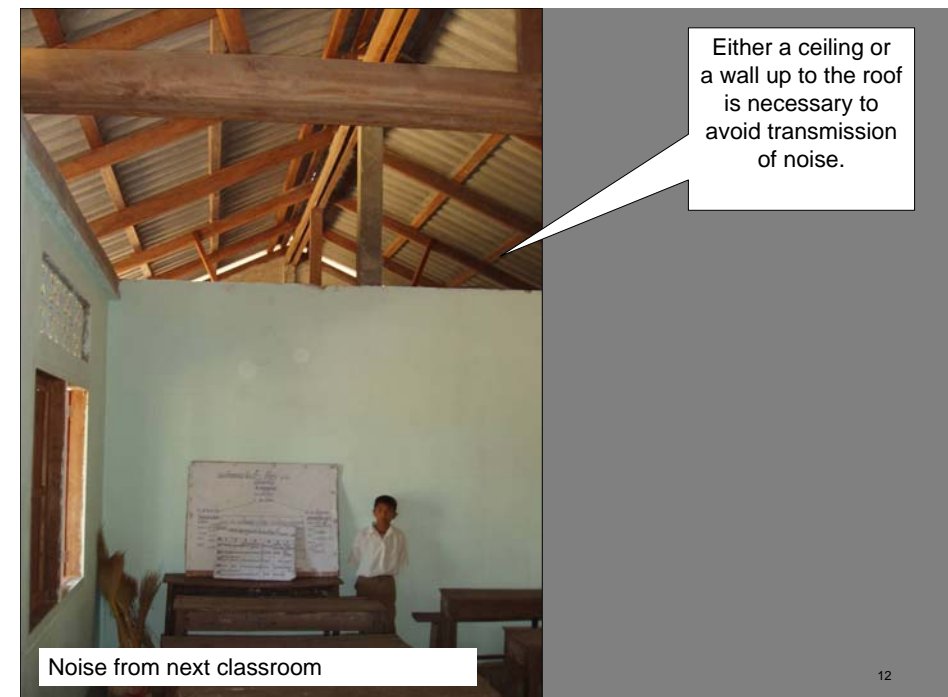
tom.schacher@adhoc.ch

School Components (cont'd)

- Trees: Trees shall be planted (or maintained) on the sun side of the buildings to provide shade. Keep an adequate distance to avoid damage to the roof due to falling fruits.
- Blackboard: of good quality and easy to clean.
- Flag pole: as per government standards
- Electricity: if power supply is nearby, the buildings have to be equipped with electrical installations to allow for its use for adult education in the evening.
- Library: for secondary schools only

11

tom.schacher@adhoc.ch



12



A teachers' roome every 3 classrooms



One latrine every 30 students



A water point with drainage



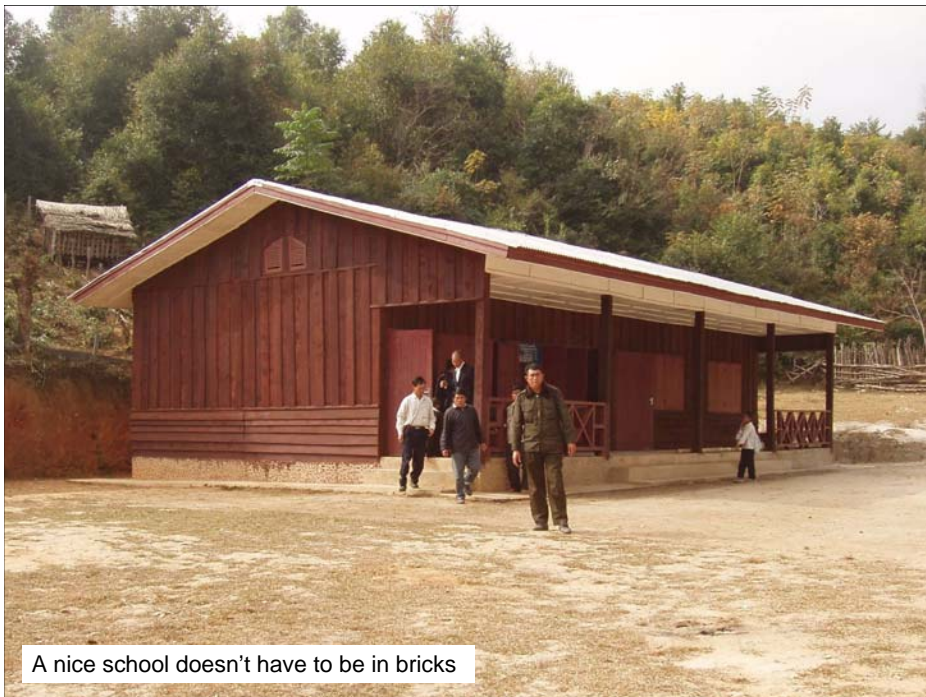
Even tables of different heights!



