IMPROVING RESILIENCE TO DISASTERS
Article 25
Universal Declaration of Human Rights

“Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including food, clothing, housing, medical care and necessary social services . . . “

Article 25 designed Bethel School in Gourcy, Burkina Faso.
More than half the world lacks access to essential health services.
We design hospitals and clinics so that health professionals can deliver quality services to patients.
1 in 5 children worldwide are out of school.
We build schools in the world’s most vulnerable communities, and create inclusive educational environments.
Poorly built buildings endanger people’s lives.
We create buildings and infrastructure that provide protection for people living in hazard-prone regions.
Post-Earthquake Housing Reconstruction

Northern Pakistan
What is appropriate?

Disaster response can lead to wasteful use of resources that are not fit for purpose.
Local workforce
Boisrond Tonnerre School

Petionville, Haiti
Article 25's Design

- Redevelopment of original site
- Seismically sensitive design
- Local construction professionals
Natural light & ventilation

- comfortable temperature
- reduced energy costs
- less maintenance

Locally sourced materials

- Environmentally friendly
- Boosts economy
- Suits local workforce
- Ease of replacement
- Lower maintenance costs

Opening ceremony, Summer 2018
Vendredi 05 octobre 2014

1. Celui qui aime apprendre est bien prêt du savoir
   met à la femme negative

2. Cela me regarde

3. Elle arrivera demain

4. Le perroquet a bien parlé

5. Vous me récrivez tout à l’heure

6. Les fleurs sont arrivées

5 x 9 = 45
4 x 8 =
Bethel School
Gourcy, Burkina Faso
Burkina Faso
‘The Land of Upright People’
• Population: 20 million
• 64 people/ km²
• nominal per capita income $790
• 80% working subsistence agriculture
• 43% live below poverty line
• Ave. number of years in school: 1.5
Primary School Enrolment

Secondary School Enrolment
Existing School and Site

- Not enough classrooms
- 150 children turned away in 2010
- No space for vocational teaching
- No rooms for the final two years of secondary school
Community Workshops

The following scored 0%:
- Bicycle parking & attendant
- Teaching materials
- Staffroom
- Video projector
- Outside blackboards - shades/surface for writing/electricity

- Library: 20%
- More classrooms: 30%
- Sports pitch/playing ground: 17%
- Science Laboratory: 16%
- Paved canteen: 10%
- Enclosure/boundary wall: 7%

The remaining scores are:
- Ceiling (for temperature): 3%
- Video projector: 3%

Total percentage: 100%
Site Analysis
Materials
Skills Audit
Post-Occupancy Evaluation

Zero Carbon Comfort

• What are the actual temperatures and air movement in teaching spaces?

• How do they compare to other buildings?

• How do they compare to outdoor conditions?

Building Fabric Evaluation

• How well is are the buildings holding up?

• Does anything require repairs?

• Are there any issues for the building users or maintenance staff?
Economic and Social Impact

- Do the construction workers now have better jobs?
- Has access to higher education increased?
- Are more graduates in paid work than before the school was built?
- What types of jobs do they have?
- Has family income increased?
- Has attendance of girls increased?
Collège Hampâté Bâ
Niamey, Niger
Education in Niger

- Niger is 187th (out of 187) in the UN Development Index
- Fewer than 10% of students enroll in secondary education
- Literacy rate = 15%
- Birth rate = 7.24 children
A model school for the Sahel
October 2019 – Kollo laterite quarry, Niger
Embodied Energy of Masonry

Earth Block: 0.42 MJ/kg
Fired Brick: 2.5 MJ/kg
Concrete Block: 0.94 MJ/kg
Laterite Block: 0.0 MJ/kg