THE school, to be proud of



Schools can be in timber



A nice school doesn't have to be in bricks



The same village school



A school garden to teach agriculture

tom.schacher@adhoc.ch

Classrooms

- Classrooms size must be 1.5 m² per student. Draw furniture on the architect's plans to verify if you can fit enough tables and benches.
- Classrooms must be bright and have sufficiently big window.
- The walls between two classrooms shall be raised up to the roof to avoid noise transmission between the classrooms.
- If a false ceiling is included in the project proposal, and can be mounted before the building is handed over to the client, the wall between classrooms does not have to be raised to the roof.

22

Teachers' room

- A separate room for the preparation work of the teachers is a necessity for any school above three classrooms.
- If the school project is an extension of an already existing school with no teachers' room, this room has to be made big enough to accommodate all teachers of the school.
- Otherwise the headmaster might decide that one classroom has to be sacrificed for the teachers.

tom.schacher@adhoc.ch

23

Latrines

- Latrines are a compulsory, even for schools situated in the centre of the village. Not all children do live near to the school.
- Standards suggest one toilet for every 30 students. To simplify, we suggest one toilet per classroom.
- Latrines have to be at a certain distance from the classrooms to allow for cultural sensitivities.
- Water, under the form of tap-water or a reservoir, must be available at the latrine.
- Latrines must be at least 100m away from wells and boreholes.

tom.schacher@adhoc.ch

24

Water point

- Water must be available on the school ground or not more than 200m away. Water is very important for hygiene and agricultural education (Make sure that hygiene education is part of the teaching curriculum!).
- If no water can be installed, a rainwater tank shall be built in the corner of the building with the biggest roof. Gutters have to be added to the roof structure to collect the rainwater and channel it towards the rainwater tank.
- The water point must be made in such a way that waste water is channelled away correctly and doesn't form a puddle. Stagnant water is a Malaria bearing mosquito breeding ground!

25

tom.schacher@adhoc.ch

Furniture

- Furniture must be appropriate to the age and size of the children. There shall be two sizes of furniture, for smaller and bigger children. For exact measurements, see the tables in the chapter on technical specifications.

Trees

- Trees shall be planted (or maintained) on the sun side of the buildings to provide shade. Keep an adequate distance to avoid damage to the roof due to falling fruits.

26

tom.schacher@adhoc.ch

Blackboard

- Blackboards must be of good quality and easy to clean.
- Make sure that the blackboard can be fixed correctly on the wall (problem of central column in the wall).

Flagpole

- Flagpoles might be requested by the government. The flagpole shall be placed on a big open space allowing for all the students to be assembled under the national flag.

27

tom.schacher@adhoc.ch

Electricity

- If the school building is at a reasonable distance from the power grid, the buildings shall be equipped with electrical installations.
- This will allow to use the building in the evening, for adult education programmes. Also for computer courses.

Library

- Secondary schools require a library. If the book collection cannot be placed in the teachers' room, a separate room will have to be added to the school.

28

tom.schacher@adhoc.ch

Site selection

- Is the proposed site in the right place: distance from village or villages, security (especially for girls), etc.?
- Is the proposed site suitable for the planned building: shape, levelling, size, position (flooding, landslides, sources of noise or pollution)?
- Is the site big enough to allow for future extensions of the school?
- To whom does the site belong (private, village, gov't)?
- Is there any drinking-water point on the site or nearby? If not, how can it be provided (wells, pipes)?
- Will the building be supplied with electricity?
- Where will the teacher(s) live?
- Etc.!